

THE REGIONAL GREENHOUSE GAS INITIATIVE

An Initiative of the Northeast and Mid-Atlantic States of the U.S.

Regional Greenhouse Gas Initiative and Leakage

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Management*



RGGI in Brief

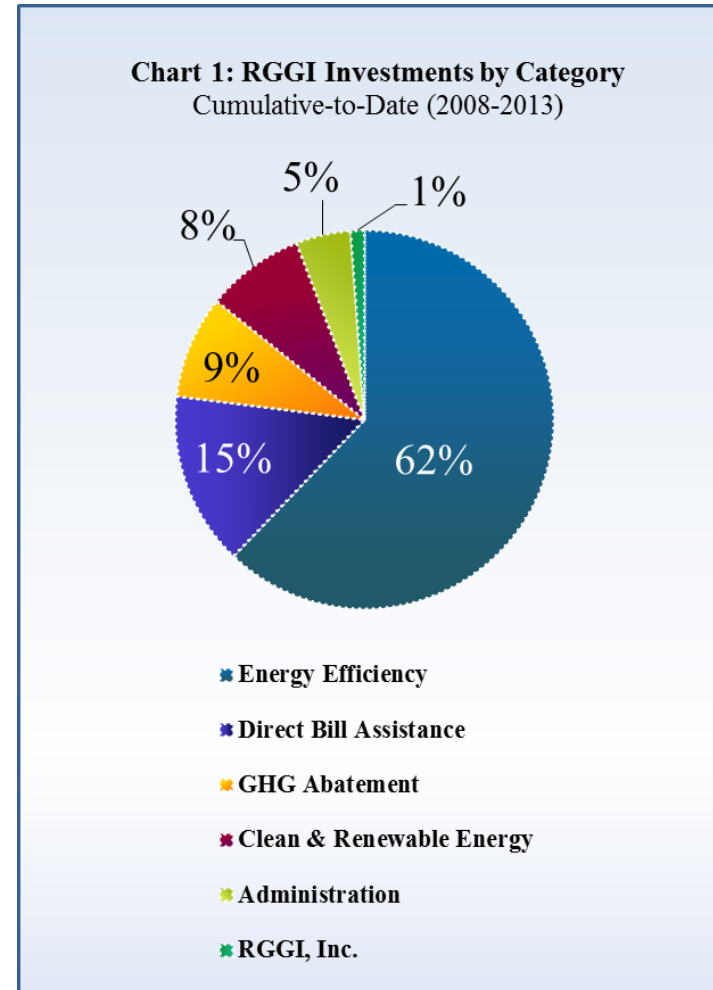
- Northeast and Mid-Atlantic states cap and reduce carbon dioxide emissions from the power sector
 - Power plants 25 MW or greater to hold one CO₂ allowance for each ton of CO₂
 - Three-year control periods starting with 2009-2011, currently in third control period (2015-2017)
 - 2015 first year of interim compliance
- CO₂ Cap: 88.7 million short tons in 2015, and declines 2.5 percent each year until 2020
 - Two interim adjustments to the cap (2014-2020) to account for banked allowances
 - 2015 RGGI adjusted cap is 66.8 million short tons
 - Cost containment reserve (CCR) of 10 million allowances

RGGI in Brief

- ◆ Quarterly regional CO₂ allowance auctions
 - CO₂ allowances are issued by each state
 - Compliance occurs at the state level
 - One tradable CO₂ allowance market - CO₂ allowances are fungible across the multi-state region
 - CO₂ allowances issued by any participating state can be used for compliance in any of the participating states
- ◆ Auction proceeds strategically invested by the states
- ◆ Centralized allowance tracking and emissions tracking platform (RGGI COATS)
- ◆ Market monitoring of CO₂ allowance market
- ◆ Limited use (3.3%) of offsets

RGGI's Efficient Market-Based System

- RGGI states have distributed approximately 90% of allowances by auction
- More than \$2 billion in auction proceeds through 29 auctions
- Invested more than \$1 billion of auction proceeds in range of energy efficiency, clean and renewable energy, direct bill assistance, GHG abatement programs



