The American Clean Energy Security Act: State-By-State Analysis

October 2010

Arkansas and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Arkansas.

Investments in Clean Energy Programs in Arkansas. ACES will invest over $790 million in clean energy programs in Arkansas by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $85 million to $125 million in Arkansas each year. Specifically, ACES would provide:

- **Over $35 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Arkansas's share is $35 to $50 million annually.

- **Over $15 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Arkansas's share is $15 to $20 million annually.

- **Over $20 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Arkansas's share is $20 to $25 million annually.

- **Over $10 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Arkansas's share is $10 to $15 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Arkansas is $10 to $15 million annually.

National Programs that Benefit Arkansas. In addition, ACES makes several national investments that will benefit Arkansas. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Arkansas's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small- and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Arkansas. ACES will have demonstrable benefits for Arkansas's economy. A recent university study concluded that Arkansas could gain 10,000 to 25,000 more jobs by

2020 as a result of comprehensive clean energy policy.[5] It also concluded that Arkansas's gross domestic product would be $400 million to $1.2 billion higher with clean energy policy than without.

Other Benefits for Arkansas. ACES has other important benefits for the nation and Arkansas. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming is projected to increase the average number of days a year in Arkansas that reach 90°F from about 75 days a year to 135 days a year by the end of this century.[7] Global warming will also negatively impact Arkansas's agricultural production. Warmer temperatures are projected to decrease livestock yields in cow/calf and dairy operations by 10% in the Mississippi Delta and southern Plains regions.[8] More frequent droughts and floods and declining soil moisture will also disrupt agricultural production. Higher temperatures are projected to increase the incidence of pests such as the southern pine beetle and the frequency of intense wildfires, potentially impacting Arkansas's forestry industry.[9] Damage caused by the southern pine beetle has reached as high as $237 million in a single year, and infestations and associated damages are expected to increase more than four-fold due to climate change.[10]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Arkansas of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and*

Products Imports (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

[8] *Ibid.*

[9] *Ibid.*

[10] Center for Health and the Global Environment, *Climate Change and Health in Arkansas*, Harvard Medical School (2009).

October 2010

Arizona and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Arizona.

Investments in Clean Energy Programs in Arizona. ACES will invest over $990 million in clean energy programs in Arizona by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $115 million to $170 million in Arizona each year. Specifically, ACES would provide:

- **Over $40 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Arizona's share is $40 to $55 million annually.

- **Over $15 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Arizona's share is $15 to $25 million annually.

- **Over $25 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Arizona's share is $25 to $40 million annually.

- **Over $20 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Arizona's share is $20 to $35 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Arizona is $10 to $15 million annually.

National Programs that Benefit Arizona. In addition, ACES makes several national investments that will benefit Arizona. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Arizona's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Arizona. ACES will have demonstrable benefits for Arizona's economy. A recent university study concluded that Arizona could gain 9,000 to 24,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Arizona's gross domestic product would be $50 million to $600 million higher with clean energy policy than without.

Other Benefits for Arizona. ACES has other important benefits for the nation and Arizona. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would dramatically increase stress on Arizona's already scarce water supply. A recent NOAA-led study suggested that unchecked global warming could lead to "irreversible dry-season rainfall reductions in several regions comparable to those of the 'dust bowl' era" including the Southwestern U.S.[7] It would also cause more frequent and more intense heat waves. A recent study by the National Academies found that just one degree of additional warming, far less than is predicted from unchecked climate change, could lead to as much as a 470% increase in the area burned by wildfires in parts of Arizona.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Arizona of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf)

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm)

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at: http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf)

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at: http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm)

[7] New Study Shows Climate Change Largely Irreversible (Online at: http://www.noaanews.noaa.gov/stories2009/20090126_climate.html)

[8] National Academy of Sciences. *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia*. Pp. 32.

October 2010

California and the American Clean Energy and Security Act

Committee on Energy and Commerce

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At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of California.

Investments in Clean Energy Programs in California. ACES will invest over $4.3 billion in clean energy programs in California by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $495 million to $710 million in California each year. Specifically, ACES would provide:

- **Over $185 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. California's share is $185 to $255 million annually.

- **Over $80 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. California's share is $80 to $105 million annually.

- **Over $100 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. California's share is $100 to $150 million annually.

- **Over $80 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. California's share is $80 to $135 million annually.

- **Over $50 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in California is $50 to $65 million annually.

National Programs that Benefit California. In addition, ACES makes several national investments that will benefit California. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which California's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in California. ACES will have demonstrable benefits for California's economy. A recent university study concluded that California could gain 120,000 to 226,000 more jobs

by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that California's gross domestic product would be $8 billion to $16 billion higher with clean energy policy than without.

Other Benefits for California. ACES has other important benefits for the nation and California. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming is projected to decrease precipitation levels by 20 to over 40% in the southern half of the state by the end of the century, dramatically increasing stress on California's water supply.[7] Less precipitation, more frequent droughts, reduced snowpack, and river-flow reductions will combine to substantially increase the risk of water conflicts in areas including the Klamath River, Sacramento, Lake Taho, San Jose, Los Angeles, San Diego, and the California-Arizona border by 2025.[8] A recent study by the National Academies found that just one degree of additional warming, far less than is predicted from unchecked climate change, could lead to as much as a 312% increase in the area of Northern California burned by wildfires.[9] California's agriculture will suffer negative impacts in a warmer climate, with losses estimated between zero and 40% for wine and table grapes, almonds, oranges, walnuts, and avocadoes, varying by location.[10] Apricots, almonds, artichokes, figs, kiwis, and olives are also projected to suffer due to a reduction in cold winter temperatures. Higher temperatures are projected to increase the number of days conducive to air pollution by 75 to 85% in Los Angeles and the San Joaquin Valley, negatively impacting public health, and increase the number of heat related deaths in California by five to seven times in a scenario of unchecked global warming.[11] California's ecosystems will also suffer—two-thirds of California's more than 5,500 native plant species are projected to experience range reductions up to 80% before the end of the century.[12] Sea level rise will also have significant consequences—the cost of sea level rise and storm surges in the Sacramento-San Joaquin Delta region alone is estimated at tens of billions of dollars over the next few decades.[13]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and California of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

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[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.
[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).
[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios* (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).
[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).
[8] *Ibid.*
[9] National Academy of Sciences, *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia*, (2010).
[10] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).
[11] *Ibid.*
[12] *Ibid.*
[13] National Academy of Sciences, *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia* (2010).

October 2010

Colorado and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

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Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Colorado.

Investments in Clean Energy Programs in Colorado. ACES will invest over $1 billion in clean energy programs in Colorado by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $115 million to $165 million in Colorado each year. Specifically, ACES would provide:

- **Over $45 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Colorado's share is $45 to $60 million annually.

- **Over $20 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Colorado's share is $20 to $25 million annually.

- **Over $25 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Colorado's share is $25 to $35 million annually.

- **Over $15 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Colorado's share is $15 to $25 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Colorado is $10 to $15 million annually.

National Programs that Benefit Colorado. In addition, ACES makes several national investments that will benefit Colorado. Over the period 2012 through 2025, ACES would provide:

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Colorado's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Colorado. ACES will have demonstrable benefits for Colorado's economy. A recent university study concluded that Colorado could gain 11,000 to 30,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Colorado's gross domestic product would be $30 million to $1 billion higher with clean energy policy than without.

Other Benefits for Colorado. ACES has other important benefits for the nation and Colorado. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories

to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. In Colorado, global warming will likely spread the range of damaging insects and increase the area burned by wildfires. A recent study by the National Academies found that even one degree of additional warming could lead to a four- to six-fold increase in the area in Colorado burned by wildfires.[7] Higher temperatures will also shorten the skiing season and damage the tourism industry. One analysis suggests that global warming would more than triple the number of days in August over 90°F in Denver.[8] More serious droughts and floods will stress farming, ranching, and fishing.[9]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Colorado of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf)

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm)

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at: http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf)

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at: http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm)

[7] National Research Council, *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millenia* (July 2010) (online at: dels.nas.edu/Materials/Presentations/Stabilization-Targets)

[8] Climate Central. "August Heat" (online at: www.climatecentral.org/other/august-heat/)

[9] For example: U.S. Global Change Research Program, *Regional Climate Impacts: Southwest* (June 2009) (online at: www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/regional-climate-change-impacts/southwest)

October 2010

Connecticut and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Connecticut.

Investments in Clean Energy Programs in Connecticut. ACES will invest over $960 million in clean energy programs in Connecticut by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $100 million to $145 million in Connecticut each year. Specifically, ACES would provide:

- **Over $40 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Connecticut's share is $40 to $60 million annually.

- **Over $20 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Connecticut's share is $20 to $25 million annually.

- **Over $20 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Connecticut's share is $20 to $30 million annually.

