

Electronic Handbook of Industrial Resources

VIRGINIA



Electronic Handbook of Industrial Resources

VIRGINIA

November 2010

Introduction

This handbook provides a comprehensive listing of incentives, tools, and resources for industrial manufacturing energy efficiency in the state of Virginia. The document is organized according to industrial system and features information on rebates, waived fees, tax credits, loans, and other resources, such as analysis tools, education and training programs, and energy assessments. The handbook is based on data available in the *States Incentives and Resources Database*, which is maintained by the U.S. Department of Energy (DOE) Industrial Technologies Program (ITP).

The States Incentives and Resources Database is a comprehensive searchable online database of approximately 3,100 energy efficiency incentives organized by state. The database is updated regularly and is accessible via the *Save Energy Now* State and Regional Partnerships'

http://www1.eere.energy.gov/industry/states/state_activities/incentive_search.aspx



Contents

Introduction	2
State Industrial Overview	4
Federal and National Industrial Energy Efficiency Programs	5
State Incentives by Industrial System.....	5
Building Systems.....	5
Energy Sources.....	5
HVAC	7
Industrial Systems / Process Specific	7
Lighting.....	7
Industrial Systems General.....	8
End Notes.....	10

State Industrial Overview

Virginia has a total of 7.9 million residents and ranks 11th in the nation in terms of GDP, which is \$397.0 billion. The state is home to 20 Fortune 500 companies. In 2008, Virginia ranked 20th in the nation's industrial energy consumption at 536.1 trillion Btu and 31st in the nation's industrial natural gas consumption at 69.5 trillion Btu¹

Virginia accounts for nearly 10% of all coal production east of the Mississippi River. Virginia's two nuclear power plants generate approximately one-third of the state's electricity.²

Exhibit 1 below compares the industrial energy consumption in Virginia in relation to the national average. The chart in Exhibit 2 is a visual representation of the same data.

Exhibit 1: Total Industrial Energy Consumption Statistics in Virginia

Year	Virginia Energy Consumption (Trillion Btu)	National Average (Trillion Btu)
2000	594.7	680.2
2001	561.3	642.8
2002	538.4	642.0
2003	563.9	639.6
2004	588.6	658.7
2005	593.9	696.7
2006	571.4	636.6
2007	576.6	637.0
2008	536.1	614.8

Source: http://www.eia.doe.gov/emeu/states/sep_use/ind/use_ind_va.html

Virginia at a Glance

State Information

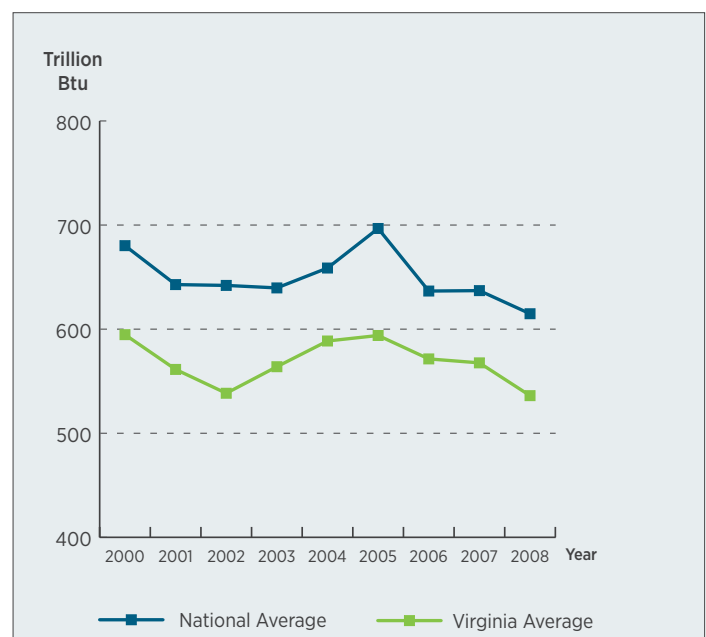
2009 Population (Million)	7.9
2008 GDP (Billion)	397.0
Rank by GDP	11

