

Climate Action Plan Glossary

AFW: The Agriculture, Forestry and Waste working group.

Biomass: When referring to fuel, means plant-derived fuel including clean and untreated wood such as brush, stumps, lumber ends and trimmings, wood pallets, bark, wood chips or pellets, shavings, sawdust and slash, agricultural crops, biogas, or liquid biofuels, but shall exclude any materials derived in whole or in part from construction and demolition debris.

CAFE: The federal Corporate Average Fuel Economy program, which sets minimum fuel economy for cars and light trucks, including sport utility vehicles.

Capacity: The maximum power capability of a system.

Carbon Dioxide (CO₂): The major heat-trapping gas whose concentration is being increased by human activities. It also serves as the yardstick for all other greenhouse gases. The major source of CO₂ emissions is fossil fuel combustion. Carbon dioxide emissions also result from clearing forests and burning biomass. Atmospheric concentrations of CO₂ have been increasing at a rate of about 0.5 percent a year, and are now more than 30 percent above pre-industrial levels.

Carbon Sequestration: The uptake and storage of carbon. Trees and other plants, for example, absorb CO₂ then release the oxygen while storing the carbon.

Carbon Sinks: The processes or ecological systems that take in and store more carbon than they release. This process is called carbon sequestration. Forests and oceans are large carbon sinks.

CCPTF: Climate Change Policy Task Force.

Climate Change: A significant change from one climatic condition to another, often used in reference to climate changes caused by increase in heat-trapping gases since the end of the 19th century.

Climate: The average state of the atmosphere, including typical weather patterns for a particular region and time period (usually 30 years). Climate is not the same as weather, but

rather the average pattern of weather for a particular region. Weather describes the short-term state of the atmosphere; climate is longer-term. Climatic elements include average precipitation, temperature, wind, and seasonal phenomena such as length of the growing season among others.

CO₂e: Carbon dioxide equivalent, a measure that is used to express the concentration of all heat-trapping gases in terms of CO₂.

Combined Heat and Power: Also referred to as cogeneration is the process by which two different and useful forms of energy are produced at the same time. For example, water may be boiled to generate electricity in a turbine, with the leftover steam used to drive industrial processes or captured for space heating.

CSNE: Carbon Solutions New England.

DES: New Hampshire Department of Environmental Services; the state agency with primary responsibility for environmental permitting and enforcement.

DOT: New Hampshire Department of Transportation; the state agency with the responsibility to construct and maintain the transportation system and facilities in the state.

DSM: Demand-side management includes end-use measures that conserve electricity. They include energy efficient products and design, and load management strategies.

EGU: The electric generation working group.

EIA: United States Energy Information Administration, a division of the United States Department of Energy that focuses on data collection and analysis.

Embodied Energy: The total expenditure of energy involved in the creation of the building and its constituent materials. In terms of a full lifecycle of a product, it can also refer to the energy that is required to extract, process, package, transport, install, and recycle or dispose of materials and products.

EPA: United States Environmental Protection Agency.

Executive Order 2007-3: Order signed in 2007 by Governor John Lynch establishing the Climate Change Action Plan and charging that body to develop climate change goals and a plan for the state.

FHWA: The Federal Highway Administration is a major agency of the United States Department of Transportation and is charged with the broad responsibility of ensuring that America's roads and highways continue to be the safest and most technologically up-to-date.

FIA: The Forest Inventory and Analysis Program of the United States Forest Service provides the information needed to assess America's forests.

Fossil Fuel: A general term for combustible geologic deposits of carbon in reduced (organic) form. Fossil fuels are of biological origin, and include coal, oil, natural gas, oil shales and tar sands. A major concern is that they emit CO₂ when burned, significantly contributing to the enhanced greenhouse effect.

Generation: The process of making electricity. The term may also refer to energy supply.

Greenhouse Effect: The thermal effect that results from heat-trapping gases allowing incoming solar radiation to pass through the Earth's atmosphere, but preventing most of the outgoing infrared radiation from the surface and lower atmosphere from escaping into outer space.

Greenhouse Gas: Any gas that absorbs infrared radiation (traps heat) in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide, (N₂O), halogenated fluorocarbons (HCFCs), ozone (O₃), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs).