- **Over $10 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Connecticut's share is $10 to $15 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Connecticut is $10 to $15 million annually.

National Programs that Benefit Connecticut. In addition, ACES makes several national investments that will benefit Connecticut. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Connecticut's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Connecticut. ACES will have demonstrable benefits for Connecticut's economy. A recent university study concluded that Connecticut could gain 11,000 to 16,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Connecticut's gross domestic product would be $700 million to $1 billion higher with clean energy policy than without.

Other Benefits for Connecticut. ACES has other important benefits for the nation and Connecticut. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase

recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would lead to increased episodes of extreme heat and declines in air quality. By late this century, Hartford would experience, on average, nearly a month of days over 100°F.[7] Sea level rise and flooding will place infrastructure at risk of damage, potentially causing a 100-year flood every 17 years.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Connecticut of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf)

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California, Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://calclimate.berkeley.edu/sites/default/files/host-Clean%20Energy%20and%20Climate.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States*. (2009) (online at: www.globalchange.gov/images/cir/pdf/northeast.pdf).

[8] Union of Concerned Scientists. *Connecticut: Confronting Climate Change in the U.S. Northeast* (2009) (online at www.climatechoices.org/assets/documents/climatechoices/connecticut_necia.pdf).

October 2010

Delaware and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Delaware.

Investments in Clean Energy Programs in Delaware. ACES will invest over $440 million in clean energy programs in Delaware by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $45 million to $65 million in Delaware each year. Specifically, ACES would provide:

- **Over $20 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Delaware's share is $20 to $25 million annually.

- **Over $10 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Delaware's share is $10 million annually.

- **Over $10 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Delaware's share is $10 to $15 million annually.

- **Over $5 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Delaware's share is $5 to $10 million annually.

- **Over $5 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Delaware is $5 million annually.

National Programs that Benefit Delaware. In addition, ACES makes several national investments that will benefit Delaware. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Delaware's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Delaware. ACES will have demonstrable benefits for Delaware's economy. A recent university study concluded that Delaware could gain 3,000 to 7,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Delaware's gross domestic product would be $200 million to $600 million higher with clean energy policy than without.

Other Benefits for Delaware. ACES has other important benefits for the nation and Delaware. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming is projected to cause sea levels to rise by two feet by the end of the century.[7] More intense storms and hurricanes will put Delaware's densely populated coasts at increased risk of erosion and flooding, adversely impacting the state's tourism industry.[8] Extreme heat and associated declines in air quality will impact human health.[9] Heat waves, extreme weather, and drought will harm the state's agricultural production.[10]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Delaware of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf)

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California, Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://calclimate.berkeley.edu/sites/default/files/host-Clean%20Energy%20and%20Climate.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

[8] *Ibid.*

[9] *Ibid.*

[10] *Ibid.*

October 2010

Florida and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Florida.

Investments in Clean Energy Programs in Florida. ACES will invest over $2.4 billion in clean energy programs in Florida by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $280 million to $405 million in Florida each year. Specifically, ACES would provide:

- **Over $95 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Florida's share is $95 to $135 million annually.

- **Over $40 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Florida's share is $40 to $55 million annually.

- **Over $65 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Florida's share is $65 to $100 million annually.

- **Over $50 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Florida's share is $50 to $80 million annually.

- **Over $25 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Florida is $25 to $35 million annually.

National Programs that Benefit Florida. In addition, ACES makes several national investments that will benefit Florida. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Florida's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Florida. ACES will have demonstrable benefits for Florida's economy. A recent university study concluded that Florida could gain 47,000 to 78,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Florida's gross domestic product would be $2.3 billion to $4.8 billion higher with clean energy policy than without.

Other Benefits for Florida. ACES has other important benefits for the nation and Florida. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming will lead to rising sea levels and a likely increase in the intensity of hurricanes; climate change is expected to cause $9 billion of damage to Florida's tourism industry by 2025.[7] Sea level rise is expected to impact 90% of Monroe County, 70% of Miami-Dade, and 10-22% of 14 other counties, flooding real estate worth more than $130 billion.[8] By 2050, increased hurricane intensity is expected to cost $25 billion annually.[9] Beyond the adverse effects on tourism, Floridians can expect high temperatures and water stresses to have serious impacts on agriculture, Florida's second-largest industry.

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Florida of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California, Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://calclimate.berkeley.edu/sites/default/files/host-Clean%20Energy%20and%20Climate.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] Tufts University, *Florida and Climate Change: The Costs of Inaction* (November 2007) (online at http://ase.tufts.edu/gdae/Pubs/rp/FloridaClimate.html).

[8] *Ibid.*

[9] *Ibid.*

October 2010

Georgia and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Georgia.

Investments in Clean Energy Programs in Georgia. ACES will invest over $1.5 billion in clean energy programs in Georgia by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $175 million to $255 million in Georgia each year. Specifically, ACES would provide:

- **Over $65 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Georgia's share is $65 to $85 million annually.

- **Over $25 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Georgia's share is $25 to $35 million annually.

- **Over $40 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Georgia's share is $40 to $60 million annually.

- **Over $30 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Georgia's share is $30 to $50 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Georgia is $15 to $25 million annually.

National Programs that Benefit Georgia. In addition, ACES makes several national investments that will benefit Georgia. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Georgia's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Georgia. ACES will have demonstrable benefits for Georgia's economy. A recent university study concluded that Georgia could gain 40,000 to 70,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Georgia's gross domestic product would be $2 billion to $4 billion higher with clean energy policy than without.

Other Benefits for Georgia. ACES has other important benefits for the nation and Georgia. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Georgia has experienced decreases in precipitation between 5 and 15% in spring, winter, and summer over the last century.[7] Warmer temperatures and less precipitation are likely to result in decreased water availability and increased conflicts over water resources.[8] Additionally, the intensity of Atlantic hurricanes is likely to increase, with higher peak wind speeds, rainfall intensity, and storm surge height and strength combining with sea-level rise to potentially threaten Georgia's coastal economy and ecosystems.[9]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Georgia of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California, Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://calclimate.berkeley.edu/sites/default/files/host-Clean%20Energy%20and%20Climate.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009) (online at: http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts).

[8] *Ibid.*

[9] *Ibid.*

October 2010

Hawaii and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Hawaii.

Investments in Clean Energy Programs in Hawaii. ACES will invest over $460 million in clean energy programs in Hawaii by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $50 million to $70 million in Hawaii each year. Specifically, ACES would provide:

- **Over $20 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Hawaii's share is $20 to $30 million annually.

- **Over $10 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Hawaii's share is $10 million annually.

- **Over $100 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Hawaii's share is $10 to $15 million annually.

- **Over $5 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Hawaii's share is $5 to $10 million annually.

- **Over $5 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Hawaii is $5 million annually.

National Programs that Benefit Hawaii. In addition, ACES makes several national investments that will benefit Hawaii. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Hawaii's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Hawaii. ACES will have demonstrable benefits for Hawaii's economy. A recent university study concluded that Hawaii could gain 4,000 to 10,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Hawaii's gross domestic product would be $200 million to $600 million higher with clean energy policy than without.

Other Benefits for Hawaii. ACES has other important benefits for the nation and Hawaii. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Climate change is expected to result in sea level rise, shoreline erosion, and reduced fresh water. Peak wind speeds and precipitation from cyclones are likely to increase, combining with sea level rise to increase storm surges.[7] Coral reefs, which contribute $360 million annually to the Hawaiian economy, are expected to be severely threatened by rising temperatures, storm damage, and ocean acidification. Climate change also threatens many of Hawaii's unique native species with extinction.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Hawaii of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California, Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://calclimate.berkeley.edu/sites/default/files/host-Clean%20Energy%20and%20Climate.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009).

[8] ScienceDaily, *Climate Change Threatens Endangered Honeycreeper Birds of Hawaii* (May 27, 2009) (online at www.sciencedaily.com/releases/2009/05/090526140840.htm).

October 2010

Iowa and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Iowa.

Investments in Clean Energy Programs in Iowa. ACES will invest over $920 million in clean energy programs in Iowa by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $100 million to $140 million in Iowa each year. Specifically, ACES would provide:

- **Over $40 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Iowa's share is $40 to $55 million annually.

- **Over $15 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Iowa's share is $15 to $25 million annually.

- **Over $20 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Iowa's share is $20 to $30 million annually.

- **Over $10 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Iowa's share is $10 to $15 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Iowa is $10 to $15 million annually.

National Programs that Benefit Iowa. In addition, ACES makes several national investments that will benefit Iowa. Over the period 2012 through 2025, ACES would provide:

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Iowa's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Iowa. ACES will have demonstrable benefits for Iowa's economy. A recent university study concluded that Iowa could gain 14,000 to 27,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Iowa's gross domestic product would be $700 million to $1.7 billion higher with clean energy policy than without.