Energy Statistics

Total Energy Consumption 2008 (Trillion Btu)	2,513.7
Total Industrial Energy Consumption 2008 (Trillion Btu)	536.1
Total Industrial Energy Consumption Rank	20
Total Industrial Electricity Use 2008 (Trillion Btu)	62.9
Total Industrial Electricity Use Rank	20
Total Industrial Natural Gas Use 2008 (Trillion Btu)	69.5
Total Industrial Natural Gas Use Rank	31

Source: http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=VA

Exhibit 2: Total Industrial Energy Use



Federal and National Industrial Energy Efficiency Programs

In addition to the state level programs outlined in more detail in section III there are many government and non-government organizations that have resources to assist industry in the western region to utilize energy more effectively. Financial and technical resources are available from federal agencies, national laboratories, utilities, utility associations, industrial organizations, energy efficiency organizations, state energy offices, energy services companies, nonprofits or nongovernmental organizations, foundations, and private companies.

ITP is one such program that provides industrial manufacturers across the country with a variety of energy efficiency tools, resources, and incentives. ITP is a prime example of DOE's commitment to improving the energy efficiency of industrial operations in the United States. ITP is a multi-faceted outreach and deployment initiative designed specifically for industrial manufacturers. ITP supports research and development of energy efficient technologies, provides industry with energy management and assessment tools, resources, and information.

Several other federal agencies offer energy efficiency incentives in addition to the multitude of DOE resources. The Internal Revenue Service, for instance, provides tax incentives to industrial manufacturers that implement energy efficiency projects. In addition, the U.S. Environmental Protection Agency provides loans on new energy efficient construction and incentives on the implementation of combined heat and power systems. Finally, the U.S. Department of Agriculture is another federal agency that provides incentives to rural and small industrial operations seeking to become more energy efficient.

State Incentives by Industrial System

Building Systems

Business Savings Program

Columbia Gas of Virginia offers a number of rebates for businesses on equipment that will produce energy savings.

For More Information:

<http://www.columbiagasva.com/en/energy-conservation/business-savings-program.aspx>

Sponsor: Columbia Gas of Virginia
Sponsor Type: Utility

Energy Efficient Buildings Tax Exemption

Code of VA 58.1-3221.2 allows any county, city, or town to exempt or partially exempt energy efficient buildings from local property taxes.

For More Information:

<http://www.deq.state.va.us/p2/vise/financial.html>

Sponsor: Virginia Department of Environmental Quality
Sponsor Type: State

Load Management Program

In order to help lower energy use during peak periods, residential and non-residential customers have the option to have the Cooperative install a switch on water heaters to turn them off during peak times. In return, program participants receive free hot water heater repairs.

For More Information:

<http://www.nnec.coop/prodsrv/LoadManagement.aspx>

Sponsor: Northern Neck Electric Cooperative
Sponsor Type: Utility

Energy Sources

Biofuels Production Incentive Grant Program

Code of Virginia 45.1-394 allows producers of neat biofuels commencing qualifying sales on or after January 1, 2007, to be eligible to receive a biofuels production incentive grant in an amount equal to \$0.10 for

each gallon of neat biofuels sold in the calendar year beginning 2007.

For More Information:

<http://www.deq.state.va.us/p2/vise/financial.html>

Sponsor: Virginia Department of Environmental Quality
Sponsor Type: State

Energy Solutions

This program allows facilities to partner with the Columbia Gas team to discover customized energy solutions.

For More Information:

<http://www.columbiagasva.com/en/builder-developer/economic-development.aspx>

Sponsor: Columbia Gas of Virginia
Sponsor Type: Utility

Green Power Switch Program

Green Power Switch® (GPS) is a green power pricing program that provides technical support and incentives for the installation of renewable generation systems.

For More Information:

<http://www.tva.com/greenpowerswitch/partners/>

Sponsor: Tennessee Valley Authority

Sponsor Type: Utility

Hess C-Neutral

This program helps businesses become leaders in environmental stewardship and consumer advocates. Businesses have the option to bundle natural gas, electricity, and/or fuel oil with carbon offset credits, making their total energy purchase 100% carbon neutral.

