

INFORMATION FOR ENERGY STUDY—PART I

This article is the first of four which will appear in the January, February, March and April Voters that will provide League members with information needed for consensus on the League of Women Voters of Delaware's Energy Study. The April Voter will contain questions, approved by the State Board in March, which will help us arrive at consensus at the New Castle County (NCC) Unit meeting in April. We suggest that all members save this Voter material for use at the April consensus meeting and at subsequent unit meeting in Kent and Sussex Counties. In 2009 at the State League Convention, the Energy Committee suggested a continuation of this broad study and added "including changes in land use and transportation patterns. The Transportation/Land Use Committee of NCC will be presenting information relating to land use and transportation at the May meeting in NCC with meetings scheduled later for Kent and Sussex Leagues.

LWVUS ENERGY POSITIONS

The National League of Women Voters over the years has reached consensus of its members and developed positions used by local and state Leagues for action purposes. The LWVUS supports:

- energy goals and policies that acknowledge the United States as a responsible member of the world community;
- reduction of energy growth rates;
- use of a variety of energy sources, with emphasis on conserving energy and using energy-efficient technologies;
- the environmentally sound use of energy resources, with consideration of the entire cycle of energy production;
- predominant reliance on renewable resources;
- policies that limit reliance on nuclear fission;
- action by appropriate levels of government to encourage the use of renewable resources and energy conservation through funding for research and development, financial incentives, rate-setting policies and mandatory standards;
- mandatory energy-conservation measures, including thermal standards for building efficiency, new appliance standards and standards for new automobiles with no relaxation of auto emission control requirements;
- policies to reduce energy demand and minimize the need for new generating capacity through techniques such as marginal cost or peak-load pricing or demand-management programs;
- maintaining deregulation of oil and natural gas prices;
- assistance for low-income individuals when energy policies bear unduly on the poor.

LWVUS Policy Statement: Support an adoption by the U.S. of a firm, verifiable cap on greenhouse gas emissions at least 25% below 1990 levels by 2020 and 80-95% below 1990 levels by 2050.

ENERGY COMMITTEE ACTIONS

The Energy Study was approved at the 2007 State Convention, and an Energy Committee was subsequently formed. Members of this Committee have met on a regular basis and taken the following steps to develop information as a basis for consensus and action, to educate members and the public, and to respond appropriately to ongoing legislative and regulatory actions.

- + Sponsored a speakers meeting in NCC on renewable resources
- + Hosted 2008 League Day in Dover – Speakers on updating the 2003 Delaware Energy Plan
- + Completed a thorough review of the 2003 Delaware Energy Plan and identified areas for study
- + Participated in all 5 workshop groups and provided input to 2009 Delaware Energy Plan
- + Held Unit meetings in NCC and Sussex on 2009 Delaware Energy Plan workgroups
- + Co-sponsored Climate Change speaker program on Mitigation and Adaptation

- ✚ Monitored Governor’s Energy Advisory Council meetings, Public Service Commission meetings, Sen. McDowell’s renewable energy hearings, Sustainable Energy Utility meetings, and Delmarva Power’s Integrated Resource Planning workshops.
- ✚ Made numerous statements at public hearings and legislative committee meetings, met with officials and lobbied for and sometimes against federal and state energy related bills.

FOCUS OF 2007 LWVD ENERGY STUDY: An energy plan for Delaware minimizing climate change including changes in land use and transportation patterns.

In 2009 League members voted to extend this study for another two years. Although the Energy Committee will be able to provide sufficient information to achieve consensus in several areas by the spring of 2010, more time is required to complete the entire study.

COMMITTEE’S CHALLENGES (Key Areas of Study):

1. Define, exactly, with hard data, what progress has been made in energy reduction since the 2003 DE Energy Plan. Incorporate updated projections of energy usage and identify what assumptions have been made with respect to energy conservation.

The DE Energy Plan 2003 was based on 1999 information; the 2009 Energy Plan was based on 2005-6 data. Much of the information was obtained from Andrea Kreiner, consultant for the Governor’s Energy Advisory Council, Phil Cherry, Planner, DNREC; and Charlie Smission, Director of the DE Energy Office with their presentations at our League Day in Dover in 2008. Additional data are from the 2009 DE Energy Plan and 2007 data published in 2009 by the U.S. Department of Energy.

Factors considered for Delaware included energy consumption patterns, energy resources used and pollutant emissions resulting from energy consumption.

The League’s definition of energy for this study includes residential, commercial, industrial and transportation sectors in Delaware.