Other Benefits for Iowa. ACES has other important benefits for the nation and Iowa. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to

build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would stress agriculture with more frequent downpours, floods and heat stress, and adversely affect wildlife. Counties that currently produce $6.4 billion in agricultural goods could be at risk for water shortages by 2050.[7] Days over 90°F could triple by mid-century, threatening both human health and livestock.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Iowa of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California, Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://calclimate.berkeley.edu/sites/default/files/host-Clean%20Energy%20and%20Climate.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and Products Imports*, (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] Agricultural Carbon Market Working Group, Iowa, *Water Shortages and Agriculture: Climate Change and Risk Management* (online a: agcarbonmarkets.com/Water_Agriculture.html).

[8] Union of Concerned Scientists, *Confronting Climate Change in the U.S. Midwest: Iowa* (online at www.ucsusa.org/assets/documents/global_warming/climate-change-iowa.pdf).

October 2010

Illinois and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Illinois.

Investments in Clean Energy Programs in Illinois. ACES will invest over $2.7 billion in clean energy programs in Illinois by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $295 million to $420 million in Illinois each year. Specifically, ACES would provide:

- **Over $120 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Illinois's share is $120 to $165 million annually.

- **Over $50 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Illinois's share is $50 to $70 million annually.

- **Over $60 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Illinois's share is $60 to $90 million annually.

- **Over $35 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Illinois's share is $35 to $55 million annually.

- **Over $30 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Illinois is $30 to $45 million annually.

National Programs that Benefit Illinois. In addition, ACES makes several national investments that will benefit Illinois. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Illinois's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Illinois. ACES will have demonstrable benefits for Illinois's economy. A recent university study concluded that Illinois could gain 37,000 to 68,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Illinois's gross domestic product would be $1.8 billion to $4.2 billion higher with clean energy policy than without.

Other Benefits for Illinois. ACES has other important benefits for the nation and Illinois. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would stress agriculture with more frequent downpours and floods, adversely affect shipping in Lake Michigan, and perhaps spread diseases like West Nile virus. Unchecked global warming will give Illinois summers more like those in Texas by the end of the century, causing heat waves like the one in Chicago in 1995 (which resulted in 700 deaths) to occur as often as three times a year.[7] Counties that currently produce $9 billion in agricultural goods could be at risk for water shortages by 2050.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Illinois of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California, Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://calclimate.berkeley.edu/sites/default/files/host-Clean%20Energy%20and%20Climate.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and*

Products Imports, (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009) (online at www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/regional-climate-change-impacts/midwest).

[8] Agricultural Carbon Market Working Group. *Illinois, Water Shortages and Agriculture: Climate Change and Risk Management* (online at agcarbonmarkets.com/Water_Agriculture.html).

October 2010

Indiana and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Indiana.

Investments in Clean Energy Programs in Indiana. ACES will invest over $1.5 billion in clean energy programs in Indiana by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $170 million to $245 million in Indiana each year. Specifically, ACES would provide:

- **Over $70 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Indiana's share is $70 to $95 million annually.

- **Over $30 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Indiana's share is $30 to $40 million annually.

- **Over $35 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes and building retrofit assistance. The

legislation includes a proposal by Representative Baron Hill that allows for these funds to be used to help families living in the oldest manufactured housing to upgrade to energy efficient manufactured housing. Funds may also be used for additional clean energy activities in low-income communities. Indiana's share is $35 to $50 million annually.

- **Over $20 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Indiana's share is $20 to $30 million annually.

- **Over $20 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Indiana is $20 to $25 million annually.

National Programs that Benefit Indiana. In addition, ACES makes several national investments that will benefit Indiana. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Indiana's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help

manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Indiana. ACES will have demonstrable benefits for Indiana's economy. A recent university study concluded that Indiana could gain 22,000 to 45,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Indiana's gross domestic product would be $900 million to $2.5 billion higher with clean energy policy than without.

Other Benefits for Indiana. ACES has other important benefits for the nation and Indiana. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would stress agriculture with more frequent downpours and floods, adversely affect shipping in Lake Michigan, and perhaps spread diseases like West Nile virus. One analysis suggests that global warming could lead to almost a month of temperatures above 100°F by the end of the century, threatening human health and agriculture.[7] Counties that currently produce $4.1 billion in agricultural goods could be at risk for water shortages by 2050.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Indiana of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf)

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm)

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at: http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf)

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) EIA, *U.S. Total Crude Oil and*

Products Imports, (June 29, 2009) (online at: http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm)

[7] Union of Concerned Scientists. "Confronting climate change in the Midwest" (online at: http://www.ucsusa.org/assets/documents/global_warming/climate-change-indiana.pdf)

[8] Agricultural Carbon Market Working Group. Indiana, *Water Shortages and Agriculture: Climate Change and Risk Management*. (online at: agcarbonmarkets.com/Water_Agriculture.html)

October 2010

Kansas and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Kansas.

Investments in Clean Energy Programs in Kansas. ACES will invest over $830 million in clean energy programs in Kansas by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $90 million to $130 million in Kansas each year. Specifically, ACES would provide:

- **Over $35 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Kansas's share is $35 to $50 million annually.

- **Over $15 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Kansas's share is $15 to $20 million annually.

- **Over $20 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Kansas's share is $20 to $25 million annually.

- **Over $10 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Kansas's share is $10 to $15 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Kansas is $10 to $15 million annually.

National Programs that Benefit Kansas. In addition, ACES makes several national investments that will benefit Kansas. Over the period 2012 through 2025, ACES would provide:

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Kansas's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Kansas. ACES will have demonstrable benefits for Kansas's economy. A recent university study concluded that Kansas could gain 7,000 to 22,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Kansas's gross domestic product would be $100 million to $900 million higher with clean energy policy than without.

Other Benefits for Kansas. ACES has other important benefits for the nation and Kansas. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories

to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. If global warming continues unchecked, Kansans could expect to see dramatic impacts to agriculture from extreme high temperatures, increased drought, and insect pests. Faster evaporation rates will accelerate the depletion of the Ogallala aquifer, creating further negative consequences for agriculture in Kansas.[7]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Kansas of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California, Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://calclimate.berkeley.edu/sites/default/files/host-Clean%20Energy%20and%20Climate.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic). EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

October 2010

Kentucky and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Kentucky.

Investments in Clean Energy Programs in Kentucky. ACES will invest over $1 billion in clean energy programs in Kentucky by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $115 million to $165 million in Kentucky each year. Specifically, ACES would provide:

- **Over $45 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Kentucky's share is $45 to $65 million annually.

- **Over $20 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Kentucky's share is $20 to $25 million annually.

- **Over $25 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance ,and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Kentucky's share is $25 to $35 million annually.

- **Over $15 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Kentucky's share is $15 to $25 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Kentucky is $10 to $15 million annually.

National Programs that Benefit Kentucky. In addition, ACES makes several national investments that will benefit Kentucky. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Kentucky's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Kentucky. ACES will have demonstrable benefits for Kentucky's economy. A recent university study concluded that Kentucky could gain 10,000 to 30,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Kentucky's gross domestic product would be $300 million to $1.6 billion higher with clean energy policy than without.

Other Benefits for Kentucky. ACES has other important benefits for the nation and Kentucky. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming will lead to increased episodes of extreme heat and declines in air quality. Heat, drought, and other climate impacts will harm Kentucky's agricultural, forestry, hunting, and fishing sectors.[7]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Kentucky of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009)

October 2010

Massachusetts and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Massachusetts.

Investments in Clean Energy Programs in Massachusetts. ACES will invest over $1.4 billion in clean energy programs in Massachusetts by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $155 million to $220 million in Massachusetts each year. Specifically, ACES would provide:

- **Over $65 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Massachusetts's share is $65 to $90 million annually.

- **Over $25 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Massachusetts's share is $25 to $40 million annually.

- **Over $35 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Massachusetts's share is $35 to $45 million annually.

- **Over $15 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Massachusetts's share is $15 to $25 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Massachusetts is $15 to $25 million annually.

National Programs that Benefit Massachusetts. In addition, ACES makes several national investments that will benefit Massachusetts. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Massachusetts's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Massachusetts. ACES will have demonstrable benefits for Massachusetts's economy. A recent university study concluded that Massachusetts could gain 22,000 to 40,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Massachusetts's gross domestic product would be $1.5 billion to $2.8 billion higher with clean energy policy than without.

Other Benefits for Massachusetts. ACES has other important benefits for the nation and Massachusetts. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase

recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would lead to increased episodes of extreme heat and declines in air quality. By late this century, Boston could experience 24 days over 100°F each summer, quadrupling the number of days with poor air quality.[7, 8] Sea level rise and flooding will place infrastructure at risk of damage, potentially causing what is now a 100-year flood every other year. Forests, winter tourism, and fruit production would also be placed at risk.

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Massachusetts of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009) (online at www.globalchange.gov/images/cir/pdf/northeast.pdf).