For More Information:

<http://www.hessenergy.com/green/carbon.htm>

Sponsor: Hess Energy

Sponsor Type: Other

Next Step Tools

The Next Step Tools program allows a landowner to estimate the wind power potential on their property and explore various options for wind turbine installation.

For More Information:

<http://vwec.cisat.jmu.edu/nextstep/>

Sponsor: Virginia Wind Energy Collaborative

Sponsor Type: Other

Renewable Energy Certificates

An organization can play an important role in supporting renewable energy by purchasing Renewable Energy Certificates from Hess. An organization's green power purchase can range from 1% to 100% of its electricity usage.

For More Information:

<http://www.hessenergy.com/products/green/Renewable.aspx>

Sponsor: Hess Energy

Sponsor Type: Other

Renewable Energy Purchase Program

The Tennessee Valley Authority (TVA) will purchase 100% of the green power generated from small renewable sources.

For More Information:

<http://www.gpsgenpartners.com>

Sponsor: Tennessee Valley Authority

Sponsor Type: Utility

Solar Energy Equipment Tax Exemption

Code of VA 58.1-3661 allows any county, city, or town to exempt or partially exempt solar energy equipment from local property taxes. Eligible technologies include passive solar space heat, active solar water heat, active solar space heat, solar thermal electricity, and photovoltaics (PV).

For More Information:

<http://www.deq.state.va.us/p2/vise/financial.html>

Sponsor: Virginia Department of Environmental Quality

Sponsor Type: State

Solar Manufacturing Incentive Grant (SMIG) Program

The Virginia Economic Development Partnership's SMIG Program offers up to \$4.5 million per year to encourage the production of PV panels in Virginia. The incentive is paid at a rate of up to \$0.75 per watt for panels sold in a calendar year, with a maximum of 6 MW.

For More Information:

http://www.dmme.virginia.gov/DE/Alternative_Fuels/solar.shtml

Sponsor: Virginia Mines, Minerals, and Energy Department

Sponsor Type: State

Solar Photovoltaic Manufacturing Incentive Grant Program

Code of Virginia 45.1-392 is a performance-based incentive designed to encourage the product development and manufacture of a high-technology,

renewable energy source in Virginia. Any manufacturer who sells solar PV panels manufactured in Virginia is entitled to receive an annual grant of up to \$0.75 per watt of the rated capacity of panels sold.

For More Information:

<http://www.deq.state.va.us/p2/vise/financial.html>

Sponsor: Virginia Department of Environmental Quality

Sponsor Type: State

Wood, Alternative Energy, or Cogeneration Tax Exemption

Code of VA 58.1-3662 allows any county, city, or town to exempt or partially exempt any generating equipment that is used to convert from oil or natural gas to wood, wood waste, or any alternative energy source for manufacturing, from local property taxes. Cogeneration equipment can also be exempt.

For More Information:

<http://www.deq.state.va.us/p2/vise/financial.html>

Sponsor: Virginia Department of Environmental Quality

Sponsor Type: State

Energy Efficiency Projects

The utility's sister company, Constellation Energy Projects & Services Group, helps commercial customers develop solutions to achieve energy goals.

For More Information:

<http://www.newenergy.com/portal/site/menuitem.1b1af2559c566632782c7883da6176a0>

Sponsor: Constellation NewEnergy

Sponsor Type: Utility

HVAC

Heat Pump Financing

TVA, in conjunction with local utilities, will offer a low-interest loan for the purchase and installation of a heat pump. The loan term is up to 10 years.

For More Information:

<http://www.energyright.com/heatpump/index.htm>

Sponsor: Tennessee Valley Authority
Sponsor Type: Utility

High-Efficiency HVAC and Retrofits

Allegheny provides rebates to commercial and industrial customers who install a high-efficiency air conditioner or a high-efficiency heat pump.