Delaware Energy Consumption, Million BTUs

	<u>1999</u>	<u>2005</u>	<u>2007</u>
Total	280,000	313,000	302,000
Per Capita	357	372	350

In 2007, Delaware ranked 24th in the U.S. in energy consumption per capita, higher than the surrounding states and slightly higher than the U.S. average. The most efficient states were Rhode Island, New York and California which consumed 207, 209 and 233 million BTUs per capita, respectively. Part of the reason for high Delaware consumption is the relatively high rate of industrial use for its small population. With the recession and continuing loss of heavy industry in Delaware, the consumption per capita would be expected to decrease. However, compared to the most efficient states, there is still significant room for improvement.

Delaware Energy Consumption Percentage by Sector

<u>Sector</u>	<u>1999</u>	<u>2005</u>	<u>2007</u>
Residential	20%	23%	22%
Commercial	16	19	19
Industrial	39	35	34
Transportation	25	23	25

Projections

The 2003 Energy Report predicted an 18.5% growth in electricity and 8.8% growth in natural gas consumption by 2010. That has not happened. As the U.S. Dept. of Energy data indicate, statewide sales of electricity from 2003 to 2007 increased only 1% while the number of customers and consumption in the residential sector grew by 8%. In the commercial sector, the number of customers grew by 12% while consumption increased by 15%. Industrial sales fell by 20%. The 2009 Energy Report projects a 7% increase of electricity sales in the residential and commercial sectors by 2012 with industrial sales holding constant. Natural gas sales fell 8% between 2003 and 2007. The 2009 Energy Plan projects an increase of 10% between 2007 and 2012.

Delaware Dept. of Transportation's data from gasoline purchases shows steady growth in vehicle miles traveled (VMT) from 2000 to 2007. VMT increased 45% from 1990 to 2005 and is projected to increase by another 35% by 2020.

Delaware Sources of Total Energy Consumption by Percentage

	<u>1999</u>	<u>2005</u>	<u>2007</u>
Coal	13%	18%	21%
Natural Gas	21	16	16
Total Petroleum	50	47	45
Imported Electricity	15	18	17
Other (biomass & solar)	1	1	1

Coal is primarily used for in-state power; natural gas for power, heating homes and industry. Imported electricity is a combination of nuclear, coal and gas. Petroleum is primarily for gasoline, but also includes #2 heating oil, diesel fuel and heavy residual oil used for power or industry. Note the shift from petroleum-based energy to coal. The decrease in total petroleum is due primarily to a decrease in the use of residual fuel oil while at the same time the use of gasoline increased by about 20%. The decrease in natural gas occurred because of a decreased industrial consumption; commercial and residential use has increased.

DATA RELATING TO DELAWARE EMISSIONS FROM ITS ENERGY SOURCES

Delaware's 2007 annual air quality report states that only two pollutants - ozone and fine particles (PM2.5) - exceed or are close to the National Ambient Air Quality Standards. Other pollutants monitored in Delaware, - SO₂, NO₂, CO(carbon monoxide) and more coarse particles (PM10) - are well below the national standards. Since 1990 the emissions of SO₂ and NO_x have continually decreased each year from Delaware's electric generating units. It is predicted that this decrease will continue into the future because of regulations. Mercury emissions charted from 1999 have also dropped with a substantial decrease between 2005 and 2009.

Recently, EPA has designated carbon dioxide (CO₂) as a pollutant. CO₂ emissions are closely related to energy use because fossil fuels, which currently provide nearly all our energy, produce CO₂ when burned. In the table below, point sources include emissions from utilities and other power generation systems serving the commercial, industrial and residential sectors. The majority of CO₂ emissions in Delaware are from point sources including electric generation which accounted for 35% of our CO₂ emissions in the 2005 Air Quality Management Report released on Sept. 15, 2008. Coal-fired generation units represent 2/3 of this sector or 23%; while natural gas makes up the majority of the 12% remaining. Other industrial sites are included in point sources. Other sources of CO₂ emissions include On-road (cars, buses, trucks) and Off-road (farm, rail, shipping and construction vehicles,

etc.), both from transportation sources. Area includes residential, commercial, institutional and other miscellaneous emissions.

2005 Emissions of CO2 Equivalents in Delaware by Percentage – The word Equivalents is used when including other greenhouse gases in addition to CO2.

Point	58%
On-road	21
Off-road	3
Area	18

DELAWARE ENERGY AND CLIMATE CHANGE LEGISLATION

Bills marked with an asterisk (*) came from recommendations of the 2003 Energy Plan.

Enacted in 1999: Created the Environmental Incentive Fund as a product of Electricity Restructuring which became the Green Energy Fund in 2003. This fund provided residential and commercial grants for weatherization and the use renewable sources, demonstration projects, and Research and Development programs.