[8] Union of Concerned Scientists. *Massachusetts: Confronting Climate Change in the U.S. Northeast* (2009) (online at http://www.climatechoices.org/assets/documents/climatechoices/massachuetts_necia.pdf).

October 2010

Maryland and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Maryland.

Investments in Clean Energy Programs in Maryland. ACES will invest over $1.2 billion in clean energy programs in Maryland by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $130 million to $185 million in Maryland each year. Specifically, ACES would provide:

- **Over $55 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Maryland's share is $55 to $75 million annually.

- **Over $20 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Maryland's share is $20 to $30 million annually.

- **Over $30 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Maryland's share is $30 to $40 million annually.

- **Over $15 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Maryland's share is $15 to $20 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Maryland is $15 to $20 million annually.

National Programs that Benefit Maryland. In addition, ACES makes several national investments that will benefit Maryland. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Maryland's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Maryland. ACES will have demonstrable benefits for Maryland's economy. A recent university study concluded that Maryland could gain 34,000 to 71,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Maryland's gross domestic product would be $1.7 billion to $3.5 billion higher with clean energy policy than without.

Other Benefits for Maryland. ACES has other important benefits for the nation and Maryland. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming is projected to raise sea-levels in the Chesapeake Bay by two feet by the end of the century, threatening Maryland's tidal wetlands and coastal communities and impacting its shipping, manufacturing, and fishing industries.[7] The extent and frequency of storm surge, coastal flooding, erosion, and property damage will also increase. Coastal dead zones in the Bay are likely to increase in size and intensity as temperatures rise, further harming the fishing industry and complicating the recovery of oyster populations.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Maryland of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States*. (2009) pp. 149

[8] *Ibid.*, pp. 150

October 2010

Maine and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Maine.

Investments in Clean Energy Programs in Maine. ACES will invest over $580 million in clean energy programs in Maine by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $60 million to $90 million in Maine each year. Specifically, ACES would provide:

- **Over $25 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Maine's share is $25 to $35 million annually.

- **Over $10 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Maine's share is $10 to $15 million annually.

- **Over $15 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Maine's share is $15 to $20 million annually.

- **Over $5 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Maine's share is $5 to $10 million annually.

- **Over $5 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Maine is $5 to $10 million annually.

National Programs that Benefit Maine. In addition, ACES makes several national investments that will benefit Maine. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Maine's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Maine. ACES will have demonstrable benefits for Maine's economy. A recent university study concluded that Maine could gain 6,000 to 12,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Maine's gross domestic product would be $300 million to $600 million higher with clean energy policy than without.

Other Benefits for Maine. ACES has other important benefits for the nation and Maine. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would lead to increased episodes of extreme heat and declines in air quality. Climate change could cut the winter snow season in half, reducing tourism revenue from winter sports. [7] Blueberry and cranberry production are also expected to suffer.[8] The warm weather will make conditions less suitable for many economically valuable trees like spruce and fir, and may also potentially increase pests and disease. [9]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Maine of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009) (online at www.globalchange.gov/images/cir/pdf/northeast.pdf).

[8] *Ibid*.

[9] Union of Concerned Scientists. *Maine: Confronting Climate Change in the U.S. Northeast* (online at: www.climatechoices.org/assets/documents/climatechoices/maine_necia.pdf).

October 2010

Michigan and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Michigan.

Investments in Clean Energy Programs in Michigan. ACES will invest over $2.2 billion in clean energy programs in Michigan by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $250 million to $355 million in Michigan each year. Specifically, ACES would provide:

- **Over $100 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Michigan's share is $100 to $140 million annually.

- **Over $40 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Michigan's share is $40 to $60 million annually.

- **Over $50 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Michigan's share is $50 to $70 million annually.

- **Over $30 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Michigan's share is $30 to $50 million annually.

- **Over $25 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Michigan is $25 to $35 million annually.

National Programs that Benefit Michigan. In addition, ACES makes several national investments that will benefit Michigan. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Michigan's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Michigan. ACES will have demonstrable benefits for Michigan's economy. A recent university study concluded that Michigan could gain 37,000 to 42,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Michigan's gross domestic product would be $2.0 billion to $2.4 billion higher with clean energy policy than without.

Other Benefits for Michigan. ACES has other important benefits for the nation and Michigan. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Model projections of summer conditions in a scenario of unchecked global warming predict that Michigan's summers will feel like Missouri's summers by mid-century and Oklahoma's summers by 2100.[7] Unchecked global warming is projected to cause water levels in the Great Lakes to drop one to two feet by 2100, disrupting commercial shipping.[8] An increase in heavy precipitation events is projected to increase soil erosion by 270% in the eastern parts of the state, negatively impacting Michigan's agriculture industry.[9] Higher temperatures will shorten winter snow seasons, hurting the state's tourism industry.[10]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Michigan of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

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[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and*

Products Imports (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

[8] *Ibid.*

[9] O'Neal, M. R., *Climate Change Impacts on Soil Erosion in Midwest United Status with Changes in Crop Management* (2005) (online at http://etmd.nal.usda.gov/bitstream/10113/6789/1/IND43978173.pdf).

[10] Center of Integrative Environmental Research, University of Maryland, *Economic Impacts of Climate Change on Michigan* (July 2008) (online at http://www.cier.umd.edu/climateadaptation/Michigan%20Economic%20Impacts%20of%20Climate%20Change.pdf).

October 2010

Minnesota and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Minnesota.

Investments in Clean Energy Programs in Minnesota. ACES will invest over $1.4 billion in clean energy programs in Minnesota by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $150 million to $215 million in Minnesota each year. Specifically, ACES would provide:

- **Over $60 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Minnesota's share is $60 to $85 million annually.

- **Over $25 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Minnesota's share is $25 to $35 million annually.

- **Over $30 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Minnesota's share is $30 to $45 million annually.

- **Over $15 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Minnesota's share is $15 to $25 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Minnesota is $15 to $20 million annually.

National Programs that Benefit Minnesota. In addition, ACES makes several national investments that will benefit Minnesota. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Minnesota's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Minnesota. ACES will have demonstrable benefits for Minnesota's economy. A recent university study concluded that Minnesota could gain 19,000 to 38,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Minnesota's gross domestic product would be $1.0 billion to $2.2 billion higher with clean energy policy than without.

Other Benefits for Minnesota. ACES has other important benefits for the nation and Minnesota. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would stress agriculture with more frequent downpours, floods and heat stress, and adversely affect wildlife, winter sports, and forests. Analyses suggest that global warming would quadruple the number of days in over 90°F in Minneapolis by mid century and lead to almost 70 days above that temperature towards the end of the century.[7,8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Minnesota of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] Climate Central. "August Heat" (online at www.climatecentral.org/other/august-heat/).

[8] Union of Concerned Scientists, *Confronting Climate Change in the U.S. Midwest: Minnesota* (online at: www.ucsusa.org/assets/documents/global_warming/climate-change-minnesota.pdf).

October 2010

Missouri and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Missouri.

Investments in Clean Energy Programs in Missouri. ACES will invest over $1.2 billion in clean energy programs in Missouri by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $145 million to $205 million in Missouri each year. Specifically, ACES would provide:

- **Over $55 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Missouri's share is $55 to $80 million annually.

- **Over $25 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Missouri's share is $25 to $35 million annually.

- **Over $30 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Missouri's share is $30 to $45 million annually.

- **Over $20 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Missouri's share is $20 to $30 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Missouri is $15 to $20 million annually.

National Programs that Benefit Missouri. In addition, ACES makes several national investments that will benefit Missouri. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market, in which Missouri's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Missouri. ACES will have demonstrable benefits for Missouri's economy. A recent university study concluded that Missouri could gain 18,000 to 29,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Missouri's gross domestic product would be $900 million to $1.8 billion higher with clean energy policy than without.

Other Benefits for Missouri. ACES has other important benefits for the nation and Missouri. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save four to seven million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming is projected to overall precipitation in winter and spring and increase the intensity of precipitation events, leading to more frequent flooding and increased infrastructure damage along the Missouri and Mississippi River floodplains.[7] Heat waves will be more frequent, more severe, and longer lasting, likely leading to decreased air quality and related negative health impacts, particularly in urban areas.[8] Hotter summers could cause heat-related deaths to increase 170% in St. Louis by 2050.[9]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Missouri of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).
[8] *Ibid.*
[9] Environmental Protection Agency. *Climate Change in Missouri* (1998).

October 2010

North Carolina and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of North Carolina.

Investments in Clean Energy Programs in North Carolina. ACES will invest over $1.5 billion in clean energy programs in North Carolina by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $175 million to $255 million in North Carolina each year. Specifically, ACES would provide:

- **Over $65 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. North Carolina's share is $65 to $90 million annually.

- **Over $250 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. North Carolina's share is $25 to $35 million annually.