For More Information:

<http://www.alleghenypower.com/EngConserv/PABus/HVAC.asp>

Sponsor: Allegheny Power
Sponsor Type: Utility

Programmable Thermostat Rebate

Residential and commercial customers are eligible for this rebate on the purchase of a programmable thermostat. Rebates amounts are up to \$100.

For More Information:

<http://www.charlottesville.org/Index.aspx?page=1462>

Sponsor: Charlottesville Gas
Sponsor Type: Utility

Industrial Systems / Process Specific

Business Savings Program

Columbia Gas of Virginia offers a number of rebates for businesses on equipment that will produce energy savings.

For More Information:

<http://www.columbiagasva.com/en/energy-conservation/business-savings-program.aspx>

Sponsor: Columbia Gas of Virginia
Sponsor Type: Utility

Data Pulses

Data Pulses provides unedited, near real-time energy data respective to a facility, including demand pulse signals and/or synchronizing time signals, to customers or, upon customer consent, to the appropriate authorized competitive service provider.

For More Information:

<http://www.alleghenypower.com/Bus2Bus/Bus2BusEngEfficiency.asp>

Sponsor: Allegheny Power
Sponsor Type: Utility

Variable Frequency Drives

Customers can improve the efficiency of their motor applications, particularly variable loads such as fans and pumps through the installation of VFDs to receive a rebate of 50% of the VFD's cost before taxes, for each eligible drive rebate.

For More Information:

<http://www.alleghenypower.com/EngConserv/PABus/Drives.asp>

Sponsor: Allegheny Power
Sponsor Type: Utility

Wood, Alternative Energy, or Cogeneration Tax Exemption

Code of VA 58.1-3662 allows any county, city, or town to exempt or partially exempt generating equipment that is used to convert from oil or natural gas to wood, wood waste, or any alternative energy source for manufacturing from local property taxes. Cogeneration equipment may also be exempt.

For More Information:

<http://www.deq.state.va.us/p2/vise/financial.html>

Sponsor: Virginia Department of Environmental Quality
Sponsor Type: State

Energy Efficiency Projects

The utility's sister company, Constellation Energy Projects & Services Group, helps commercial customers develop solutions to achieve energy goals.

For More Information:

<http://www.newenergy.com/portal/site/menuitem.1b1af2559c566632782c7883da6176a0>

Sponsor: Constellation NewEnergy
Sponsor Type: Utility

Lighting

Mercury Vapor Lighting Replacement Program

The Energy Policy Act of 2005 mandates that mercury vapor lamp ballasts shall not be manufactured or imported after January 1, 2008, and additional regulations regarding the manufacturing of mercury vapor lamps will completely eliminate availability by 2011. These regulations are designed to promote energy efficiency and conservation with lighting installations. Allegheny Power offers several alternate lighting types to replace mercury vapor lighting when the fixtures fail.

For More Information:

http://www.alleghenypower.com/CSC/Services/Mercury_Vapor_Replacement.asp

Sponsor: Allegheny Power
Sponsor Type: Utility

Watt Watchers Commercial Lighting Efficiency Program

The Watt Watchers Commercial Lighting Efficiency Program will provide rebates to commercial customers for certain lighting modifications that improve efficiency.

For More Information:

<http://www.alleghenypower.com/EngConserv/PABus/Lighting.asp>

Sponsor: Allegheny Power
Sponsor Type: Utility

Industrial Systems General

Business Savings Program

Columbia Gas of Virginia offers a number of rebates for businesses on equipment that will produce energy savings.

For More Information:

<http://www.columbiagasva.com/en/energy-conservation/business-savings-program.aspx>

Sponsor: Columbia Gas of Virginia
Sponsor Type: Utility

Commercial Energy Audits

The Northern Virginia Electric Cooperative offers free energy audits to residential and commercial customers. The audit will produce results that will help lower home or office utility costs.

