

Strengthening Pennsylvania’s 2004 Alternative Energy Portfolio Standard Act

Pennsylvania’s current Alternative Energy Portfolio Standard (AEPS), Act 213, requires that an increasing percentage of electricity sold to retail customers each year in the commonwealth is from alternative energy sources. While Act 213, does not mandate exactly which resources must be utilized and in what quantities, certain minimum thresholds must be met for the use of so-called Tier I, Tier II, and solar photovoltaic resources.

The level of alternative energy required gradually increases over a 15-year schedule to 8 percent from Tier I resources, with an additional 10 percent from Tier II and one-half percent from photovoltaic resources.

HB 2405 also expands Act 213’s Tier I requirement to 15 percent; Tier II to 13 percent (by adding a 3 percent provision for carbon capture and sequestration (CCS) for coal-generated electricity); and expands the photovoltaic requirement to 3 percent (which is included as part of the Tier I 15 percent).

While adding renewable generation is not expected to raise electricity rates, the bill adds safeguards that effectively cap any potential impact of the bill on consumer electricity rates.

Tier I Expansion – 15 percent in 2024 (current law is 8 percent by 2020)

Act 213 qualifying technologies remain unchanged, with the exception of adding solar thermal for water heating as a solar resource. Tier I resources include:

- Solar photovoltaic energy
- Solar thermal
- Wind power
- Low-impact hydropower
- Geothermal energy
- Biologically derived methane gas (including landfill gas)
- Fuel cells
- Biomass energy
- Coal mine methane

Solar, which is included as part of the 15 percent Tier I requirement, increases to 3 percent in 2024 from the current .5 percent by 2020:

- Must be Pennsylvania-generated
- Doubles compliance obligation in 2020 (0.97 percent)
- Continues expansion to the 3 percent by 2025
- Solar thermal hot water added to solar set-aside

Tier II Expansion –13 percent by 2024 (current law is 10 percent by 2020)

The 3 percent expansion of Tier II is accomplished by adding a dedicated 3 percent requirement for advanced coal with **carbon capture and sequestration** by 2020

- Sets out the framework for private sector transportation and sequestration facilities.
- Establishes an indemnification fund for maintenance and remediation – post-closure.
- Post-closure liability and indemnification is transferred to the commonwealth.
- Only retrofitted plants can earn credits if sequestration facility is not operating, and only up to the cost of the retrofit.
- Enhanced oil recovery is excluded from earning CCS credits.

Consumer protections:

- **Force Majeure (market-wide exemption from complying with required annual procurement):**
 - If the market price of renewable energy credits exceeds alternative compliance payment price
 - If CCS facility is not operating
- **SREC Alternative Compliance Payment ceiling** – \$450/MWh, declining at 3 percent per annum. Funds generated are to be used on alternative energy projects in Pennsylvania.
- **CCS Alternative Compliance Payment ceiling** -- \$45/MWh
- **Annual Public Utility Commission reporting requirements to include:**
 - Compliance achieved
 - Costs
 - Benefits
 - Ratepayer impacts

Long-term Contracts (for terms of 10 years or longer):

- Non-solar Tier I – two PUC required procurements intended as stimulus:
 - 25 percent 2010 obligations
 - An additional 25 percent of the 2011 obligations
- Tier I Solar – PUC required annual procurements:
 - 55% of 2010 obligations additional 45% of 2011 obligations
 - additional 30 percent of 2012 obligations
 - additional 25 percent of 2013 obligations
 - additional 20 percent of 2014 obligations
 - sunset to 15 percent in year 5 and for future years
- Aggregation required for installations up to 200 kW

Why HB 2405 is good for Pennsylvania

The impact of adding renewables on consumer utility rates is either beneficial or negligible. Renewable generation often has higher upfront costs than fossil energy

generation, but this cost is offset by the benefit of zero fuel costs for renewables (i.e. the Price Suppression Effect).

A recent analysis of HB 2405 by the engineering and energy consulting firm Black & Veatch¹ concluded the following:

- a. The price premium for building renewable energy generation over the price for building the equivalent fossil energy generation is \$1.6 billion (an increase of approximately 50 cents per month on the average consumer's bill, or 0.06 percent.) However, the price suppression benefit over the next 15 years could be \$3.5 to \$6.2 billion. Notably this savings is much higher than the renewable upfront price premium (\$1.6 billion). Thus it is plausible that the expanded AEPS could result in an overall net reduction in energy prices in Pennsylvania.

This is an economic engine and net job creation bill. Black & Veatch calculates the following economic benefits of HB2405 (versus building only the equivalent amount of fossil fueled generation):

- b. \$26.2 billion advantage in output
- c. \$5.5 billion advantage in earnings
- d. The creation of an additional 129,000 net Job Years

¹ <http://www.cfalleghenies.org/pdf/aepss.pdf>