- **Over $40 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. North Carolina's share is $40 to $60 million annually.

- **Over $30 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. North Carolina's share is $30 to $45 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in North Carolina is $15 to $25 million annually.

National Programs that Benefit North Carolina. In addition, ACES makes several national investments that will benefit North Carolina. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which North Carolina's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in North Carolina. ACES will have demonstrable benefits for North Carolina's economy. A recent university study concluded that North Carolina could gain 17,000 to 65,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that North Carolina's gross domestic product would be over $900 million to $4.1 billion higher with clean energy policy than without.

Other Benefits for North Carolina. ACES has other important benefits for the nation and North Carolina. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to

increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Increases in the intensity of Atlantic hurricanes combined with sea-level rise are likely to have significant impacts on North Carolina's coastal economy, impacting tourism in the Outer Banks and the real estate industry up and down the coast. Unchecked global warming is projected to cause beach erosion in the state and much of the state's coastline is at high risk from sea-level rise.[7] Warmer temperatures will alter ecosystems and wildlife dependent on cool climate conditions—for example, trout habitat in North Carolina is projected to decrease by up to 90 percent.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and North Carolina of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009).

[8] *Ibid.*

October 2010

New Hampshire and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of New Hampshire.

Investments in Clean Energy Programs in New Hampshire. ACES will invest over $550 million in clean energy programs in New Hampshire by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $60 million to $85 million in New Hampshire each year. Specifically, ACES would provide:

- **Over $25 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. New Hampshire's share is $25 to $35 million annually.

- **Over $10 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. New Hampshire's share is $10 to $15 million annually.

- **Over $10 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. New Hampshire's share is $10 to $20 million annually.

- **Over $5 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. New Hampshire's share is $5 to $10 million annually.

- **Over $5 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in New Hampshire is $5 to $10 million annually.

National Programs that Benefit New Hampshire. In addition, ACES makes several national investments that will benefit New Hampshire. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which New Hampshire's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in New Hampshire. ACES will have demonstrable benefits for New Hampshire's economy. A recent university study concluded that New Hampshire could gain 5,000 to 7,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that New Hampshire's gross domestic product would be $200 million to $300 million higher with clean energy policy than without.

Other Benefits for New Hampshire. ACES has other important benefits for the nation and New Hampshire. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to

increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Climate change could cut the winter snow season in half, reducing tourism revenue from winter sports. Conditions for maple/beech/birch forests will shift dramatically northward, eventually leaving only a small portion of the Northeast suitable for maple syrup production. Milk and fruit production are also expected to suffer.[7] By late this century, residents of New Hampshire could experience summers like those of North Carolina today.

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and New Hampshire of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009) (online at www.globalchange.gov/images/cir/pdf/northeast.pdf).

October 2010

New Jersey and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of New Jersey.

Investments in Clean Energy Programs in New Jersey. ACES will invest over $1.8 billion in clean energy programs in New Jersey by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $200 million to $285 million in New Jersey each year. Specifically, ACES would provide:

- **Over $85 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. New Jersey's share is $85 to $115 million annually.

- **Over $35 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. New Jersey's share is $35 to $50 million annually.

- **Over $45 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. New Jersey's share is $45 to $60 million annually.

- **Over $20 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. New Jersey's share is $20 to $30 million annually.

- **Over $20 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in New Jersey is $20 to $30 million annually.

National Programs that Benefit New Jersey. In addition, ACES makes several national investments that will benefit New Jersey. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which New Jersey's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in New Jersey. ACES will have demonstrable benefits for New Jersey's economy. A recent university study concluded that New Jersey could gain 11,000 to 13,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that New Jersey's gross domestic product could be up to $400 million higher with clean energy policy than without.

Other Benefits for New Jersey. ACES has other important benefits for the nation and New Jersey. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming is projected to raise sea-levels by 24 to 48 inches along the New Jersey coast, potentially advancing the shoreline inward by up to 240 feet.[7] Major coastal storms will become more intense and more frequent, exacerbating beach erosion, further threatening coastal property worth over $106 billion, and damaging the coastal tourism industry.[8] Higher temperatures will negatively impact the state's agricultural production. New Jersey, which together with Massachusetts supplies nearly half of the nation's cranberry crop, is unlikely to be able to support cranberry production by the middle of this century.[9] Heat stress is projected to reduce dairy production up to 20% or greater by the end of the century.[10]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and New Jersey of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] Center of Integrative Environmental Research, *Economic Impacts of Climate Change on New Jersey*, University of Maryland (July 2008) (online at http://www.cier.umd.edu/climateadaptation/NewJersey%20Economic%20Impacts%20of%20Climate%20Change.pdf).

[8] *Ibid.*

[9] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009) (online at www.globalchange.gov/images/cir/pdf/northeast.pdf).

[10] *Ibid.*

October 2010

New Mexico and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of New Mexico.

Investments in Clean Energy Programs in New Mexico. ACES will invest over $590 million in clean energy programs in New Mexico by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $65 million to $95 million in New Mexico each year. Specifically, ACES would provide:

- **Over $25 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. New Mexico's share is $25 to $35 million annually.

- **Over $10 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. New Mexico's share is $10 to $15 million annually.

- **Over $15 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. New Mexico's share is $15 to $20 million annually.

- **Over $10 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. New Mexico's share is $10 to $15 million annually.

- **Over $5 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in New Mexico is $5 to $10 million annually.

National Programs that Benefit New Mexico. In addition, ACES makes several national investments that will benefit New Mexico. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which New Mexico's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in New Mexico. ACES will have demonstrable benefits for New Mexico's economy. A recent university study concluded that New Mexico could gain 5,000 to 15,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that New Mexico's gross domestic product would be $2 million to $600 million higher with clean energy policy than without.

Other Benefits for New Mexico. ACES has other important benefits for the nation and New Mexico. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase

recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would dramatically increase stress on New Mexico's already scarce water supply. A recent NOAA-led study suggested that unchecked global warming could lead to "irreversible dry-season rainfall reductions in several regions comparable to those of the 'dust bowl' era" including the Southwestern U.S.[7] It would also cause more frequent and more intense heat waves. A recent study by the National Academies found that just 1 degree of additional warming, far less than is predicted from unchecked climate change, could lead to a 300 percent increase in the area of New Mexico burned by wildfires.[8] End of season snowpack around major ski resorts could decline by 40 to 90 percent.[9] Heat waves, combined with elevated ozone levels and higher pollen counts are projected to increase morbidity and mortality, especially among those with chronic heart and lung disease. The risk of hantavirus and San Joaquin Valley fever outbreaks are also expected to increase, and Dengue fever may emerge in the region.[10]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and New Mexico of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] National Oceanic and Atmospheric Administration, "New Study Shows Climate Change Largely Irreversible" (Jan. 26, 2009) (online at www.noaanews.noaa.gov/stories2009/20090126_climate.html).

[8] National Academy of Sciences, *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia* (2010).

[9] U.S. Global Change Research Program. *Global Climate Change Impacts in the United States* (2009) (online at http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts).

[10] Harvard Center for Health and the Global Environment. Climate Change and Health in New Mexico. (September 2009) (online at chge.med.harvard.edu/programs/policy/factsheet.html).

June 2010

Nevada and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from the enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Nevada.

Investments in Clean Energy Programs in Nevada. ACES will invest $580 million in clean energy programs in Nevada by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2016, ACES will invest $70 million to $90 million in Nevada each year. Specifically, ACES would provide:

- **Over $25 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $3.1 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Nevada's share is $25 to $35 million annually.

- **Over $10 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.3 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Nevada's share is $10 to $15 million annually.

- **Over $15 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.7 billion to $2.1 billion each year to improve the energy efficiency of buildings through the implementation of building energy codes, building retrofit assistance, and upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Nevada's share is $15 to $20 million annually.

- **Over $10 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.3 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Nevada's share is $10 to $15 million annually.

- **Over $5 million for local governments.** Local governments will receive carbon allowances worth $800 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Nevada is $5 to $10 million annually.

National Programs that Benefit Nevada. In addition, ACES makes several national investments that will benefit Nevada. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES would also create a national domestic offset market, in which Nevada's farmers and forest owners could participate to generate a new source of income when they cut emissions.

Promoting Domestic Manufacturing. ACES would establish a Clean Energy Manufacturing Revolving Loan Fund Program to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It would also create partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Nevada. ACES will have demonstrable benefits for Nevada's economy. A recent university study concluded that Nevada could gain 9,000 to 17,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Nevada's gross domestic product would be $500 million to $1.1 billion higher with clean energy policy than without.

Promoting Renewable Energy in Nevada. Congresswoman Dina Titus championed a successful amendment to ACES, which would require federal agencies to be powered in part by renewable energy. It also provided the means for agencies to meet their renewable energy targets by allowing them to enter into long term power purchase agreements of up to 20 years.

