

FOR IMMEDIATE RELEASE
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**WHAT IF THERE IS NO CLIMATE/ENERGY BILL?
CIVIL SOCIETY INSTITUTE REPORT FROM SYNAPSE SHOWS CLEAN ENERGY FUTURE
STILL POSSIBLE FOR U.S.**

With Uncertainty Mounting About Climate/Energy Bill, Major New Study for CSI Details Path for Breaking Away From "Business As Usual" in the Electric Power Sector.

WASHINGTON, D.C. - What happens if Congress fails to pass a climate or energy bill in 2010? Even without a federal carbon policy, the United States could move from the "business as usual" status quo to a dramatically cleaner and healthier approach to meeting its electrical power needs, according to a major new report from the nonprofit and nonpartisan Civil Society Institute think tank. The report was prepared by Synapse Energy Economics of Cambridge, MA.

The Synapse report outlines a "Transition Scenario" that would step up energy efficiency and the use of clean, renewable energy, allowing the country to retire all coal-fired power plants, and over a quarter of existing nuclear reactors. The overall cost of the plan would involve modest near-term costs over a "business as usual" (BAU) scenario, but result in savings by 2040.

In addition, many environmental and health impacts of the electric power industry would be dramatically reduced, including emission of carbon dioxide (CO2), the primary cause of global warming, and emissions from mercury, nitrogen oxides (NOx) and sulfur dioxide (SO2). Production of coal ash would also be eliminated, as would the damages and risks of coal mining, including mountaintop removal (MTR) mining. Further, the production of high-level radioactive waste at nuclear power plants would be reduced.

Pam Solo, president, Civil Society Institute, said: "The electric power industry in the U.S. is at a crossroads. While the industry remains obsessed with such dirty and needlessly expensive 19th and 20th century 'business as usual' solutions as coal-fired and nuclear power, there is an opportunity today to make the transition without multi-billion dollar gambles on unproven carbon capture and sequestration technology and risky nuclear loan-guarantee bailouts. What elected officials and other Americans need to understand is that, even if the climate bill falters, we can still make the move to dramatically cleaner and healthier electricity generation."

Bruce Biewald, president of Synapse Energy Economics Inc., said: "This study investigates a long-term, national strategy to transition away from coal and nuclear electricity and toward increased efficiency and renewable energy. The focus of the study is on what resources would be likely to replace coal-fired and nuclear generation, where those resources either are or need to be located, and what this resource mix would cost relative to a 'business as usual' energy future. The study finds that a future built on more efficient use of electricity and development of the nation's renewable resources would pose modest near-

term costs but would cost less than 'business as usual' over the long term."

Using only existing technology and making no assumption or adjustment for the passage of federal carbon legislation and related price setting, the Synapse report for the Civil Society Institute develops a scenario for 2010- 2050 that would provide the following benefits.

- * Aggressive investments in more efficient technologies in every sector could reduce electricity use by 15 percent from today's requirements, or over 40 percent from a "business as usual" scenario. Utilities in several states are already achieving savings at this level.

- * The U.S. could feasibly retire the entire fleet of coal-fired plants and build no new coal-fired generation, rather than burning more coal. Tens of billions could be saved in avoided pollution control costs at the coal-fired plants retired between 2010 and 2020. At the same time, we could retire 28 percent of the nation's nuclear capacity.

- * Electric sector emissions of carbon dioxide fall by 82 percent relative to predicted 2010 levels. Emissions of SO₂, NO_x, and mercury fall in the BAU Case, as new emission controls are installed at coal-fired plants, but they fall much more in the Transition Scenario. Emissions of NO_x fall by 60 percent over the study period, and emissions of SO₂ fall by 97 percent. Electric sector mercury emissions are virtually eliminated.

- * Renewable energy, including wind, solar, geothermal and biomass, would increase throughout the nation, eventually providing half of the nation's electricity requirements. Natural gas use in the electric sector would grow more slowly than under business as usual, leaving more gas for clean cars and other uses.

- * There would be modest near-term costs of the scenario, but over the long term it would cost less than a business as usual energy future. The scenario would cost an estimated \$10 billion per year more than the BAU in 2020, but it would save \$5 billion annually by 2040 and \$13 billion annually by 2050. These are direct costs only; they do not include savings resulting from reduced CO₂ emissions or public health costs. (A recent National Academies study estimated the annual health impacts of power generation in the U.S. at \$62 billion in 2005.) For a typical residential consumer, purchasing about 900 kWh per month, the 2020 cost increase would amount to about \$2.20 per month. By 2040, the same customer would be saving about \$1.50 per month and by 2050, saving nearly \$4.00 per month.

