

CRS Report for Congress

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Renewable Energy Legislation in the 107th Congress

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Renewable Energy Legislation in the 107th Congress

Summary

This report complements and supports CRS Issue Brief IB10041, by summarizing action on more than 100 renewable energy bills introduced during the 107th Congress.

In the first session, much of the action on renewable energy provisions focused on the two omnibus energy policy bills, H.R. 4 and S. 1766. H.R. 4 includes renewables provisions that would authorize research and development (R&D) funding, provide alternative fuel tax incentives, create a residential solar tax credit, extend the renewables production tax credit, and fund renewables with income derived from development of the Arctic National Wildlife Refuge (ANWR). The renewable energy provisions of the House bill are derived primarily from several comprehensive bills and contain many, if not most, of the renewable energy recommendations in the Administration's *National Energy Policy* report. H.R. 4 passed the House on August 2, 2001.

Similarly, the renewable energy provisions of S. 1766 are derived primarily from several comprehensive Senate bills. The Senate bill contains several provisions that address areas in H.R. 4, such as authorization for R&D funding and requirements for alternative fuels. Also, S. 1766 has several renewables provisions that are not in the House bill. They include a renewable energy portfolio standard, transmission access, net metering, a federal purchase requirement, a production incentive for local government, and support for international technology deployment. It remains to be seen whether S. 1766 will be amended to incorporate additional renewable energy provisions from other bills. S. 1766 was introduced on December 5, 2001.

Other action in the first session focused on appropriations bills that fund renewables programs at the Department of Energy (DOE) and at programs of certain international agencies; loans, grants and other provisions in farm bills; and other bills that address, for example, business loans and federal agency measures.

For each bill listed in this report, there is a brief description and a summary of action, including references to committee hearings and reports. Also, a selected list of hearings on renewable energy is included.

Contents

Introduction	1
Legislation	4
Public Laws	4
House Bills (with Senate Companions)	4
Senate Bills (with House Companions)	12
Congressional Hearings, Reports, and Documents	17
CRS Reports	18

List of Tables

Table 1. Action on Renewable Energy Legislation: 107 th Congress	2
Table 2. Renewable Energy Bills by Topic, 107 th Congress	3

Renewable Energy Legislation in the 107th Congress

Introduction

This report complements and supports CRS Issue Brief IB10041, by summarizing action on more than 100 renewable energy bills introduced during the 107th Congress. These bills cover a wide range of renewable energy technologies including alcohol fuels and biofuels, biopower, geothermal, hydrogen, hydropower, solar, and wind. Also, they include a range of policies that cover tax credits, regulation, funding, goals, farms, education, and the environment. So far, tax credits and incentives for alcohol fuels and biofuels are the policy topics that have generated the greatest number of bills. Table 2 groups the bills by topic.

In the first session, much of the action on renewable energy provisions focused on the two omnibus energy policy bills, H.R. 4 and S. 1766. The renewable energy provisions of the House bill are derived primarily from H.R. 2436, H.R. 2460, H.R. 2511, and H.R. 2587 and contain many, if not most, of the renewable energy recommendations in the Administration's *National Energy Policy* report. H.R. 4 provides for biomass on federal lands and geothermal leasing; authorizes R&D funding; creates tax credits for residential solar and alternative fuel vehicles, and renewable power production; and for hydropower development and licensing.

Similarly, the renewable energy provisions of S. 1766 are derived primarily from S. 388, S. 389, S. 596, and S. 597. Like H.R. 4, the Senate bill provides for R&D funding, hydropower relicensing, and alternative fuels. In contrast to H.R. 4, S. 1766 would create a renewable energy portfolio standard, transmission access, net metering, a federal purchase requirement, a production incentive for local government, and a program for international technology deployment. It remains to be seen whether S. 1766 will be amended to incorporate additional renewable energy provisions proposed in other bills. S. 1766 was introduced on December 5, 2001.

Other action in the first session includes enactment of DOE renewable energy funding in the Energy and Water appropriations bill (P.L. 107-66, H.R. 2311), and conference action on the Foreign Operations appropriations bill (H.R. 2506), which would provide funding for international renewables programs. Also, the House passed a farm bill (H.R. 2646) with renewables loan provisions and the Senate passed S. 295 with business loan provisions and passed S. 420 with measures for renewables at federal agencies. Action on other bills is summarized in Table 1 on page 2.

For each bill listed in this report, there is a brief description and a summary of action, including references to committee hearings and reports. Also, a selected list of hearings on renewable energy is included.

**Table 1. Action on Renewable Energy Legislation:
107th Congress**

Bill	Category	Action	Date
H.R. 2311	DOE appropriations	P.L. 107-66	11/12/2001
H.R. 2506	Foreign Ops. apprns. (GEF, AID, OPIC)	Conference held	11/14/2001
H.R. 4	omnibus energy bill	Passed House	8/2/2001
S. 1766	omnibus energy bill	Senate calendar	12/5/2001
H.R. 2646	farm equipment loans	Passed House	10/5/2001
H.R. 3090	electricity/fuels tax credits	Senate floor	11/13/2001
S. 295	business loans	Passed Senate	3/26/2001
S. 420	federal measures	Passed Senate	3/15/2001
S. 517	NREL authorization	Reported	6/5/2001
H.R. 2871	Exim Bank authorization	Reported	11/15/2001
S. 1731	farm bill measures	Reported	11/27/2001
H.R. 1647	electricity emergency	Passed Subc	3/11/2001
H.R. 340	education buildings	Hearing	3/29/2001
H.R. 1945	combined heat & power	Hearing	7/19/2001
H.R. 2407	emergency relief	Hearing	8/1/2001
S. 71	hydro relicensing	Hearing	7/19/2001
S. 352	electricity emergency	Hearing	7/13/2001
S. 388	omnibus energy bill	Hearing	7/19/2001
S. 556	powerplant emissions	Hearing	11/15/2001
S. 597	omnibus energy bill	Hearing	7/19/2001
S. 820	biomass	Hearing	7/24/2001
S. 883	national plan	Hearing	7/17/2001
S. 1006	biofuels	Hearing	7/17/2001
S. 1053	hydrogen authorization	Hearing	7/17/2001