Avoiding the Harmful Effects of Climate Change. None of these estimates include the benefit to Nevada and the nation from avoiding climate change. Unchecked global warming will increase the pressures on Nevada's already stressed water system, and could leave roughly 27 million people in the region without a secure water supply.[6] Nevadans can also expect even more extreme temperatures and serious impacts to sensitive ecosystems.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf)

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm)

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at: http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf)

[6] Barnett and Pierce, Sustainable water deliveries from the Colorado River in a changing climate, Proceedings of the National Academy of Sciences (May 5, 2009).

April 2010

Ohio and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs and enhance America's energy independence.

At the national level, government and other experts have documented the job creation, oil savings, and consumer cost savings that would result from the enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of U.S. competitiveness. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Ohio.

Investments in Clean Energy Programs in Ohio. ACES will invest $2.54 billion in clean energy programs in Ohio by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2016, ACES will invest $300 million to $385 million in Ohio each year. Specifically, ACES would provide:

- **Over $120 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $3.1 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Ohio's share is $125 to $155 million annually.

- **Over $50 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.3 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Ohio's share is $50 to $65 million annually.

- **Over $60 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.7 billion to $2.1 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance, and upgrades of

manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Ohio's share is $60 to $75 million annually.

- **Over $30 million for local governments.** Local governments will receive carbon allowances worth $800 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Ohio is $30 to $40 million annually.

National Programs that Benefit Ohio. In addition, ACES makes several national investments that will benefit Ohio. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES would also create a national domestic offset market, in which Ohio's farmers and forest owners could participate to generate a new source of income when they cut emissions.

Promoting Domestic Manufacturing. ACES would establish a Clean Energy Manufacturing Revolving Loan Fund Program to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It would also create partnerships to help manufacturers find new markets, improve competitiveness, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Ohio. ACES will have demonstrable benefits for Ohio's economy. A recent university study concluded that Ohio could gain 35,000 to 61,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Ohio's gross domestic product would be $1.6 billion to $3.7 billion higher with clean energy policy than without.

[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf)

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm)

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at: http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf)

October 2010

Oregon and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Oregon.

Investments in Clean Energy Programs in Oregon. ACES will invest over $850 million in clean energy programs in Oregon by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $95 million to $135 million in Oregon each year. Specifically, ACES would provide:

- **Over $35 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Oregon's share is $35 to $50 million annually.

- **Over $15 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Oregon's share is $15 to $20 million annually.

- **Over $20 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Oregon's share is $20 to $30 million annually.

- **Over $15 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. Oregon's share is $15 to $20 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Oregon is $10 to $15 million annually.

National Programs that Benefit Oregon. In addition, ACES makes several national investments that will benefit Oregon. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which Oregon's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Oregon. ACES will have demonstrable benefits for Oregon's economy. A recent university study concluded that Oregon could gain 13,000 to 26,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Oregon's gross domestic product would be over $600 million to $1.4 billion higher with clean energy policy than without.

Other Benefits for Oregon. ACES has other important benefits for the nation and Oregon. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would threaten Oregon's agriculture with rising temperatures and increased water stress; changing precipitation will harm the Oregon's economy by reducing available hydroelectric power and straining water supplies. Increased insect outbreaks and wildfires will threaten Oregon's forests. Up to forty percent of salmon populations could be lost by 2050. [7]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Oregon of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

August 2010

Pennsylvania and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would take a number of important steps that will (1) wean our country off of foreign oil; (2) create millions of new clean energy jobs; (3) save consumers billions of dollars in energy bills; and (4) restore U.S. leadership in clean technology and efforts to reduce the effects of global warming on the health of our children, national security, and economic productivity.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Department of Energy's Energy Information Administration predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3] An analysis by the University of California at Berkeley, University of Illinois, and Yale University found that the bill would increase real household income by $488 or more in 2020.[4]

This fact sheet provides a brief overview of how the legislation would affect the country and specifically the Commonwealth of Pennsylvania.

Promoting Domestic Manufacturing. ACES would establish a Clean Energy Manufacturing Revolving Loan Fund Program to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It would also create partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Pennsylvania. ACES will have demonstrable benefits for Pennsylvania's economy. A recent university study concluded that Pennsylvania could gain 46,000 to 78,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Pennsylvania's gross domestic product would be $2.4 billion to $4.3 billion higher with clean energy policy than without.

Reducing Our Dependence on Imported Oil. ACES will make us more energy independent. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like these have the potential to save 4 to 7 million barrels of oil per day by 2030, two to

three times the oil we import from the Persian Gulf.[6] By lowering global demand for oil, clean energy policies would deprive the Iranian government of $100 million per day in oil revenue.[7]

Avoiding the Harmful Effects of Climate Change. None of these estimates include the benefit to Pennsylvania and the nation from avoiding climate change. Unchecked global warming would have adverse impacts on agriculture in the state, including reduced livestock productivity, reduced milk production, and more extreme weather events such as heavy downpours and droughts. Projected impacts on tourism in Pennsylvania include shrinking winter snow seasons and trout habitat, reducing skiing and fishing opportunities. Climate change is also expected to increase severe floods and heat waves. For example, Philadelphia is expected to experience an average of nearly 30 days over 100°F each summer by late this century.[8]

Investments in Clean Energy Programs in Pennsylvania. ACES will invest $2.6 billion in clean energy programs in Pennsylvania by 2020.[9] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2016, ACES will invest $300 million to $400 million in Pennsylvania each year. Specifically, ACES would provide:

- **Over $125 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $3.1 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Pennsylvania's share is $125 to $160 million annually.

- **Over $55 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.3 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Pennsylvania's share is $55 to $65 million annually.

- **Over $65 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.7 billion to $2.1 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Pennsylvania's share is $65 to $80 million annually.

- **Over $30 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.3 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for protection of wildlife and natural ecosystems. Pennsylvania's share is $30 to $50 million annually.

- **Over $35 million for local governments.** Local governments will receive carbon allowances worth $800 million to $1.0 billion each year to invest in local energy efficiency programs and deployment of local renewable energy technology. The share for local governments in Pennsylvania is $35 to $40 million annually.

National Programs that Benefit Pennsylvania. In addition, ACES makes several national investments that will benefit Pennsylvania. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES would also create a national domestic offset market, in which Pennsylvania's farmers and forest owners could participate to generate a new source of income when they cut emissions.

[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at www.policyintegrity.org/documents/OtherSideoftheCoin.pdf)
[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at www.cbo.gov/doc.cfm?index=10561&type=1).
[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at www.aceee.org/pubs/e096.htm)
[4] Roland-Holst et al., *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf)
[5] *Id.*
[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios,* (Feb 2 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) EIA, *U.S. Total Crude Oil and Products Imports,* (June 29, 2009) (online at: http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm)
[7] *Carbon Caps Would Cost Iran $100 Million A Day* (Apr. 12, 2010) (online at www.scientificamerican.com/article.cfm?id=carbon-caps-would-cost-iran-100-mil-2010-04)
[8] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (June 2009) (online at www.globalchange.gov)
[9] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual investments.

October 2010

Rhode Island and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Rhode Island.

Investments in Clean Energy Programs in Rhode Island. ACES will invest over $500 million in clean energy programs in Rhode Island by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $55 million to $75 million in Rhode Island each year. Specifically, ACES would provide:

- **Over $20 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Rhode Island's share is $20 to $30 million annually.

- **Over $10 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Rhode Island's share is $10 to $15 million annually.

- **Over $10 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Rhode Island's share is $10 to $15 million annually.

- **Over $5 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. Rhode Island's share is $5 to $10 million annually.

- **Over $5 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Rhode Island is $5 to $10 million annually.

National Programs that Benefit Rhode Island. In addition, ACES makes several national investments that will benefit Rhode Island. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which Rhode Island's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Rhode Island. ACES will have demonstrable benefits for Rhode Island's economy. A recent university study concluded that Rhode Island could gain 5,000 to 8,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Rhode Island's gross domestic product would be over $300 million to $400 million higher with clean energy policy than without.

Other Benefits for Rhode Island. ACES has other important benefits for the nation and Rhode Island. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase

recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would lead to increased episodes of extreme heat and declines in air quality. Rising sea levels and more intense storm surges mean that a once in a century flood would occur every 9 years by the end of the century and storm surges could push coastal infrastructure past design limits. Warming near shore waters could lead to the collapse of the Rhode Island lobster fishery.[7]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Rhode Island of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] Union of Concerned Scientists, *Rhode Island: Confronting Climate Change in the U.S. Northeast* (online at: www.climatechoices.org/assets/documents/climatechoices/rhode-island_necia.pdf).

October 2010

South Carolina and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of South Carolina.

Investments in Clean Energy Programs in South Carolina. ACES will invest over $950 million in clean energy programs in South Carolina by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $105 million to $150 million in South Carolina each year. Specifically, ACES would provide:

- **Over $40 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. South Carolina's share is $40 to $55 million annually.