GWh: Gigawatt-hours (1 million kilowatt-hours).

HFC: Hydrofluorocarbon compounds; a man-made greenhouse gas generated by industrial processes.

ICLEI: International Council for Local Environmental Initiatives, a nonprofit organization that partners with local governments on environmental and sustainable development projects, particularly climate change.

IPCC: Intergovernmental Panel on Climate Change. Established in 1988, the IPCC assesses information in the scientific and technical literature related to all significant components of the issue of climate change. It draws on hundreds of the world's leading scientists to serve as authors, and thousands as reviewers. Key experts on climate change and the environmental, social and economic sciences from some 60

nations have helped the IPCC prepare periodic assessments of the scientific underpinnings of global climate change and its consequences.

KWh: Kilowatt-hour.

LEED: The Leadership in Energy and Environmental Design program of the United States Green Building Council.

Methane (CH₄): A hydrocarbon that is a heat-trapping gas carrying a global warming potential recently estimated at 24.5. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and oil, coal production and incomplete fossil fuel combustion.

MMtCO₂e: Million metric tons of CO₂ equivalent.

Mt: A metric ton equivalent to 1.102 short tons (2000 lbs.)

MW: Megawatt, A measure of electricity capacity. One MW is sufficient to provide power to 700 to 1,000 homes.

MWh: Megawatt-hours (1 thousand kilowatt-hours).

NEG/ECP: New England Governors/Eastern Canadian Premiers, the regional inter-governmental organization responsible for releasing the NEG/ECP Climate Change Action Plan in 2001.

NESCAUM: Northeast States for Coordinated Air Use Management, a nonprofit regional air quality policy organization whose directors are the top air pollution control officials in all six New England states, New York and New Jersey.

Nitrous Oxide (N₂O): A powerful greenhouse gas with a global warming potential of 310. Major sources of nitrous oxide include soil cultivation – especially from use of commercial and organic fertilizers – fossil fuel combustion in vehicles, nitric acid production and the combustion of biomass.

NO_x: Oxides of nitrogen, both nitric oxide (NO) and nitrogen dioxide (NO₂). They are key in forming ground-level ozone smog, and contribute to acid rain and particulate pollution.

OEP: New Hampshire Office of Energy and Planning; this is an executive-level office that is responsible for guiding the state's future growth through public policy development, education, research, and partnership building.

PFCs: Perfluorocarbons; a man-made greenhouse gas generated by industrial processes.

PPM: Parts per million.

PUC: The Public Utilities Commission, whose mission it is to ensure that customers of regulated utilities receive safe, ad-

equate and reliable service at just and reasonable rates.

PV: Photovoltaic; a treated semiconductor material that converts sunlight to electricity.

RCI: The residential, commercial and industrial working group.

REC: Renewable energy certificates which are marketable/tradable entities that represents one megawatt hour (1,000 kWh) of power generation from a renewable energy source.

RPS: Renewable Portfolio Standard; a policy designed to influence the development of renewable resources and technologies by requiring electricity providers to obtain a minimum percentage of the power they supply to their customers from renewable energy resources by a certain date.

SBC: System benefit charge; a charge on a consumer's bill from an electric distribution company to pay for the costs of certain public benefits such as low-income assistance and energy efficiency.

SF₆: Sulfur hexafluoride; a man-made greenhouse gas generated by industrial processes.

Sink: Removals of carbon from the atmosphere, with the carbon stored in forests, soils, landfills, wood structures, or other biomass-related products.

SIT: USEPA State Greenhouse Gas Inventory Tool.

Source: Any process or activity that releases into the atmosphere a greenhouse gas, an aerosol or a precursor to a greenhouse gas.

SUV: Sports utility vehicle, considered under federal gas mileage standards to be a light-duty truck, and subject to a lower average mile per gallon requirement: 20.7 mpg.

TLU: Transportation and land use working group.

UNH: University of New Hampshire

VMT: Vehicle-miles traveled.

Endnotes

Executive Summary

¹ EPA (2009). *State Targets and Caps*, Climate Change - State and Local Governments, http://www.epa.gov/climatechange/wycd/stateandlocalgov/state_target_cap.html (Last Accessed January 14, 2009).

² IPCC (2007). Summary for Policymakers. In: Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Pachauri, R.K and Reisinger, A. (eds.)] IPCC, Geneva, Switzerland, 1-22. http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf.

Overview – A Call to Action

¹ Northeast Climate Impacts Assessment (NECIA) (2006). *Climate Change in the U.S. Northeast. A Report of the Northeast Climate Impacts Assessment*. Cambridge, Mass.: Union of Concerned Scientists (UCS), 33 pp. http://www.climatechoices.org/assets/documents/climatechoices/NECIA_climate_report_final.pdf.

² Wake, C. P. *et al.* (2008). Special Issue: Assessment of Climate Change, Impacts, and Solutions in the Northeast United States. *Mitigation and Adaptation Strategies for Global Change*, 13(5-6), 419-660.

³ Burakowski, EA, CP Wake, B. Braswell, DP Brown (2008) Trends in Wintertime Climate in the Northeast United States, 1965-2005. *Journal of Geophysical Research* 113, D20114, doi:10.1029/2008JD009870.

⁴ Gittell, R. *et al.* (2009). "New Hampshire's Green Economy and Industries: Current employment and future opportunities." Whittemore School of Business & Economics. University of New Hampshire, Durham, N.H.

⁵ Klein, Joe (2008). Why Barack Obama Is Winning" *Time Magazine* (October 22, 2008). <http://www.time.com/time/politics/article/0,8599,1853025-4,00.html>.

⁶ Gittell, R. and Magnuson, M. (2007). Economic Impact of a New Hampshire Renewable Portfolio Standard. UNH Economic Analysis, 74 pp. http://des.nh.gov/organization/divisions/air/tsb/tps/climate/documents/unh_rps_report.pdf.

⁷ Gittell, R. and Magnuson, M. (2008). Economic Impacts in New Hampshire of the Regional Greenhouse Gas Initiative (RGGI): An Independent Assessment, 69 pp. http://des.nh.gov/organization/divisions/air/tsb/tps/climate/rggi/documents/unh_rggi_study.doc.

⁸ Friedman, Thomas L. (2008). "Flush with Energy," *New York Times*, 9 August 2008, Opinion. <http://www.nytimes.com/2008/08/10/opinion/10friedman1.html?em>.

⁹ EPA (2009). *State Targets and Caps*, Climate Change - State and Local Governments, <http://www.epa.gov/climatechange/wycd/>

[stateandlocalgov/state_target_cap.html](http://www.epa.gov/climatechange/wycd/stateandlocalgov/state_target_cap.html). (Last Accessed January 14, 2009).

¹⁰ IPCC (2007). Summary for Policymakers. In: Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Pachauri, R.K and Reisinger, A. (eds.)] IPCC, Geneva, Switzerland, 1-22. http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf.

¹¹ IPCC (2007). Summary for Policymakers. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, N.Y., 1-18. <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>

¹² Frumhoff, P.C. *et al.* (2007). *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, Mass.: Union of Concerned Scientists (UCS), 145 pp. <http://www.climatechoices.org/assets/documents/climatechoices/confronting-climate-change-in-the-u-s-northeast.pdf>.

¹³ Governor's New Hampshire Forest Products Industry Task Force Report, August 2008, 7 pp. <http://www.nhtoa.org/ForestIndustryTaskForceReportAug.pdf>.

Chapter 1 Introduction

¹ Northeast Climate Impacts Assessment (NECIA) (2006). *Climate Change in the U.S. Northeast. A Report of the Northeast Climate Impacts Assessment*. Cambridge, Massachusetts: Union of Concerned Scientists (UCS), 33 pp. http://www.climatechoices.org/assets/documents/climatechoices/NECIA_climate_report_final.pdf.

² Ibid.

³ Stern, Nicholas Herbert (2007). *The Economics of Climate Change: The Stern Review*, Great Britain Treasury, Cambridge University Press. 692 pp. http://www.hm-treasury.gov.uk/sternreview_index.htm.

⁴ Ibid

⁵ EPA (2009). *State Targets and Caps*, Climate Change - State and Local Governments, http://www.epa.gov/climatechange/wycd/stateandlocalgov/state_target_cap.html. (Last Accessed January 14, 2009).