Table 2. Renewable Energy Bills by Topic, 107th Congress

<i>I. Renewable Energy Issue Areas</i>
Appropriations. P.L. 107-66 (H.R. 2311), H.R. 2506
Authorizations/Omnibus Energy Policy. <i>H.R. 4, S. 1766</i> , H.R. 2324, H.R. 2436, H.R. 2460, H.R. 2478, H.R. 2511, H.R. 2587, S. 388/S. 389, S. 597
Buildings. H.R. 286, H.R. 340, H.R. 1129, S. 295/H.R. 1010, S. 596/H.R. 2108, S. 968
Education. H.R. 1262
Electricity Regulation/Distributed Generation/Net Metering. H.R. 381/S. 552, H.R. 1647, H.R. 1945/S. 933, H.R. 2496, H.R. 2774, H.R. 3037, H.R. 3089, H.R. 3406, S. 295/H.R. 1010, S. 420, S. 597, S. 1333
Environment/Climate Change. H.Res. 117, H.R. 416, H.R. 1335, S. 556/H.R. 1256
Farms/American Indians. H.R. 2412, H.R. 2646, S. 295/H.R. 1010, S. 1731
Federal Energy Management. H.R. 683/S. 352, H.R. 2407, S. 420, S. 1358
Goals/Plans/Impact Information. H.R. 2324, S. 883/H.R. 1830
International/Trade. H.R. 2506, H.R. 2517, H.R. 2871/S. 1372
Tax Credit for Investment. H.R. 1045, H.R. 2179, H.R. 2184, H.R. 2392, S. 207, S. 293/H.R. 778, S. 465, S. 596/H.R. 2108, S. 760/H.R. 1864
Tax Credit for Energy Production. H.R. 983, H.R. 1657, H.R. 1863, H.R. 2190, H.R. 3090, S. 94/H.R. 876, S. 188, S. 249, S. 389, S. 530, S. 756, S. 845, S. 1131, S. 1211, S. 1219, S. 1566
<i>II. Renewable Energy Resources and Technologies</i>
Alcohol Fuels/Biofuels. H.R. 377, H.R. 2000, H.R. 2088/S. 1071, H.R. 2303, H.R. 2326, H.R. 2358, H.R. 2423, H.R. 2518, H.R. 3090, H.R. 3099, S. 388, S. 389, S. 670, S. 760, S. 892, S. 1006, S. 1058
Biopower. H.R. 2000, H.R. 2358, S. 249, S. 820
Geothermal. S. 1131
Hydrogen. H.R. 2174, S. 760, S. 883/H.R. 1830, S. 1053
Hydropower. H.R. 1647, H.R. 1677, H.R. 2587, S. 71, S. 249, S. 388, S. 389
Solar. H.R. 286, H.R. 954/S. 1403, H.R. 1969, H.R. 2076, H.R. 2407, S. 207, S. 293/H.R. 778, S. 465, S. 1131
Wind. H.R. 269, H.R. 2322, S. 530

Legislation

Public Laws

P.L. 107-66 (H.R. 2311, Callahan)

Energy and Water Appropriations Bill, FY2002. Funds Renewable Energy and other programs at DOE. Reported (H. Rept. 107-112) June 26, 2001. Passed House, without amendments to the Renewable Energy Program, June 28. Senate Appropriations Committee reported a Senate bill (S. 1171, S. Rept. 107-39) July 13, 2001. Passed Senate without amendments to renewables, July 19. Conference Committee reported (H. Rept. 107-258) October 30. President signed into law November 12.

House Bills (with Senate Companions)

H.R. 4 (Tauzin)

Securing America's Future Energy (SAFE) Act of 2001. Incorporates H.R. 2436, Energy Security Act; H.R. 2460, Comprehensive Energy Research and Technology Act; H. R. 2511, Energy Tax Policy Act; and H.R. 2587, Energy Advancement and Conservation Act. Introduced July 27, 2001; referred to Committee on Energy and Commerce, and to the Committees on Science, Ways and Means, Resources, Education and the Workforce, Transportation and Infrastructure, the Budget, and Financial Services. Passed House, amended, August 2. Read second time in Senate, September 4.

H.Res. 117 (Lee)

Promotes renewable energy as a way mitigate greenhouse gas emissions. Introduced April 4, 2001; referred to Committee on Energy and Commerce.

H.R. 269 (Filner)

Wind for Electricity Act. Permanently extends the 1.5 cent/kwh electricity production tax credit for wind, closed-loop biomass, and poultry waste. Also, extends the renewable energy production incentive, and creates nondiscriminatory transmission service for wind facilities. Introduced January 30, 2001; referred to Committee on Energy and Commerce and Committee on Ways and Means.

H.R. 286 (McCarthy)

Child Care Construction and Renovation Act. Encourages solar energy at child care facilities. Introduced January 30, 2001; referred to Committee on Financial Services.

H.R. 340 (Miller)

Excellence and Accountability in Education Act. Offers grants to local educational agencies for renewable energy. Introduced January 31, 2001; referred to Committee on Education and the Workforce. Hearing held March 29, 2001.

H.R. 377 (Serrano)

Provides tax incentives for clean-fuel vehicles used by businesses within empowerment zones, enterprise communities, and renewal communities. Includes

hydrogen, ethanol, and other alcohol fuels. Introduced Jan. 31, 2001; referred to Committee on Ways and Means.

H.R. 381 (Stearns)/S. 552 (Graham)

Ratepayer Protection Act. Repeals Section 210 of the Public Utility Regulatory Policies Act (PURPA, P.L. 95-620), which set a power purchase requirement and an avoided (marginal) cost price mechanism for qualifying renewable energy facilities. House bill introduced January 31, 2001; referred to Committee on Energy and Commerce. Senate bill introduced March 15; referred to Committee on Energy and Natural Resources.