- **Over $15 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. South Carolina's share is $15 to $25 million annually.

- **Over $25 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. South Carolina's share is $25 to $35 million annually.

- **Over $15 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. South Carolina's share is $15 to $25 million annually.

- **Over $10 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in South Carolina is $10 to $15 million annually.

National Programs that Benefit South Carolina. In addition, ACES makes several national investments that will benefit South Carolina. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which South Carolina's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in South Carolina. ACES will have demonstrable benefits for South Carolina's economy. A recent university study concluded that South Carolina could gain 21,000 to 36,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that South Carolina's gross domestic product would be over $900 million to $1.8 billion higher with clean energy policy than without.

Other Benefits for South Carolina. ACES has other important benefits for the nation and South Carolina. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to

increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Increases in the intensity of Atlantic hurricanes combined with sea-level rise are likely to have significant impacts on South Carolina's coastal economy, potentially impacting tourism and commercial shipping in the Port of Charleston. The threat of increased hurricane intensity has already made it increasingly difficult for coastal landowners to obtain insurance, with home insurance companies increasing premiums and dropping coverage of wind damage.[7] The average number of days per year that reach 90°F in South Carolina is projected to increase from about 60 days per year to about 135 days per year by the end of the century.[8] Rising temperatures and changing precipitation would harm agricultural production.[9]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and South Carolina of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] Environmental Defense, *Blown Away: How Global Warming is Eroding the Availability of Insurance Coverage in America's Coastal States* (2007).

[8] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

[9] Environmental Protection Agency, *Climate Change and South Carolina* (1998).

October 2010

Tennessee and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Tennessee.

Investments in Clean Energy Programs in Tennessee. ACES will invest over $1.2 billion in clean energy programs in Tennessee by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $140 million to $200 million in Tennessee each year. Specifically, ACES would provide:

- **Over $55 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Tennessee's share is $55 to $75 million annually.

- **Over $25 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Tennessee's share is $25 to $30 million annually.

- **Over $30 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Tennessee's share is $30 to $45 million annually.

- **Over $20 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. Tennessee's share is $20 to $30 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Tennessee is $15 to $20 million annually.

National Programs that Benefit Tennessee. In addition, ACES makes several national investments that will benefit Tennessee. Over the period 2012 through 2025, ACES would provide:

- **$25 billion to rebuild or retool factories to build fuel efficient vehicles.** These funds will support the construction of plug-in electric vehicles and other advanced technology vehicles, putting autoworkers back to work on new types of vehicles.

- **$25 billion in additional loan guarantees for the auto industry.** These funds will expand the existing advanced technology vehicle manufacturing program, which provides federal loan guarantees to auto manufacturers and their component suppliers.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which Tennessee's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Tennessee. ACES will have demonstrable benefits for Tennessee's economy. A recent university study concluded that Tennessee could gain 2,000 to 20,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Tennessee's gross domestic product could be up to $900 million higher with clean energy policy than without.

Other Benefits for Tennessee. ACES has other important benefits for the nation and Tennessee. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would lead to increased episodes of extreme heat and declines in air quality. Heat, drought, and other climate impacts will harm Tennessee's agricultural and forestry sectors, lower hunting and fishing revenues by as much as $80 million per year, and cause $187 million in asthma-related healthcare costs.[7]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Tennessee of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009) and Center of Integrative Environmental Research, *Economic Impacts of Climate Change on New Jersey*, University of Maryland (July 2008) (online at: http://www.cier.umd.edu/climateadaptation/Tennessee%20Economic%20Impacts%20of%20Climate%20Change%20Full%20Report.pdf).

October 2010

Texas and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Texas.

Investments in Clean Energy Programs in Texas. ACES will invest over $3.7 billion in clean energy programs in Texas by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $425 million to $615 million in Texas each year. Specifically, ACES would provide:

- **Over $160 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Texas's share is $160 to $220 million annually.

- **Over $65 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Texas's share is $65 to $95 million annually.

- **Over $95 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Texas's share is $95 to $140 million annually.

- **Over $60 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. Texas's share is $60 to $105 million annually.

- **Over $40 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Texas is $40 to $60 million annually.

National Programs that Benefit Texas. In addition, ACES makes several national investments that will benefit Texas. Over the period 2012 through 2025, ACES would provide:

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which Texas's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Texas. ACES will have demonstrable benefits for Texas's economy. A recent university study concluded that Texas could gain 44,000 to 165,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Texas's gross domestic product could be up to $9.8 billion higher with clean energy policy than without.

Other Benefits for Texas. ACES has other important benefits for the nation and Texas. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to

build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming is projected to increase summer temperatures in Texas by 8 to over 10 degrees Fahrenheit, degrading air quality and damaging public health. Spring precipitation is expected to decrease by 5% to 15% in the eastern part of the state and by 25% or more in the western parts of the state by the end of the century. Warmer temperatures, faster evaporation rates, less precipitation, and more sustained droughts will add further stress to Texas's water resources. Drier conditions and reduced water availability will have significant impacts on the state's agricultural production, with particularly severe effects projected for the southern Great Plains. The Gulf Coast has been identified as particularly vulnerable to sea-level rise and storm surge, with relative sea-level rise projected to be as high as 4 feet by the end of the century, and will be threatened with an increasing risk of erosion and flooding. Increases in hurricane intensity are further projected to adversely impact Texas's energy and transportation infrastructure.[7]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Texas of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

October 2010

Virginia and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Virginia.

Investments in Clean Energy Programs in Virginia. ACES will invest over $1.4 billion in clean energy programs in Virginia by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $165 million to $235 million in Virginia each year. Specifically, ACES would provide:

- **Over $65 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Virginia's share is $65 to $90 million annually.

- **Over $25 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Virginia's share is $25 million to $35 million annually.

- **Over $35 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Virginia's share is $35 to $50 million annually.

- **Over $20 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. Virginia's share is $20 million to $35 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Virginia is $15 million to $25 million annually.

National Programs that Benefit Virginia. In addition, ACES makes several national investments that will benefit Virginia. Over the period 2012 through 2025, ACES would provide:

- **$64 billion to develop and deploy carbon capture and storage.** These funds will build the first generation of coal power plants equipped with carbon capture and sequestration.

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which Virginia's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Virginia. ACES will have demonstrable benefits for Virginia's economy. A recent university study concluded that Virginia could gain 25,000 to 50,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Virginia's gross domestic product would be $1.3 billion to $3.2 billion higher with clean energy policy than without.

Other Benefits for Virginia. ACES has other important benefits for the nation and Virginia. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories

to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Sea-level rise in the Chesapeake Bay is expected to reach 2 feet by the end of the century, threatening Virginia's tidal wetlands and $130 billion of coastal property.[7] Increases in the intensity of Atlantic hurricanes combined with sea-level rise are likely to have significant impacts on Virginia's coastal economy, potentially impacting tourism, commercial fishing, and the military installations in Norfolk. The average number of days per year that reach 90°F in Virginia is projected to increase from about 30 days per year to over 90 days per year by the end of the century.[8] Warmer temperatures will alter ecosystems and wildlife dependent on cool climate conditions—for example, trout habitat in Virginia is projected to decrease by up to 90 percent.[9] Climate change would likely also harm agriculture and livestock production.[10]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Virginia of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

[8] *Ibid.*

[9] *Ibid.*

[10] *Ibid*; Environmental Protection Agency, *Climate Change and Virginia* (1998).

October 2010

Vermont and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Vermont.

Investments in Clean Energy Programs in Vermont. ACES will invest over $440 million in clean energy programs in Vermont by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $45 million to $65 million in Vermont each year. Specifically, ACES would provide:

- **Over $20 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Vermont's share is $20 to $25 million annually.

- **Over $10 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Vermont's share is $10 million annually.

- **Over $10 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Vermont's share is $10 million annually.

- **Over $5 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. Vermont's share is $5 million annually.

- **Over $5 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Vermont is $5 million annually.

National Programs that Benefit Vermont. In addition, ACES makes several national investments that will benefit Vermont. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which Vermont's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Vermont. ACES will have demonstrable benefits for Vermont's economy. A recent university study concluded that Vermont could gain 4,000 to 8,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Vermont's gross domestic product would be $200 million to $300 million higher with clean energy policy than without.

Other Benefits for Vermont. ACES has other important benefits for the nation and Vermont. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would lead to increased episodes of extreme heat and declines in air quality. Climate change could cut the winter snow season in half, reducing tourism revenue from winter sports.[7] Conditions for maple/beech/birch forests will shift dramatically northward, eventually leaving only a small portion of the Northeast suitable for maple syrup production. Milk and fruit production are also expected to suffer.[8]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Vermont of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009) (online at www.globalchange.gov/images/cir/pdf/northeast.pdf).