⁶ IPCC (2007). Summary for Policymakers. In: Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds.,

Cambridge University Press, Cambridge, UK, 7-22. <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf>.

⁷ Northeast Climate Impacts Assessment (NECIA) (2006). *Climate Change in the U.S. Northeast. A Report of the Northeast Climate Impacts Assessment*. Cambridge, Massachusetts: Union of Concerned Scientists (UCS). http://www.climatechoices.org/assets/documents/climatechoices/NECIA_climate_report_final.pdf.

⁸ Northeast Climate Impacts Assessment (NECIA) (2006). *Climate Change in the U.S. Northeast. A Report of the Northeast Climate Impacts Assessment*. Cambridge, Massachusetts: Union of Concerned Scientists (UCS), 33 pp. http://www.climatechoices.org/assets/documents/climatechoices/NECIA_climate_report_final.pdf.

⁹ Frumhoff, P.C. *et al.* (2007). *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS), 145 pp. <http://www.climatechoices.org/assets/documents/climatechoices/confronting-climate-change-in-the-u-s-northeast.pdf>.

¹⁰ Hamilton, L.C. (2003). Warming winters and New Hampshire's lost ski areas: An Integrated Case Study. *International Journal of Sociology and Social Policy* 23: 52-73.

¹¹ Hamilton, L.C. *et al.* (2007) Ski areas, weather and climate: time series models for New

England case studies. *Int. J. Climatol.* 27: 2113 – 2124. http://pubpages.unh.edu/~lch/Hamilton_et_al_IJOC.pdf.

¹² Wake, C. P. *et al.* (2006) Winter Recreation and Climate Variability in New Hampshire: 1984 – 2006. Produced for the Carbon Coalition and Clean Air-Cool Planet, Portsmouth, NH, 37 pp. http://www.carboncoalition.org/education/documents/NHWinterTourismandClimateVariability_Feb_2007.pdf.

¹³ Ackerman, F. and E. A. Stanton (2008). The Cost of Climate Change: What We'll Pay if Global Warming Continues Unchecked. Produced for Natural Resources Defense Council, 33 pp. <http://www.nrdc.org/globalwarming/cost/contents.asp>.

¹⁴ Conference of New England Governors and Eastern Canadian Premiers (2007). Resolution Concerning Energy and the Environment (31-1). http://www.necg.org/documents/NEG-ECP_31-1.pdf.

¹⁵ Luers *et al.* (2007). How to Avoid Dangerous Climate Change: A Target for U.S. Emissions Reductions. Union of Concerned Scientists (UCS), Cambridge, MA. 26 pp. http://www.ucsusa.org/assets/documents/global_warming/emissions-target-report.pdf.

¹⁶ Hansen, J. *et al.* (2008). Target atmospheric CO₂: Where should humanity aim? *Open Atmos. Sci. J.* Vol. 2, pp. 217-231. Draft PDF - http://www.columbia.edu/~Ejeh1/2008/TargetCO2_20080317.pdf.

¹⁷ Luers *et al.* (2007). How to Avoid Dangerous Climate Change: A Target for U.S. Emissions Reductions. Union of Concerned Scientists (UCS), Cambridge, MA. 26 pp. http://www.ucsusa.org/assets/documents/global_warming/emissions-target-report.pdf.

¹⁸ Energy Information Administration website (2009). NH Energy Consumption 1960-2006. http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nh&q_state=NEW%20HAMPSHIRE (Last Accessed January 14, 2009).

¹⁹ Ibid.

²⁰ Ibid.

²¹ EPA (2008). Inventory of U.S. Greenhouse Gas Emissions and

Sinks: 1990 – 2006. Washington, D.C. 692 pp. <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>

²² Energy Information Administration website (2009). NH Energy Consumption 1960-2006. http://www.eia.doe.gov/emeu/states/state.html?q_state_a=nh&q_state=NEW%20HAMPSHIRE (Last Accessed January 14, 2009).

²³ Ibid.

Chapter 2 Recommendations

¹ NH Office of Energy and Planning, (2008). New Hampshire Energy Facts website, <http://www.nh.gov/oep/programs/energy/nhenergyfacts/index.htm>. (Last accessed June 6, 2008).