H.R. 416 (Andrews)

Environmental Priorities Act of 2001. Cost savings from electricity competition are used to create an EPA fund for “mitigating the deleterious effect of electricity production on air quality.” Introduced February 6, 2001; referred to Committee on Energy and Commerce.

H.R. 683 (Markey)/S. 352 (Bingaman)

Energy Emergency Response Act of 2001. Section 4 requires that federal agencies identify and install “practicable renewable energy measures.” House bill introduced February 14, 2001; referred to House Committees on Education and the Workforce and Energy and Commerce. Senate bill introduced February 15, 2001; referred to Committee on Energy and Natural Resources. Hearing held July 13.

H.R. 954 (Inslee)/S. 1403 (Cantwell)

Home Energy Generation Act. Provides net metering for Photovoltaics and other small power systems. House bill introduced March 8, 2001; referred to Committee on Energy and Commerce. Senate bill introduced September 5, 2001; referred to Committee on Energy and Natural Resources.

H.R. 983 (Bono)

Extends the renewable energy production tax incentive to include landfill gas facilities. Introduced March 13, 2001; referred to Committee on Energy and Commerce.

H.R. 1045 (Wilson)

Energy Self-Sufficiency Act for the 21st Century. Section 201 provides an investment tax incentive for distributed renewable energy equipment. Also, authorizes appropriations for R&D programs from FY2002 through FY2007. Introduced March 15; referred to Committees on Energy and Commerce, Ways and Means, and Science.

H.R. 1129 (M. Udall)

High Performance Schools Act of 2001. Creates Department of Energy grants to states and school districts to encourage the use of renewable energy in new and renovated school buildings. Introduced March 20, 2001; referred to Committee on Education and the Workforce.

H.R. 1335 (Allen)

Clean Power Plant Act of 2001. Section 7 specifies that a utility or other operator using renewable energy facilities that reduce carbon dioxide or nitrogen

oxide emissions should receive a credit in any climate change program that may be enacted by Congress. Introduced April 3, 2001; referred to Committees on Energy and Commerce, Education and the Workforce, Financial Services, Transportation and Infrastructure, and Science.

H.R. 1647 (Barton)

Electricity Emergency Relief Act. Section 205 allows qualified small power (renewable energy) facilities that fail to receive payments under a utility power purchase contract to suspend the contract and sell power to other parties. Title III allows increased generation at licensed hydroelectric facilities and maximum production from federal hydroelectric facilities of the Bonneville Power Administration and the Bureau of Reclamation. Introduced May 1, 2001; referred to Committee on Energy and Commerce and to Committee on Resources. Subcommittee on Energy and Air Quality held hearing on May 1 and 3. Passed Subcommittee, amended, May 11, 2001.

H.R. 1657 (Herger)

Biomass Energy Equity Act of 2001. Broadens the production tax credit for electricity from biomass. Introduced May 1, 2001; referred to Committee on Ways and Means.

H.R. 1677 (Dunn)

Hydropower Capacity Improvement Act. Creates a tax credit for incremental hydropower at existing dams licensed by the Federal Energy Regulatory Commission (FERC). Introduced May 2, 2001; referred to Committee on Ways and Means.

H.R. 1863 (Camp)

Expands the renewable energy production tax credit for electricity to include energy produced from landfill gas. Introduced May 16, 2001; referred to Committee on Ways and Means.

H.R. 1945 (Quinn)/S. 933 (Jeffords)

Combined Heat and Power Advancement Act of 2001. Creates investment tax credit for combined heat and power systems and sets criteria for their connection to electricity transmission systems. House bill introduced May 22, 2001; referred to Committee on Ways and Means and Committee on Energy and Commerce. Senate bill introduced May 22, 2001; referred to Committee on Energy and Natural Resources. Hearing held July 19, 2001.

H.R. 1969 (McDermott)

Residential Solar Energy Act of 2001. Creates an annual tax credit for holders of residential solar energy bonds, which have been used to support loans for the installation of photovoltaic equipment. Introduced May 23, 2001; referred to Committee on Ways and Means.

H.R. 2000 (Nussle)

Renewable Energy from Agricultural Products (REAP) Act. For application of the production tax credit to biomass, Section 2 extends the credit through 2007 and expands the range of biomass forms to certain forest wastes; and Section 3 expands the credit to agricultural sources and animal wastes. For 2% or greater biodiesel

blends with diesel fuel, Section 4 creates a 3-cent per gallon reduction in the motor fuel excise tax. Section 5 amends the Food Security Act of 1985 to allow harvesting switchgrass for use in energy production. Section 6 directs federal agencies to use biodiesel fuel in diesel-fueled vehicles. Introduced May 24, 2001; referred to Committees on Ways and Means, Agriculture, and Government Reform.

H.R. 2076 (Hayworth)

Residential Solar Energy Tax Credit Act. For the installation of residential photovoltaic and solar water heating equipment during taxable years 2002 through 2006, creates a 15% tax credit worth up to \$2,000. Introduced June 6, 2001; referred to Committee on Ways and Means.

H.R. 2088 (Shimkus)/S. 1071 (Bond)

Biofuels Air Quality Act. To reduce sulfur and carbon emissions, makes projects with renewable fuels derived from grain, oilseeds, or other biomass (including biodiesel) eligible for funding under Section 1110 of the Transportation Equity Act for the 21st Century (TEA21, P.L. 105-178). House bill introduced June 6, 2001; referred to Committee on Transportation and Infrastructure, Subcommittee on Highways and Transit. Senate bill introduced June 20, 2001; referred to Committee on Environment and Public Works.