Enacted in 2004

HB434: Created the Governor's Energy Advisory Council.*

SB435: Required State agencies to purchase Energy Star products when feasible.*

SB306: Updated Building Code requirements for energy efficiency to 2000 Air Conditioning Engineers/Illuminating Engineering Society of No. America (ASHRAE/IESNA) Standards.*

SB307: Contracting agencies mandated use life cycle cost analysis for public works contracts.*

Enacted in 2005

SB84: Created Renewable Portfolio Standards (RPS)* which required suppliers to buy 10% of electricity from renewable sources by 2019.

SB73: Authorized State agencies to enter into performance contracts to finance energy efficiency upgrades.*

SB44: Eligibility for biodiesel manufacturing facilities added to Green Energy Fund.

SB127: Regulated energy efficient outdoor lighting when state funds involved in construction.

HB78: Assessment increased to enable public utilities to recover the cost of new regulation.

Enacted in 2006

HJR22: Suggested a business summit be held to assist businesses facing substantial increases in electricity rates.

SB281: Energy Efficiency Financial Incentives Act – appropriated \$8 million –became the Energy Answers program which provided rebates for energy-saving appliances.

HB6: Amended Electric Restructuring Act of 1999 to include provisions to stabilize pricing. Required Integrated Resource Planning to reduce or shift electric consumption by customers. Required Del-Marva Power to issue a competitive Request for Proposals for new in-state generating capacity, culminating in a long-term Power Purchase Agreement with Bluewater Wind for offshore wind power.

SB280: Created and appropriated \$2 million for the Delaware Energy Assistance Program.

SB242: Appropriated \$5 million to the Dept of Education for additional energy costs to school districts.

SS1 for SJR3: Required hiring an independent consultant to study utility re-regulation—Brockway Report.

Enacted in 2007

SS1 for SB8: Increased in Net Metering Standards. Allows net-metering customers to carry over excess energy credits monthly during a 12 mo. period.

SS1 for SB18: Created the Sustainable Energy Utility (SEU) to deliver cost-effective end-use energy services.

SB19: Increased the RPS from 10% to 20% (2% solar, 18% other renewables by 2019).

SB35: Increased the system benefit charge doubling the Green Energy Fund for residential customers.

Enacted in 2008

SB 228 and SB276: Amended the SEU to make the SEU a non-profit entity. Created a new board and made it subject to FOIA.

SB263: Regional Greenhouse Gas Initiative(RGGI) & Carbon Dioxide Trading – granted legal authority for DE to participate in a 10 state regional cap and trade program for CO2 emissions from power plants. All proceeds from the sale of RGGI allowances be used for public benefit purposes and directed 65% of revenues to the SEU for promotion of energy efficiency and distributed renewable energy technologies.

SB328: Promoted off-shore wind power and encouraged DelMarva Power to enter into purchase agreements for its residential and small business customers.

Enacted in 2009

SS1 for SB49: Enabled the use of rooftop solar systems by limiting the use of covenants.

SB59: Updated building code requirements for energy efficiency to meet the most recent ASHRAE standards.

SB85: Eliminated forfeitures of excess electric generation by customer-sited distributed renewables.

SB106: Increased Energy Efficiency Resource Standards (EERS); set goals of reducing electricity by 15% and gas use by 10% by 2015.

SB153: Prepared Delaware for Vehicle to Grid (V2G) grid-integrated electric vehicles.

SB173: Updated and clarified the SEU.

HS1 for HB70: Banned the use of covenants or other restrictions to prohibit the installation of wind systems.

Pending Legislation in 2010

SB119: Would require increasing the RPS from 20% to 30% by 2023.

NATIONAL ENERGY AND CLIMATE CHANGE LEGISLATION

H.R. 2454: The American Clean Energy and Security Act passed the House in June 2009. It called for a national cap-and-trade system to limit CO2 emissions from all sources by 17% relative to what they were in 2005 and by over 80% by 2050. Action is still pending in the Senate.

If you wish to read more about the information the Energy Committee has compiled, we suggest the following websites:

www.dnrec.delaware.gov/Pages/default.aspx. On the left hand side click onto Publications and Reports, then click onto Petroleum fuels and Energy in Delaware for many different reports.

Also click on to Climate Change for several more reports.

www.dnrec.delaware.gov/energy/Pages/default.aspx. On the left hand side, click on Delaware Energy Plan which leads you to the Delaware Energy Plan 2003, the Delaware Energy Plan 2009-2014 and the Workgroup Reports.

www.lwv.org/AM/Template.cfm?Section=Global_Climate_Change&TEMPLATE.

[CM/ContentDisplay.cfm&CONTENTID=13387](http://www.lwv.org/AM/Template.cfm?Section=Global_Climate_Change&TEMPLATE) for LWVUS Climate Change information.