

Illinois Climate Change Advisory Group

7/3/2007

Subgroup: Power/Energy

Policy Name: Enhanced Renewable Portfolio Standard

Policy Type: Regulatory standard for electric utilities

Estimated 2020 Reductions Compared to BAU: 15.8 million metric tons CO₂

Affected sectors, subsectors or entities (As the case may be)

Sector: Electric

Subsector: Distribution utilities

Entities: ComEd, Ameren, Mid-American, renewable energy developers

Description

The Governor's Energy Independence Plan calls for a renewable portfolio standard that ramps up from 3% of retail sales in 2008 to 10% of sales by 2015. Senate Bill 1184 and House Bill 1871 would increase that standard by 1.5% per year to 25% of sales in 2025. The ICCAG proposal would adopt this enhanced RPS.

Rough estimate of reductions from BAU in 2020

Meeting the enhanced RPS would require 20 million MWh of new renewable generation by 2020, or about 6,500 MWs of renewable capacity (at a 35% capacity factor). Overall, adoption of the enhanced RPS would decrease emissions of carbon dioxide by about 15.8 million metric tons annually in 2020, 6.9 million tons more than the Governor's proposed RPS. These benefits are based on an average emissions rate of about 1.75 pounds/kWh from the Shaw Group study on the environmental benefits of the Governor's Sustainable Energy Plan, which shows that mostly generation from the less efficient coal plants will be displaced. The Shaw study also shows that more than half of these emission reductions would occur outside of Illinois because of the regional nature of the electric dispatch system.

Timetables, duration and stringency

Under the schedule proposed in SB 1184, the RPS would increase from 2% in 2008 to 10% by 2015, and then by 1.5% per year through 2025. The standard would reach 17.5% in 2020 and 25% in 2025.

Barriers to implementation

The major barrier, currently, to rapid implementation of an RPS is the shortage of wind power equipment. Presumably by the time the enhanced RPS kicks in, the market place would have caught up with the demand for wind power and other renewable technologies.

Interstate Cooperation

After an initial period of in-state renewable development, to ensure that Illinois has access to the most cost-effective renewable energy, the state could participate in the Midwest Renewable Energy Trading System, or other similar systems for trading renewable energy credits.

Estimated Renewable Generation and Emission Benefits

Year	RPS	Renewable Generation (MWh)		CO2 Emission Reduction (million metric tons)		
		Gov's RPS	Enhanced RPS	Gov's RPS	Enhanced RPS	Total
2007		279,987				
2008	3.0%	2,975,088		2.2		2.2
2009	4.0%	4,015,654		3.0		3.0
2010	5.0%	5,079,750		3.8		3.8
2011	6.0%	6,166,822		4.7		4.7
2012	7.0%	7,278,752		5.6		5.6
2013	8.0%	8,416,050		6.5		6.5
2014	9.0%	9,579,234		7.4		7.4
2015	10.0%	10,798,492		8.4		8.4
2016	11.5%	10,930,044	12,569,551	8.5	1.3	9.8
2017	13.0%	11,063,352	14,382,357	8.6	2.6	11.3
2018	14.5%	11,198,437	16,237,733	8.7	4.0	12.7
2019	16.0%	11,335,323	18,136,516	8.8	5.4	14.3
2020	17.5%	11,476,271	20,083,474	8.9	6.9	15.8
2021	19.0%	11,734,061	22,294,716	9.1	8.4	17.6
2022	20.5%	11,886,604	24,367,538	9.3	10.0	19.2
2023	22.0%	12,041,130	26,490,485	9.4	11.5	20.9
2024	23.5%	12,197,664	28,664,511	9.5	13.1	22.7
2025	25.0%	12,356,234	30,890,585	9.6	14.8	24.4