H.R. 2174 (Calvert)

Robert S. Walker and George E. Brown, Jr., Hydrogen Energy Act of 2001. Amends the Spark M. Matsunaga Hydrogen Research, Development, and Demonstration Act of 1990 to extend its provisions and to authorize appropriations from FY2002 through FY2006. Introduced May 15, 2001; referred to Committees on Energy and Commerce, Science, and Government Reform.

H.R. 2179 (Davis)

Renewable Energy Act for Credit on Taxes. Creates refundable tax credit up to 35% or \$6,000 for expenditures on residential renewable energy equipment and up to \$50,000 for non-residential equipment. Introduced June 14, 2001; referred to Committee on Ways and Means.

H.R. 2184 (Engel)

Preserving Our World's Energy and Resources Act of 2001. Increases the investment tax credit for solar and geothermal equipment from 10% to 25%. Creates a 25% credit for wind equipment and a 30% credit for cool roofs equipment. Introduced June 14, 2001; referred to Committee on Ways and Means and to Committee on Energy and Commerce.

H.R. 2190 (McCarthy)

Renewable Energy Production Incentive Reform Act. Authorizes appropriations for the production tax credit from FY2003 through FY2023 and expands the credit (Section 1212 of P.L. 102-486) to include landfill gas and incremental hydropower. Introduced June 14, 2001; referred to Committee on Energy and Commerce, Subcommittee on Energy and Air Quality.

H.R. 2303 (R. Lewis)

Ethanol and Biodiesel Promotion Act of 2001. Creates a 50% tax credit up to \$50,000 for equipment used with E85 ethanol and neat biodiesel fuels and creates other tax incentives to increase the sale and use of alcohol and biodiesel fuels. Introduced June 25, 2001; referred to Committee on Ways and Means.

H.R. 2322 (Watts)

Home and Farm Wind Energy Systems Act of 2001. For wind energy equipment, creates a 30% tax credit, declining to 10% after tax year 2011. At least 50% of the annual energy produced must be consumed on site. Introduced June 26, 2001; referred to Committee on Ways and Means.

H.R. 2324 (Woolsey)

Renewable Energy and Energy Efficiency Act of 2001. Creates a broad range of provisions for renewable energy and energy efficiency. Section 3 sets a 20% goal for non-hydro renewables share of national energy production by 2020. Section 102 sets individual cost reduction goals for wind, photovoltaics, and other renewable energy technologies; and it also authorizes appropriations for FY2002 through FY2006. Section 103 sets goals of tripling bioenergy use by 2010, integrating biomass gasifiers with gas turbines and fuel cells, and accelerating the commercial production of cellulosic ethanol; and it also authorizes appropriations for FY2002 through FY2006. Section 104 directs Department of Energy (DOE) to undertake resource assessments that would support commercial development of renewables. Section 201 directs Department of Energy (DOE) to study innovative financing techniques for renewables. Section 202 directs the Office of Science and Technology Policy to study and report on regulations that may pose barriers to commercial use of renewables. Section 203 directs DOE to provide commercialization assistance for renewables and authorizes appropriations from FY2002 through FY2020. Section 204 creates an educational outreach program and authorizes appropriations from FY2002 through FY2020. Introduced June 26, 2001; referred to Committee on Science.

H.R. 2326 (Boehlert)

Renewable Alternative Fuel Vehicle Acceleration Act of 2001. Creates competitive grant pilot program at DOE for alternative fuel vehicle technology demonstration and commercial application. Introduced June 27, 2001; referred to Committee on Science.

H.R. 2358 (Bartlett)

Bioenergy Act of 2001. Authorizes funding for R&D, demonstration, and commercial applications of bioenergy, including biopower, biofuels, and integrated bioenergy systems. Introduced June 28, 2001; referred to Committee on Science.

H.R. 2392 (Inslee)

Clean Energy Incentives Act. Provides, expands, or extends tax incentives for renewable and alternative electric energy, alternative fuels and alternative fuel vehicles, distributed energy generation, and energy efficiency. Introduced June 28, 2001; referred to Committee on Ways and Means.

H.R. 2407 (Oberstar)

Federal Photovoltaic Utilization Act. Directs Administrator of General Services to procure photovoltaic solar electric systems for use in public buildings. Introduced June 28, 2001; referred to Committee on Transportation and Infrastructure. Referred to the Subcommittee on Economic Development, Public Buildings and Emergency Management. Subcommittee held hearing on August 1, 2001.

H.R. 2412 (Rahall)

Tribal Energy Self-Sufficiency Act. Promotes tribal energy efficiency, creates incentives for energy efficiency in federally assistance housing, and provides other energy measures. Introduced June 28, 2001; referred to Committee on Resources and to Committees on Energy and Commerce, Ways and Means, Financial Services, and Agriculture.

H.R. 2423 (Thune)

Renewable Fuels for Energy Security Act of 2001. Requires the sale of fuels from renewable sources (biodiesel, biogas, biomass ethanol) to constitute an increasing percentage of total motor vehicle fuel sales (by refiners, blenders, importers), growing from 0.8% in 2002 to 5.0% in 2016 and thereafter. Introduced June 28, 2001; referred to Committee on Energy and Commerce.

H.R. 2436 (Hansen)

Energy Security Act. Introduced July 10, 2001; referred to Committees on Resources and Energy and Commerce. Section 102 creates an inventory of certain biomass resources on federal lands. Title expedites federal action on leases and modifies royalty provisions for geothermal energy. Resources Committee reported (H.Rept. 107-160, Part I) July 25, 2001. Energy and Commerce Committee discharged on July 25. Incorporated into H.R. 4.

H.R. 2460 (Boehlert)

Comprehensive Energy Research and Technology Act of 2001. Title I authorizes appropriations for alternative fuel (including methanol and hydrogen) vehicles and distributed energy resources. Title II authorizes appropriations for renewable energy R&D programs. Introduced July 11; referred to Committee on Science. Reported (H.Rept. 107-177) July 18. Incorporated into H.R. 4.