The report also looks at the regional consequences of moving away from "Business as Usual" in the U.S. electric sector. Under the report's "Transition Scenario," the country's massive Midwestern wind resource is tapped, and that energy is used primarily in the Midwest. The South Central wind resource is developed and used there and in the Southeast. The Northeast and California import less power from other regions than they do today, and the Northwest continues to export electricity from its low-cost renewable resources. Solar energy is developed across the country and especially in the Southwest. The country's biomass and geothermal resources are also developed. Aggressive energy efficiency

efforts allow renewable energy to be developed with much less new transmission infrastructure than some other studies have envisioned.

Commenting on the findings, Grant Smith, executive director, Citizens Action Coalition of Indiana, said: "Clearly, there are many advantages the Transition Scenario has over today's Business As Usual approach. Given the substantial financial, public health and environmental risks posed by coal-fired and nuclear power, there is a moral and ethical imperative to eliminate these resources from the electric generation mix."

MORE FROM THE REPORT

* The Transition Scenario would "keep the lights on." Peak loads are met easily in the Transition Scenario, aided in the near term by the current capacity surplus. Power system operators are able to manage large amounts of variable generation (like wind and solar), because regional power systems have become much more flexible. Much of today's most inflexible capacity - coal and nuclear units - is gone. Gas-fired plants follow wind generation, filling in during periods of low wind (although the use of gas is significantly lower than in the "Business as Usual" Case). Robust demand response programs allow customers to shift demand easily to off-peak periods, and larger electricity balancing areas and upgraded transmission systems also aid in managing variable generation.

* Where do the long-term cost savings come from? The cost of the Transition Scenario is modest in the near term, and it falls over time such that the scenario saves money relative to the Reference Case in later years. Savings are achieved over the long term for three main reasons. First, over time energy efficiency reduces generation levels relative to the Reference Case by larger and larger amounts, and efficiency costs less than supply-side resources. Second, technology improvements and market maturation reduce the cost of renewable technologies over time. There is less room for cost reductions in coal, gas and nuclear plants, because these are mature technologies. And finally, natural gas becomes very expensive in the later years of the study, and much less gas is burned in the Transition Scenario than in the Reference Case.

* Major drop in water use seen. Water consumption at coal-fired and nuclear power plants would grow by an estimated 440 billion gallons in the Business as Usual Case, and it would fall by over 710 billion gallons in the Transition Scenario.

* "Business As Usual" demand growth would be unsustainable. Based on trends in the U.S. Energy Information Administration's (EIA) Annual Energy Outlook 2010, the U.S. will be consuming nearly 50 percent more electricity in 2050 than it consumes today. To meet this demand, the U.S. coal fleet would expand by 10 percent (22,000 MW, atop today's 320,000 MW) and increase generation markedly, providing 37 percent more energy than today. Gas, nuclear, and biomass generation would increase significantly as well.

The BAU/Reference Case is based directly on EIA's 2010 Annual Energy Outlook (AEO), a forecast extending out 25 years. The EIA uses the AEO as a Reference Case to evaluate various policy proposals in a similar

way. The key difference is that the trends in the AEO Reference Case have been extrapolated to 2050 for this study.

The full text of the Civil Society Institute report prepared by Synapse Energy Economics is available online at <http://www.CivilSocietyInstitute.org>.

ABOUT THE GROUPS

Based in Newton, MA., the nonprofit and nonpartisan Civil Society Institute (<http://www.CivilSocietyInstitute.org>) is a think tank that serves as a catalyst for change by creating problem-solving interactions among people, and between communities, government and business that can help to improve society. Since 2003, CSI has conducted more than 25 major national and state-level surveys and reports on energy and auto issues, including vehicle fuel-efficiency standards, consumer demand for hybrids/other highly-fuel efficient vehicles, global warming and renewable energy. In addition to being a co-convenor of TheCLEAN.org (<http://www.TheClean.org>), the Civil Society Institute also is the parent organization of 40MPG.org (<http://www.40MPG.org>) and the Hybrid Owners of America (<http://www.HybridOwnersofAmerica.org>).

Synapse Energy Economics, Inc. (<http://www.synapse-energy.com/>) provides research, testimony, reports and regulatory support on energy, economic, and environmental topics. Synapse has a professional staff of 22 with more than 300 years of combined experience in the electricity and natural gas industries. Synapse assesses the implications of electricity and natural gas industry planning, regulation and restructuring. Their work covers various interrelated issues such as transmission planning, service reliability, siting, fuel diversity, resource planning, financial and economic risks, renewable energy potential and renewable portfolio standards, energy efficiency, electricity modeling, portfolio management, customer service and more. Synapse works for a wide range of clients throughout the United States, including attorneys general, offices of consumer advocates, public utility commissions, a variety of environmental groups, foundations, the U.S. Environmental Protection Agency,

Agency,
Department of Energy, Department of Justice, the National Association of Regulatory Utility Commissioners, and others.

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