² Ewing, R. *et al.* (2008). Growing Cooler: The Evidence on Urban Development and Climate Change. The Urban Land Institute: 150 pp. <http://www.smartgrowthamerica.org/gcindex.html>.

³ New Hampshire Division of Forested Lands website, <http://www.nhdf.org/about-forests-and-lands/bureaus/forest-protection-bureau.aspx>. (Last accessed December 9, 2008).

⁴ Stern, Nicholas Herbert (2007). *The Economics of Climate Change: The Stern Review*, Great Britain Treasury, Cambridge University Press. 692 pp. http://www.hm-treasury.gov.uk/sternreview_index.htm

Chapter 3 Adapting to Change

¹ IPCC (2007). Summary for Policymakers. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, [Parry, M.L., Canziani, O.F., Palutikof, J.P., van der Linden, P.J. and Hanson, C.E., (eds.)] Cambridge University Press, Cambridge, UK, 7-22. <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf>.

² Ibid.

³ Millar, C. (2007). Climate Change and Forests of the Future: Managing in the Face of Uncertainty. *Ecological Applications*. 17(8): pp 2145-2151.

⁴ Easterling III, E. *et al.* (2004). Coping with Global climate Change: The Role of Adaptation in the United States. Prepared for the Pew Center on Global Climate Change, 40 pp. http://www.pewtrusts.org/our_work_report_detail.aspx?id=22878.

⁵ Wake, C. P., Burakowski, E. and Goss, L. (2006). Winter Recreation and Climate Variability in New Hampshire: 1984 – 2006. Produced for the Carbon Coalition and Clean Air-Cool Planet, Portsmouth, NH, 37 pp. http://www.carboncoalition.org/education/documents/NHWinterTourismandClimateVariability_Feb_2007.pdf.

⁶ Northeast Climate Impacts Assessment (NECIA) (2006). *Climate Change in the U.S. Northeast. A Report of the Northeast Climate Impacts Assessment*. Cambridge, Massachusetts: Union of Concerned Scientists (UCS), 33 pp. http://www.climatechoices.org/assets/documents/climatechoices/NECIA_climate_report_final.pdf.

⁷ Stern, Nicholas Herbert (2007). *The Economics of Climate Change: The Stern Review*,

Great Britain Treasury, Cambridge University Press. 692 pp. http://www.hm-treasury.gov.uk/sternreview_index.htm.

⁸ National Assessment Synthesis Team (2000). *Climate Change Impacts on the United States: The Potential Consequences of*

Climate Variability and Change. US Global Change Research Program, Washington, D.C. <http://www.usgcrp.gov/usgcrp/Library/nationalassessment/overviewhealth.htm>.

⁹ EM-DAT (2009) Emergency Events Database, <http://www.emdat.be/Database/DisasterList/list.php>. (Last Accessed January 16, 2009).

¹⁰ Ibid.

¹¹ Frumhoff, P.C. *et al.* (2007). *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS), 145 pp. <http://www.climatechoices.org/assets/documents/climatechoices/confronting-climate-change-in-the-u-s-northeast.pdf>.

¹² Ziska, L.H. *et al.* (2008). Climate change, aerobiology, and public health in the Northeast United States. *Mitigation and Adaptation Strategies for Global Change*. 13(5-6), 607-613.

¹³ HB 648 Comprehensive Flood Management Final Report, September 2008, 52 pp. <http://gencourt.state.nh.us/statstudcomm/reports/1853.pdf>.

¹⁴ New Hampshire Department of Agriculture (2003) Marketing Research & Recommendations, 15 pp. http://agriculture.nh.gov/divisions/agricultural_development/documents/strategy.pdf.

¹⁵ Frumhoff, P.C. *et al.* (2007). *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS), 145 pp. <http://www.climatechoices.org/assets/documents/climatechoices/confronting-climate-change-in-the-u-s-northeast.pdf>.

¹⁶ Governor's New Hampshire Forest Products Industry Task Force Report, August 2008, 7 pp. <http://www.nhtoa.org/ForestIndustryTaskForceReportAug.pdf>.

¹⁷ Iverson, L. *et al.* (2008) Modeling potential climate change impacts on the trees of the northeastern United States. *Mitigation and Adaptation Strategies for Global Change*. 13(5-6), 487-516.

¹⁸ Paradis, A. *et al.* (2008) Role of winter temperature and climate change on the survival and future range expansion of the hemlock woolly adelgid (*Adelges tsugae*) in eastern North America. *Mitigation and Adaptation Strategies for Global Change*. 13(5-6), 541-554.

¹⁹ Wolfe D.W. *et al.* (2008) Projected change in climate thresholds in the Northeastern U.S.: implications for crops, pests, livestock, and farmers. *Mitigation and Adaptation Strategies for Global Change*. 13(5-6), 555-575.

²⁰ Frumhoff, P.C. *et al.* (2007). *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS), 145 pp. <http://www.climatechoices.org/assets/documents/climatechoices/confronting-climate-change-in-the-u-s-northeast.pdf>.

²¹ New Hampshire 2007 Hazard Mitigation Plan, New Hampshire Department of Safety, Homeland Security and Emergency Management. http://www.nh.gov/safety/divisions/bem/HazardMitigation/haz_mit_plan.html.

²² Pfeffer, J. T. *et al.* (2008). Kinematic Constraints on Glacier

Contributions to 21st-Century Sea-Level Rise. *Science*, 321 (5894) pp. 1340-1343. <http://www.sciencemag.org/cgi/content/abstract/321/5894/1340>.

²³ Hansen, L. (2003). Increasing Resistance and Resilience of Tropical Marine Ecosystems to Climate Change. In: *Buying Time: A User's Manual for Building Resistance and Resilience to Climate Change in Natural Systems* [Hansen, L.; L. Biringer; and J. Hoffman (eds)]. World Wildlife Fund, Washington, D.C. 157 – 176. http://assets.panda.org/downloads/buyingtime_unfe.pdf.

²⁴ Easterling III, E. *et al.* (2004). Coping with Global climate Change: The Role of Adaptation in the United States. Prepared for the Pew Center on Global Climate Change, 40 pp. http://www.pewtrusts.org/our_work_report_detail.aspx?id=22878.

²⁵ Rodenhouse NL, SN Matthews, KP McFarland, JD Lambert, LR Iverson, A Prasad, TS Sillett and RT Holmes (2008) Potential effects of climate change on birds of the Northeast. *Mitigation and Adaptation Strategies for Global Change*. 13(5-6), 517-540.

²⁶ These data have been adjusted for inflation.

²⁷ New Hampshire 2007 Hazard Mitigation Plan, New Hampshire Department of Safety, Homeland Security and Emergency Management. http://www.nh.gov/safety/divisions/bem/HazardMitigation/haz_mit_plan.html.

²⁸ HB 648 Comprehensive Flood Management Final Report, September 2008, 52 pp. <http://gencourt.state.nh.us/statstudcomm/reports/1853.pdf>.

Chapter 4 Economic Opportunities

¹ Pollin *et al.* (2008). Green Recovery: A Program to Create Good Jobs and Start Building a Low-Carbon Economy. Political Economy Research Institute and Center for American Progress: 38 pp. http://www.americanprogress.org/issues/2008/09/green_recovery.html.

² Gittell, R. *et al.* (2009). "New Hampshire's Green Economy and Industries: Current employment and future opportunities." Whittemore School of Business & Economics. University of New Hampshire, Durham, NH.

³ Ibid.

⁴ Gittell, R. and Magnuson, M. (2007). Economic Impact of a New Hampshire Renewable Portfolio Standard. UNH Economic Analysis, 74 pp. http://des.nh.gov/organization/divisions/air/tsb/tps/climate/documents/unh_rps_report.pdf.

⁵ Gittell, R. and Magnuson, M. (2008). Economic Impacts in New Hampshire of the Regional Greenhouse Gas Initiative (RGGI): An Independent Assessment, 69 pp. http://des.nh.gov/organization/divisions/air/tsb/tps/climate/rggi/documents/unh_rggi_study.doc.

Chapter 5 Summary of Actions

¹ Rypkema, D. (2005). "Economics, Sustainability, and Historic Preservation," keynote address at the National Trust Conference, Portland, Oregon, 1 October 2005.

² NHTSA (2009). CAFE Overview - Frequently Asked Questions. <http://www.nhtsa.dot.gov/CARS/rules/CAFE/overview.htm>. (Last Accessed January 14, 2009).