H.R. 2478 (Woolsey)

Comprehensive Renewable Energy and Energy Efficiency Act of 2001. Sets goals and authorizes funding to reduce the manufacturing costs for several types of renewable energy equipment. Authorizes funding for DOE biomass programs. Directs DOE to perform renewable energy resources assessment. Introduced July 11, 2001; referred to Committee on Ways and Means and to Committees on Science, and Energy and Commerce.

H.R. 2496 (M. Udall)

Distributed Power Hybrid Energy Act. Directs DOE to develop a strategy for research, development, demonstration, and commercial application of distributed power hybrid energy systems. These systems would employ indigenous, renewable energy resources and other equipment to minimize the intermittent nature of wind and solar power production. Introduced July 12, 2001; referred to Committee on Science.

H.R. 2506 (Kolbe)

Foreign Operations, Export Financing, and Related Programs Appropriations Bill, FY2002. Appropriates funding for renewable energy and energy efficiency under programs of the Global Environment Facility (GEF), U.S. Agency for International Development (AID), Overseas Private Investment Council (OPIC), and other bilateral and multilateral programs. House Appropriations Committee reported (H. Rept. 107-142) July 17, 2001. Passed House July 24. Senate Appropriations Committee reported (S. Rept. 107-58) September 4, 2001. Conference held November 14.

H.R. 2511 (McCrery)

Amends IRS tax code to create tax incentives. Section 101 creates a residential solar energy tax credit, Section 102 extends the renewable energy production tax credit, and Section 104 creates a credit for alternative fuel vehicles. Also, Section 306 extends a tax credit for certain biomass sources. Introduced July 17, 2001; referred to Committee on Ways and Means. Reported (H.Rept. 107-157) July 24. Incorporated into H.R. 4.

H.R. 2517 (Bereuter)

Export-Import Bank Reauthorization Act of 2001. Section 12 directs the Export-Import Bank to promote the export of goods and services related to renewable energy sources. Introduced July 17, 2001; referred to Committee on Financial Services. Incorporated into H.R. 2871.

H.R. 2518 (Boehlert)

Clean Green School Bus Act of 2001. Creates pilot program at DOE to provide grants for the demonstration and commercial application of alternative fuel school buses. Introduced July 17, 2001; referred to Committee on Science.

H.R. 2587 (Barton)

Energy Advancement and Conservation Act of 2001. Section 201 creates alternatives to fishway requirements for hydropower projects. Section 202 directs the Federal Energy Regulatory Commission (FERC) to collect data on time and cost requirements for parties to hydroelectric licensing processes. Introduced July 10, 2001; referred to Committee on Energy and Commerce. Reported (H.Rept. 107-162, Part 1) July 25, 2001. Incorporated into H.R. 4.

H.R. 2646 (Combest)

Farm Security Act of 2001. Section 605 provides loan guarantees for renewable energy equipment and Section 606 broadens the range of renewable energy equipment eligible for loans. Introduced July 26; referred to Committee on Agriculture. Reported (H. Rept. 107-191, Parts I, II and III) August 2. Passed House, October 5. [See S. 1731]

H.R. 2774 (Larsen)

Renewable Energy Loan Guarantee Act of 2001. Provides a total of \$750 million in small business loan guarantees through 2025 for qualified facilities that generate electricity for sale in, or affecting, interstate commerce using solar, wind, biomass, landfill gas, incremental hydropower, or geothermal energy. Introduced August 2; referred to Committee on Financial Services.

H.R. 2871 (Bereuter)/S. 1372 (Sarbanes)

Export-Import Bank Reauthorization Act of 2001. Section 13 directs the Bank to promote the export of goods and services related to renewable energy sources. Section 21 directs that by 2006, at least 5% of the credit for transactions related to energy projects shall go renewable energy and energy efficiency. House bill introduced September 10, 2001; referred to Committee on Financial Services. Reported (H. Rept. 107-292) November 15. Incorporates H.R. 2517. In Senate, Committee on Banking, Housing, and Urban Affairs reported (S. Rept. 107-52) bill on August 3. It does not include provisions for renewable energy and energy efficiency.

H.R. 3037 (Pallone)

Renewable Energy and Energy Efficiency Investment Act of 2001. Establishes a national public benefits fund to encourage State programs by providing funding for renewables, universal electric service, affordable electric service, and energy conservation and efficiency. Also, creates a renewable energy portfolio standard starting at 2.5% in 2002 and rising to 20% in 2020; requires net metering for residential equipment of 100 kilowatts (kw) or less and for commercial equipment of 250 kw or less; and requires disclosure of energy source and emissions for power generation equipment. Introduced October 4, 2001; referred to Committee on Energy and Commerce. [See S. 1333]

H.R. 3089 (Terry)

Renewable and Distributed Energy Net Metering Act. Requires net metering for solar, wind, biomass, and fuel cell generation equipment that are of 200 kw or smaller size. Introduced October 11, 2001; referred to Committee on Energy and Commerce.

H.R. 3090 (Thomas)

Economic Security and Recovery Act of 2001. Section 303 extends the renewable energy production tax credit for two years; section 306 extends the tax deduction for clean-fuel vehicle facilities for two years; and section 302 extends the tax deduction for electric vehicles for two years. Introduced October 11, 2001; referred to Committee on Ways and Means. Reported (H. Rept. 107-251) October 17. Passed House October 24. Senate Finance Committee reported (Committee Print 107-49) an amendment in the nature of a substitute with an amendment to the title (Economic Recovery and Assistance for American Workers Act) on November 9. Section 404 of the Senate version would extend renewable energy production tax credit, for one year, from January 2002 to January 2003. Brought to the floor November 13. Withdrawn November 14.

H.R. 3099 (Kaptur)

Biofuels Energy Independence Act of 2001. Creates a Biofuels Feedstocks Energy Reserve and authorizes the Secretary of Agriculture to make and guarantee loans for the production, distribution, development, and storage of biofuels. Introduced October 11, 2001; referred to Committee on Energy and Commerce.

H.R. 3406 (Barton)

Electric Supply and Transmission Act. Section 102 establishes a federal net metering program for small business, residences, schools, churches, farms, and other

retail customers. Solar, wind, and biomass facilities up to 250 kw would qualify. Section 132 repeals the requirement for utilities to purchase power from renewable energy generator, as set by the Public Utility Regulatory Policies Act (PURPA). Introduced December 5, 2001; referred to Committees on Energy and Commerce, Transportation and Infrastructure, and Resources.

Senate Bills (with House Companions)

S. 71 (Craig)

Hydroelectric Licensing Process Improvement Act of 2001. Modifies the hydroelectric licensing process by granting FERC authority to better coordinate other agencies and entities. Introduced Jan. 22, 2001; referred to Committee on Energy and Natural Resources. Hearing held July 19.

S. 94 (Dorgan)/H.R. 876 (Foley)

Extends the 1.5 cent/kwh electricity production tax credit for wind, closed-loop biomass, and poultry from 2002 to 2007. Senate bill introduced January 22, 2001; referred to Committee on Finance. House bill introduced March 6, 2001; referred to Committee on Ways and Means.

S. 188 (Collins)

Broadens the 1.5 cent/kwh electricity production tax credit to include a variety of forest, urban, and agricultural biomass in facilities where the biomass comprises 75% or more (on a Btu basis) of the total fuel input. Introduced January 25, 2001; referred to Committee on Ways and Means.

S. 207 (Smith)

Creates a refundable tax credit for up to 50% of increased residential energy costs, applicable to residential equipment such as solar water heaters and photovoltaics. Introduced January 30, 2001; referred to Committee on Finance.

S. 249 (Reid)

Renewable Energy Development Incentives Act. Expands the renewable energy resources eligible for the 1.5 cent/kwh renewable energy production incentive for state and local government agencies and non-profit electrical cooperatives. It adds “incremental” hydropower and broadens biomass to include forest wastes, agricultural sources, and wood wastes. Further, it would add 0.25 cent/kwh, or 17%, to the credit for a qualified facility located on Native American land and for a “co-production” facility that also produces useful heat, mechanical power, or minerals. Introduced February 6, 2001; referred to Committee on Finance.

S. 293 (Harkin)/H.R. 778 (Cunningham)

Home Energy Assistance Tax Act. Similar to S. 207. Creates a refundable tax credit for up to 50% of increased residential energy costs, applicable to a variety of residential equipment, including solar water heaters and photovoltaics. Senate bill introduced February 8, 2001; referred to Committee on Finance. House bill introduced February 28, 2001; referred to Committee on Ways and Means.

S. 295 (Kerry)/H.R. 1010 (T. Udall)

Small Business Energy Emergency Relief Act of 2001. Creates a small business loan program that can support renewable energy. Senate bill introduced Feb. 8, 2001; referred to Committee on Small Business. Reported (S. Rept. 107-4) March 21. Passed Senate, amended, March 26. Referred to Committees on Agriculture and Small Business. House bill introduced March 13, 2001; referred to Committees on Agriculture and Small Business.

S. 388 (Murkowski)

National Energy Security Act of 2001. For alternative-fuel vehicles, Title VII proposes an infrastructure credit for state and other fleets and directs federal agencies to increase the use of alternative fuels to 50% of total volume, and creates grants to local governments to help cover the incremental cost of vehicles. Also, it proposes grants for residential use of renewable energy, calls for a national assessment of renewable energy resources, and proposes reform of the hydropower relicensing process. Introduced February 26, 2001; referred to Committee on Energy and Natural Resources. Hearing on renewables provisions held July 19.

S. 389 (Murkowski)

National Energy Security Act of 2001 and Energy Security Tax Policy Act of 2001. Identical to S. 388 except that it adds the tax provisions of the Energy Security Tax Policy Act of 2001 as Title IX. In Subtitle G on Alternative Fuels, Section 981 creates a tax credit of up to 85% for the incremental cost of alternative-fueled vehicles that use alcohol fuels or biofuels. Section 983 creates a 25-cent retail sales tax credit for alternative fuels. For refueling property that supports clean-fueled vehicles, Section 984 extends a credit from tax year 2004 through 2007, and Section 985 sets a cap for the value of this credit. In Subtitle H on Renewable Energy, Section 991 expands the production tax credit to include landfill gas, geothermal, incremental hydropower, municipal solid waste, and additional forms of biomass; and it extends the credit through tax year 2011. Section 992 creates a 15% investment tax credit for residential solar and wind energy equipment. Section 993 makes the use of bagasse (a form of biomass) for energy production at solid waste facilities eligible for tax-exempt financing

S. 420 (Grassley)

Energy Emergency Response Act of 2001 (Similar to H.R. 683/S. 352). Section 1404 requires that federal agencies identify and install “practicable renewable energy measures.” Introduced February 28, 2001; referred to Committee on Judiciary. Passed Senate, amended, March 15.

S. 465 (Allard)

Residential Solar Energy Tax Credit Act of 2001. Establishes a 15% residential tax credit for homeowners who purchase photovoltaics and solar thermal equipment. Introduced March 6, 2001; referred to Committee on Finance.

S. 517 (Bingaman)

National Laboratories Partnership Improvement Act of 2001. Authorizes funding for NREL for fiscal years 2002 through 2006. Introduced March 12; referred to Committee on Energy and Natural Resources. Reported (S. Rept. 107-30) June 5, 2001.

S. 530 (Grassley)

Bipartisan Renewable, Efficient Energy with Zero Effluent (BREEZE) Act. Extends the wind energy production tax credit for five years. Introduced March 14, 2001; referred to Committee on Finance.

S. 552 (Graham)

Transition to Competition in Electric Industry Act. Repeals Section 210 of the Public Utility Regulatory Policies Act (PURPA, P.L. 96-217). Introduced March 15, 2001; referred to Committee on Energy and Natural Resources.