For More Information:

http://www.novec.com/Power_Use_It_Wisely/CommercialEnergyAudits.cfm

Sponsor: Northern Virginia Electric Cooperative
Sponsor Type: Utility

Custom Technology Applications Program

The Custom Technology Applications Program is focused on reducing energy and demand in the small and large, commercial and industrial, and governmental/non-profit customers with usage of 1 million to 2.5 million kWh / year. Allegheny Power will provide incentives to the customer up to 25% of the capital investment, and up to \$100,000 of the project, to obtain the energy and demand savings.

For More Information:

<http://www.alleghenypower.com/EngConserve/PABus/CustTechApps.asp>

Sponsor: Allegheny Power
Sponsor Type: Utility

Energy Data Services (EDS)

EDS is a powerful data collection tool that turns a customer's energy usage data into the critical information needed to make money-saving energy decisions.

For More Information:

<http://www.alleghenypower.com/Bus2Bus/EnergyDataServices/EnergyDataServices.asp>

Sponsor: Allegheny Power
Sponsor Type: Utility

Energy Solutions

This program allows facilities to partner with the Columbia Gas team to discover customized energy solutions.

For More Information:

<http://www.columbiagasva.com/en/builder-developer/economic-development.aspx>

Sponsor: Columbia Gas of Virginia
Sponsor Type: Utility

U.S. Department of Energy Industrial Assessment Center (IAC): North Carolina State University

The North Carolina State University IAC provides energy conservation and cost reduction assessments to small- and medium-sized manufacturers within about 150 miles of its campus, and educates energy managers on energy efficiency. The IAC also serves local manufacturers through its satellite office at North Carolina Agricultural and Technical State University.

For More Information:

<http://www.mae.ncsu.edu/Centers/IAC/index.html>

Sponsor: U.S. Department of Energy
Sponsor Type: Federal

U.S. Department of Energy Industrial Assessment Center (IAC): Tennessee Tech University

Tennessee's 3-Star Industrial Assessment Center provides no cost energy assessments of manufacturing plants across Tennessee and portions of Kentucky, Virginia, West Virginia, North Carolina, and Arkansas.

For More Information:

<http://www.tntech.edu/iac/home/>

Sponsor: U.S. Department of Energy
Sponsor Type: Federal

U.S. Department of Energy Industrial Assessment Center (IAC): West Virginia University

The West Virginia University IAC provides no-cost assessments to small- and mid-sized manufacturers within about 150 miles of its campus, identifying opportunities to save energy, reduce waste, and improve productivity.

For More Information:

<http://www2.cemr.wvu.edu/~wwwiac/>

Sponsor: U.S. Department of Energy
Sponsor Type: Federal

Constellation NewEnergy Online

This is an energy-management tool that is available to all electricity customers free of charge. The tool allows customers to find opportunities to improve their company's energy efficiencies, track changes in their company's usage, and compare usage across multiple facilities.

For More Information:

<http://www.newenergy.com/portal/site/menuitem.987b194dd5e782ce18a805e4da6176a0>

Sponsor: Constellation NewEnergy
Sponsor Type: Utility

Energy Efficiency Projects

Constellation Energy Projects Services provides solutions designed to achieve energy goals and promote a sustainable future by offering an extensive array of products and services.

For More Information:

<http://www.newenergy.com/portal/site/cne/menuitem.1b1af2559c566632782c7883da6176a0>

Sponsor: Constellation NewEnergy

Sponsor Type: Utility

Energy Efficiency Projects

The utility's sister company, Constellation Energy Projects & Services Group, helps commercial customers develop solutions to achieve energy goals.

For More Information:

<http://www.newenergy.com/portal/site/menuitem.1b1af2559c566632782c7883da6176a0>

Sponsor: Constellation NewEnergy

Sponsor Type: Utility

End Notes

¹ U.S. Department of Energy, Industrial Technologies Program, State and Regional Partnerships, “Industrial Technologies Program Activities in Virginia.” http://www1.eere.energy.gov/industry/states/state_activities/map_new.asp?stid=VA.

² Energy Information Administration, “State/Territory Energy Profiles,” Accessed October 4, 2010. http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=VA.

EERE Information Center

1-877-EERE-INFO (1-877-337-3463)

www.eere.energy.gov/informationcenter

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy