

The Vermont Legislative Research Shop

transmission lines in Vermont, 483 of those miles belonging to VELCO. The approved project

lines could endanger tourism, a complaint that the town of Shelburne has voiced. The lines may be perceived by many to be environmentally unfriendly, unhealthy, and property values may decrease due to massive power lines blocking once beautiful scenery. Since transmission lines have the ability to both economically and physically last between 30 and 50 years it is necessary to forecast energy use over the next 40 years.<sup>10</sup>

## **Facts on Natural Gas**

As opposed to oil, the United States produces 87% of its own natural gas.<sup>11</sup> According to the U.S Department of Energy, 9 out of 10 new power plants built in the U.S will be natural gas plants.<sup>12</sup> On a similar note, "in 2000, 23,453 MW (megawatts) of new electric capacity was added in the U.S, of this, almost 95 percent, or 22,238 MW were products of natural gas additions."<sup>13</sup>

The feasibility of running the nation's natural gas generation units continuously and without major price increases has been an issue that has garnered much attention since the California energy crisis. At first glance natural gas is among the most expensive forms of energy production in the U.S when compared per kilowatt-hour. (A kilowatt-hour measures the amount of electricity needed to burn a 100-watt bulb for 10 hours.)<sup>14</sup> However, the specific cost per kilowatt-hour for the various fuels can vary widely depending on what variables are taken into account when calculating their cost, such as the overall cost of operating the plant—including fuel, labor, materials, and services and maintenance and decommission costs of coal and especially nuclear power plants.<sup>15</sup>

A report drafted by the Energy Information Administration in 2005 noted that, "projections put the cost of nuclear electricity at about 6.8 cents per kWh, when estimated capital costs are included with operations, maintenance, and fuel expenses. By comparison, the total cost for coal is projected at 4.3 cents per kWh, and combined-cycle natural gas at 4.1 cents per kWh."<sup>16</sup>

<sup>12</sup> U.S. Department of Energy

<sup>&</sup>lt;sup>10</sup> California Energy Commission <u>http://www.energy.ca.gov</u> visited on 1/20/05

<sup>&</sup>lt;sup>11</sup> Natural Gas <u>http://www.naturalgas.org/business/analysis.asp</u> visited on 2/1/05

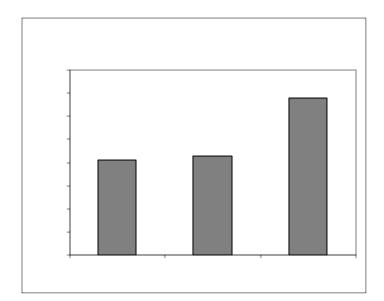
http://www.doe.gov/engine/content.do?BT\_CODE=NATURALGAS visited on 1/20/05 <sup>13</sup> Natural Gas http://www.naturalgas.org/overview/uses\_eletrical.asp visited on 2/1/05

<sup>&</sup>lt;sup>14</sup> Betty Joyce Nash, "Mature Nuclear Plants Power the District," Region Focus, Volume 5, No. 4, Fall 2001, published by the Federal Reserve Bank of Richmond

http://www.rich.frb.org/pubs/regionfocus/fall01/nuclear.html, visited on 2/8/05

<sup>&</sup>lt;sup>15</sup> Nuclear Energy Institute <u>http://www.nei.org/index.asp?catnum=2& catid=262%20</u> visited on 1/20/05

<sup>&</sup>lt;sup>16</sup> Nash, "Mature Nuclear Plants Power the District," Region Focus



Stanford's facility was built in 1987 and is operated by Cardinal Gogen, a subsidiary of General Electric. The plant consists of a natural gas powered turbine driving a 39.2 MW generator.

**Disclaimer:** The reports listed on this web site have been prepared by undergraduate students at the University of Vermont under the supervision of Professor Anthony Gierzynski. The material contained in the reports does not reflect official policy of the University of Vermont.