[8] *Ibid*.

October 2010

Washington and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Washington.

Investments in Clean Energy Programs in Washington. ACES will invest over $1.1 billion in clean energy programs in Washington by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $130 million to $190 million in Washington each year. Specifically, ACES would provide:

- **Over $50 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Washington's share is $50 to $70 million annually.

- **Over $20 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Washington's share is $20 million to $30 million annually.

- **Over $30 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Washington's share is $30 to $45 million annually.

- **Over $20 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. Washington's share is $20 million to $30 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Washington is $15 million to $20 million annually.

National Programs that Benefit Washington. In addition, ACES makes several national investments that will benefit Washington. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which Washington's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Washington. ACES will have demonstrable benefits for Washington's economy. A recent university study concluded that Washington could gain 1,000 to 13,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Washington's gross domestic product could be up to $300 million higher with clean energy policy than without.

Other Benefits for Washington. ACES has other important benefits for the nation and Washington. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would threaten Washington's agriculture with rising temperatures and increased water stress; changing precipitation will harm the Washington's economy by reducing available hydroelectric power and straining water supplies. Increased insect outbreaks and wildfires will threaten Washington's forests. Up to forty percent of salmon populations could be lost by 2050. Significant portions of the areas around Puget Sound will be highly vulnerable to sea level rise. [7]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Washington of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

[4] Estimates are based upon allowance prices from the Congressional Budget Office, adjusted to 2009 dollars. Changes in population, energy consumption, or allowance value will impact actual allowance value.

[5] College of Natural Resources, University of California - Berkeley, *Clean Energy and Climate Policy for U.S. Growth and Job Creation* (October 2009) (online at http://are.berkeley.edu/~dwrh/CERES_Web/Docs/ES_DRHFK091025.pdf).

[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (2009).

October 2010

Wisconsin and the American Clean Energy and Security Act

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act (ACES). The legislation would create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. And it would reduce the deficit by billions of dollars over the next decade.

At the national level, government and other experts have documented the job creation, oil savings, consumer cost savings, and pollution reduction that would result from enactment of ACES. A recent economic analysis at New York University concluded: "from almost any perspective and under almost any assumption, H.R. 2454 is a good investment for the United States to make in our own economic future and in the future of the planet."[1]

Estimates from the Congressional Budget Office, the Environmental Protection Agency, and the Energy Information Agency predict that the per-household costs of the bill will be less than 50 cents per day in 2020 ($74 to $160 annually).[2] These estimates do not take into account the benefits of curbing global warming. They also do not take into account the full energy savings resulting from the investments ACES makes in energy efficiency, which the American Council for an Energy Efficient Economy estimates will be $215 annually per household by 2020.[3]

This fact sheet provides a brief overview of how the legislation would affect the state of Wisconsin.

Investments in Clean Energy Programs in Wisconsin. ACES will invest over $1.4 billion in clean energy programs in Wisconsin by 2020.[4] These funds could be used to pay for renewable energy projects, energy efficient building retrofits, home appliance upgrades, and clean and efficient transportation improvements. Over the period 2012 to 2020, ACES will invest $155 million to $220 million in Wisconsin each year. Specifically, ACES would provide:

- **Over $65 million per year for investments in energy efficiency, renewable energy, and low carbon transportation.** The largest portion of funds provided by ACES can be used by states to transition to a clean energy economy. States will receive carbon allowances worth $2.8 billion to $3.9 billion each year to be used for projects that improve energy efficiency, deploy renewable energy and smart grid technologies, or reduce transportation-related emissions. Wisconsin's share is $65 to $90 million annually.

- **Over $25 million per year for renewable energy manufacturing and deployment.** States will receive carbon allowances worth $1.2 billion to $1.6 billion each year to deploy renewable energy generation or to establish facilities that manufacture renewable energy technologies. Wisconsin's share is $25 million to $35 million annually.

- **Over $35 million per year to improve energy efficiency in buildings.** States will receive carbon allowances worth $1.5 billion to $2.2 billion each year to improve the energy efficiency of buildings through implementation of building energy codes, building retrofit assistance and

upgrades of manufactured homes. Funds may also be used for additional clean energy activities in low-income communities. Wisconsin's share is $35 to $45 million annually.

- **Over $15 million per year for adaptation projects.** States will receive carbon allowances worth $900 million to $1.5 billion to adapt to climate impacts that are already occurring or are expected to occur. These funds can be used for activities such as agriculture and water management, as well as for the protection of wildlife and natural ecosystems. Wisconsin's share is $15 million to $30 million annually.

- **Over $15 million for local governments.** Local governments will receive carbon allowances worth $700 million to $1 billion each year to invest in local energy efficiency programs and the deployment of local renewable energy technology. The share for local governments in Wisconsin is $15 million to $25 million annually.

National Programs that Benefit Wisconsin. In addition, ACES makes several national investments that will benefit Wisconsin. Over the period 2012 through 2025, ACES would provide:

- **$22 billion in advanced energy research.** These funds will support eight regional Energy Innovation Hubs where university researchers, private researchers, and industry can cooperate to develop clean energy technologies. The funds can also be used to support innovative energy technologies through the Advanced Research Projects Agency-Energy (ARPA-E).

- **$1 billion for agricultural and renewable energy incentives.** These funds will be used by the Environmental Protection Agency and the U.S. Department of Agriculture to support supplemental activities in agriculture and to invest in infrastructure to help deploy biofuels and other renewable energy.

- **Up to $8 billion per year in a domestic offset market.** ACES creates a national domestic offset market in which Wisconsin's farmers and forest owners could participate to generate a new source of income when they cut emissions.

- **Up to $15 billion per year to promote domestic clean energy manufacturing.** ACES authorizes the creation of a Clean Energy Manufacturing Revolving Loan Fund to award grants to states to establish revolving loan funds for small and medium-sized manufacturers to improve energy efficiency and produce clean energy technology. It also creates partnerships to help manufacturers find new markets, improve competitiveness, reduce global warming pollution, and adopt innovative manufacturing technologies.

Promoting Economic Growth in Wisconsin. ACES will have demonstrable benefits for Wisconsin's economy. A recent university study concluded that Wisconsin could gain 20,000 to 28,000 more jobs by 2020 as a result of comprehensive clean energy policy.[5] It also concluded that Wisconsin's gross domestic product would be $900 million to $1.6 billion higher with clean energy policy than without.

Other Benefits for Wisconsin. ACES has other important benefits for the nation and Wisconsin. One is greater energy independence. ACES contains provisions to make vehicles more efficient, retool factories to build the next generation of vehicles, electrify the transportation sector, design more efficient communities, develop next-generation biofuels, save oil in homes and factories, and help to increase recovery from existing oil reserves. Clean energy policies like those in the legislation have the potential

to save 4 to 7 million barrels of oil per day by 2030, two to three times the oil we currently import from the Persian Gulf.[6]

A second essential benefit is reducing the environmental damage caused by unchecked global warming. Unchecked global warming would adversely affect shipping in the Great Lakes, and more severe droughts, floods, and heat waves would harm agriculture throughout the state. By mid-century, Wisconsin could experience over three times as many days over 90°F.[7]

None of the estimates of the costs and benefits of the legislation take into account the benefits to the nation and Wisconsin of increased energy independence and a more stable climate.

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[1] Institute for Policy Integrity, New York University School of Law, *The Other Side of the Coin: The Economic Benefits of Climate Legislation* (September 2009) (online at http://www.policyintegrity.org/documents/OtherSideoftheCoin.pdf).

[2] Environmental Protection Agency, *EPA Analysis of the American Clean Energy and Security Act of 2009, H.R. 2454 in the 111th Congress* (January 29, 2010) (online at http://www.epa.gov/climatechange/economics/pdfs/HR2454_SupplementalAnalysis.pdf), Energy Information Administration, *Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009* (August 4, 2009) (online at http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html), and Testimony of Douglas Elmendorf, Congressional Budget Office before the Senate Committee on Energy and Natural Resources (Oct. 14, 2009) (online at http://www.cbo.gov/doc.cfm?index=10561&type=1).

[3] American Council for an Energy Efficient Economy, *Energy Efficiency in the American Clean Energy and Security Act of 2009: Impacts of Current Provisions and Opportunities to Enhance the Legislation* (online at http://www.aceee.org/pubs/e096.htm).

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[6] EPA, *Analysis of the Transportation Sector: Greenhouse Gas and Oil Reduction Scenarios*, (Feb. 2, 2010) (online at www.epa.gov/otaq/climate/publications.htm#basic) and EIA, *U.S. Total Crude Oil and Products Imports* (June 29, 2009) (online at http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm).

[7] Union of Concerned Scientists. *Confronting Climate Change in the U.S. Midwest: Wisconsin* (online at www.ucsusa.org/assets/documents/global_warming/climate-change-wisconsin.pdf).