S. 556 (Jeffords)/H.R. 1256 (Waxman)

Clean Power Act of 2001. Section 132 of Senate bill (Section 2 of House bill) directs EPA to reduce powerplant air pollution emissions through regulations that include incentives for renewable energy. Senate bill introduced March 15, 2001; referred to Committee on Environment and Public Works. Hearings held November 1 and 15. House bill introduced March 27, 2001; referred to Committee on Energy and Commerce, Subcommittee on Energy and Air Quality.

S. 596 (Bingaman)/H.R. 2108 (Matsui)

Energy Security and Tax Incentive Policy Act of 2001. Modifies tax incentives for using renewable energy equipment and building design features in the commercial and residential sectors. Senate bill introduced March 22, 2001; referred to Committee on Finance. House bill introduced June 7, 2001; referred to Committee on Ways and Means.

S. 597 (Bingaman)

Comprehensive and Balanced Energy Policy Act of 2001. Permits net metering and sets a renewables portfolio standard starting at 3% in 2002 and rising to 7.5% by 2010. Introduced March 22, 2001; referred to Committee on Energy and Natural Resources. Hearing on renewables provisions held July 19.

S. 670 (Daschle)

Renewable Fuels Act of 2001. Eliminates methyl tertiary butyl ether (MTBE) from the national fuel supply and increases production and use of ethanol. Introduced March 30, 2001; referred to Committee on Environment and Public Works.

S. 756 (Grassley)

Growing Renewable Energy for Emerging Needs (GREEN) Act. Broadens the credit for electricity produced from biomass to include forest, wood, and agricultural wastes. Introduced April 23, 2001; referred to Committee on Finance.

S. 760 (Hatch)/H.R. 1864 (Camp)

Clean Efficient Automobiles Resulting From Advanced Car Technologies (CLEAR ACT) Act of 2001. Creates tax incentives for alternative vehicles and fuels, including hydrogen, methanol, and fuel cells. Senate bill introduced April 24, 2001; referred to Committee on Finance. House bill introduced May 16, 2001; referred to Committee on Ways and Means.

S. 820 (Wyden)

Forest Resources for the Environment and the Economy Act. Promotes sustainable forestry to increase carbon storage and to provide opportunities for use of renewable biomass energy. Introduced May 3, 2001; referred to Committee on Energy and Natural Resources. Hearing held July 24.

S. 845 (Crapo)

Broadens the renewable energy production tax credit to include agricultural and animal wastes. Introduced May 8, 2001; referred to Committee on Finance.

S. 883 (Dodd)/H.R. 1830 (Larson)

Energy Independence Act of 2001. Directs Secretary of Energy to prepare a national plan for energy self-sufficiency and authorizes appropriations for a variety of accelerated fuel cell demonstration and market transformation programs. Senate bill introduced May 15, 2001; referred to Committee on Energy and Natural Resources. Hearing held July 17. House bill introduced June 14, 2001; referred to Committee on Science, Subcommittee on Energy.

S. 892 (Harkin)

Clean and Renewable Fuels Act of 2001. Amends the Clean Air Act to require the use of renewable fuels (derived from biomass sources) in all motor fuels, rising from 1% in 2002 to 3.3% in 2011 and all future years. Introduced May 15, 2001; referred to Committee on Environment and Public Works.

S. 968 (Clinton)

Healthy and High Performance Schools Act. Establishes program at the Department of Education to promote energy efficiency and renewable energy in schools. Similar to H.R. 1129. Introduced May 25, 2001; referred to Committee on Health, Education, Labor, and Pensions.

S. 1006 (Hagel)

Renewable Fuels for Energy Security Act of 2001. Similar to S. 892. Includes biodiesel, biogas, biomass, and ethanol from biomass. The percentage requirement starts with 0.8% in tax year 2002 and rises to 5.0% in 2016 and all future years. Introduced June 8, 2001; referred to Committee on Energy and Natural Resources. Field hearing held July 6, 2001. Hearing held July 17.

S. 1053 (Harkin)

Hydrogen Future Act. Reauthorizes and amends the Spark M. Matsunaga Hydrogen RD&D Act of 1990. Introduced June 14, 2001; referred to Committee on Energy and Natural Resources. Hearing held July 17.

S. 1058 (Hutchinson)

Biodiesel Renewable Fuels Act. Section 2 creates a tax credit for biodiesel mixtures and blends. Section 3 reduces the excise tax on biodiesel mixtures starting in tax year 2002. Introduced June 8, 2001; referred to Committee on Finance.

S. 1131 (Leahy)

Clean Power Plant and Modernization Act of 2001. For the production tax credit, Section 6 adds solar and geothermal equipment and extends the eligibility

period for all technologies for the taxable years from 2002 through 2016. Section 12 authorizes appropriations for renewable energy R&D and demonstration projects for FY2003 through FY2012. Senate bill introduced June 28, 2001; referred to Committee on Finance. House bill introduced June 28, 2001; referred to Committee on Finance. [See H.R. 1335]

S. 1211 (Cantwell)

Clean Renewable Energy Production Incentive Reform Act. Reauthorizes and revises the Renewable Energy Production Incentive. Introduced July 20, 2001; referred to Committee on Energy and Natural Resources.

S. 1219 (Grassley)

Providing Opportunities With Effluent Renewable (POWER) Act.. Extends the renewable electricity production tax credit to include swine and bovine waste nutrients. Introduced July 23, 2001; referred to Committee on Finance.

S. 1262 (Rockefeller)

National Mathematics and Science Partnerships Act. Provides grants to develop educational materials for schools on energy conservation, renewable energy, and other topics. Introduced July 27, 2001; referred to Committee on Health, Education, Labor, and Pensions.

S. 1333 (Jeffords)

Renewable Energy and Energy Efficiency Investment Act of 2001. Includes 20% renewable energy portfolio standard (RPS). Also, enhances the benefits of the national electric system by encouraging and supporting state programs for renewable energy sources, universal electric service, affordable electric service, and energy conservation and efficiency. Senate bill introduced August 2, 2001; referred to Committee on Energy and Natural Resources. [See H.R. 3037]

S. 1358 (Bayh)

Federal Facility Energy Management Act of 2001. Establishes an Office of Federal Energy Productivity at DOE to expand markets for renewable energy and energy efficiency. Creates programs and incentives to encourage use of renewables in federal facilities, including a Federal Energy Bank that allows up to 25% of its funding to be used for renewable energy. Introduced August 3, 2001; referred to Committee on Energy and Natural Resources.

S. 1566 (Reid)

Renewable Energy Incentives Act. Increases the electricity production tax credit to 1.8 cents/kwh; expands eligible resources to include solar, open loop biomass, geothermal, incremental hydropower, landfill gas, and animal waste. Extends credit to state and local governments and to nonprofit organizations. Makes the credits tradable. Introduced October 18, 2001; referred to Committee on Finance.

S. 1731 (Harkin)

Farm Aid Bill (Agriculture, Conservation, and Rural Enhancement Act). Title IX (p. 816-875) has several renewable energy provisions. Section 902 requires federal purchases of biobased products, biofuels development, and biodiesel education. It also provides renewable energy loans (up to \$10 million) and grants (up

to \$200,000). Section 903 extends the Biomass R&D Act of 2000 (P.L. 106-224) through FY2006 and mandates a \$15 million per year appropriation for each year from FY2002 through FY2006. Section 904 provides technical and financial assistance, loans, and loan guarantees for renewable energy development by rural electric cooperatives. Section 905 addresses measures to sequester carbon and reduce greenhouse gas emissions. Section 906 directs the Department of Agriculture to promote renewable fuels production. Section 907 continues and expands the bioenergy program at the Dept. of Agriculture. Reported in lieu of S. 1628 on November 27, 2001. Committee on Agriculture, Nutrition, and Forestry filed written report (S. Rept. 107-117) on December 7. Considered on the Senate floor December 13. [See H.R. 2646]

S. 1766 (Bingaman)

Energy Policy Act of 2002. There are many provisions for renewables throughout the bill. Under Title II on Electricity, Subtitle C, Section 244 would repeal PURPA power purchase requirements for renewable energy facilities and Section 245 would allow net metering at residences (up to 10 kw) and at businesses (up to 500 kw). Under Subtitle E on renewable energy, Section 261 extends the production incentive for state and local governments, Section 262 calls for an national assessment of resources to be conducted annually, Section 263 requires federal purchases of power from renewables to grow from 3% in 2003 to 7.5% in 2010, Section 264 authorizes \$20 million for rural construction grants, Section 265 creates a 10% renewables portfolio standard, and Section 266 calls for a wind/solar pilot project on federal land. Title III establishes hydroelectric relicensing procedures. Under Title IV on Indian Energy, Section 406 calls for a report on renewable energy development potential, and Section 408 creates a feasibility study for a wind/hydropower demonstration project. Under Title VIII on Fuels, Subtitle B, Section 811 requires federal fleets to increase use of alternative fuels, Section 817 creates a biodiesel fuel use credit, and Section 818 prescribes a renewable content for motor vehicle fuel. Under Title XII on R&D, Subtitle B, FY2003-FY2006 funding is authorized in Section 1221 for renewable energy R&D programs, in Section 1222 for biopower and biofuels technology programs, and in Section 1223 for hydrogen R&D programs. Under Title XIII on Climate Change, Subtitle C, Section 1321 authorizes such sums as needed for export programs, and Section 1322 authorizes an international technology deployment program to support cost-shared pilot projects in developing countries. Introduced December 5, 2001; placed on Senate Calendar.

Congressional Hearings, Reports, and Documents

U.S. Congress. House. Committee on Small Business. Subcommittee on Rural Enterprises, Agriculture, and Technology. Renewable Fuels. Hearing held July 24, 2001. [Serial No. 107-21] 65 p.
[<http://www.house.gov/smbiz/hearings/107th/2001/010724a/index.html>]

U.S. Congress. Senate. Committee on Energy and Natural Resources. S. 1006, Renewable Fuels for Energy Security Act of 2001. Field hearing held July 6, 2001. [<http://www.senate.gov/~energy/>]

U.S. Congress. House. Committee on Energy and Commerce. Subcommittee on Energy and Air Quality. National Energy Policy Report of the National Energy Policy Development Group. Hearing held June 13, 2001. [Serial No. 107-47] 74p.

[<http://energycommerce.house.gov/107/hearings/06132001Hearing271/hearing.htm>]

U.S. Congress. House. Committee on Ways and Means. Subcommittee on Select Revenue Measures. Effect of Federal Tax Laws on the Production, Supply, and Conservation of Energy. Hearings held May 3, June 12, and June 13, 2001. [Serial Nos. 107-19, 107-25, 107-27] 350 p.

[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107_house_hearings&docid=f:74221.wais]

U.S. Congress. House. Committee on Energy and Commerce. Subcommittee on Energy and Air Quality. Congressional Perspectives on Electricity Markets in California and the West and National Energy Policy. Hearing held March 6, 2001.

[<http://energycommerce.house.gov/107/hearings/03062001Hearing44/hearing.htm>]

U.S. Congress. House. Committee on Science. The Nation's Energy Future: Role of Renewable Energy and Energy Efficiency. Hearing held February 28, 2001.

[<http://www.house.gov/science/full/fchearings.htm>]

U.S. Congress. Senate. Committee on Energy and Natural Resources. California's Electricity Crisis and Implications for the West. Hearing held January 31, 2001.

[<http://www.senate.gov/~energy/>]

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CRS Report RL31205. *Energy Efficiency and Energy Conservation Legislation in the 107th Congress*, by (name redacted).

CRS Report RL31205. *Climate Change and Relevant Legislation in the 107th Congress*, by Brent Yacobucci.

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