Defining “Leakage”

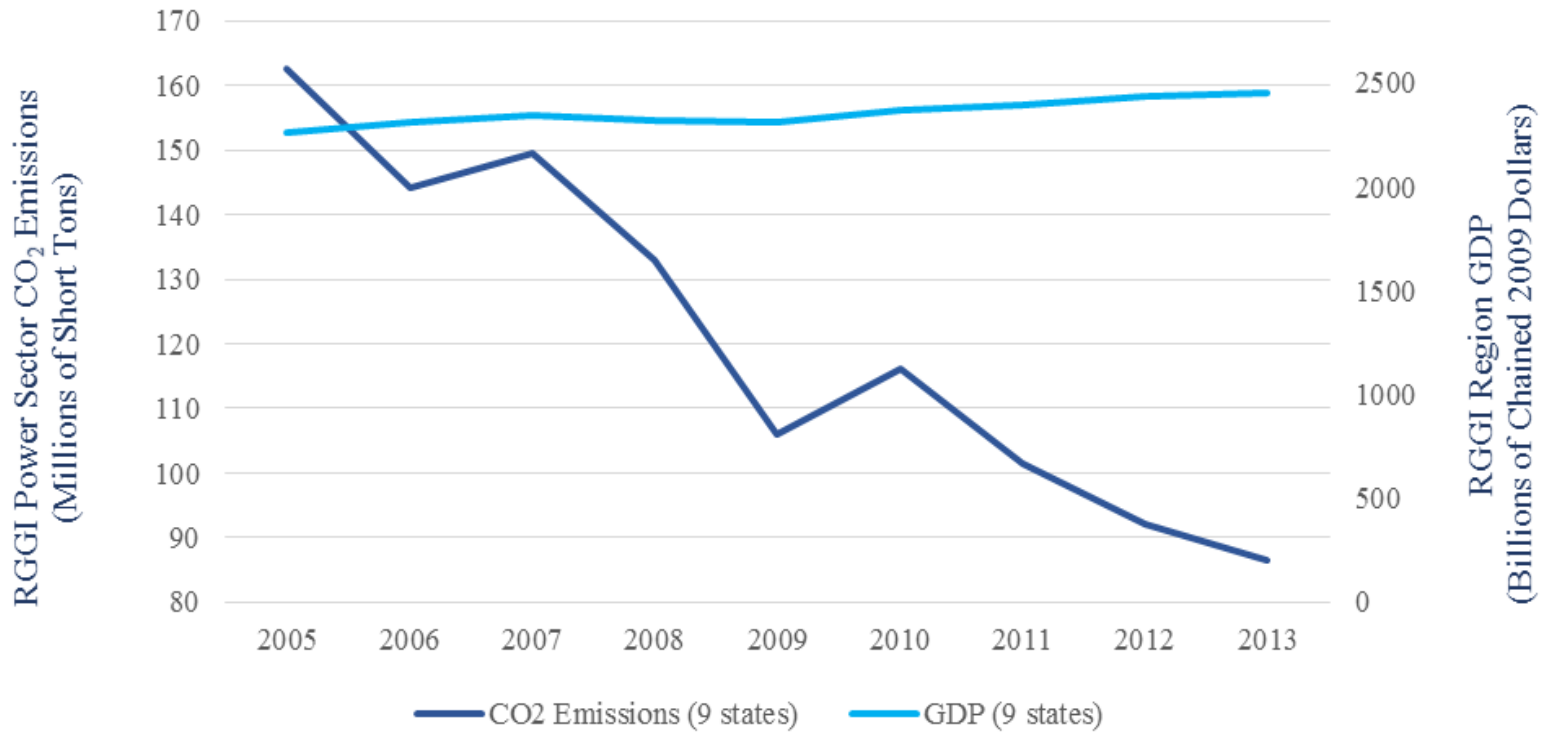
- ◆ Generation Leakage (EPA Clean Power Plan):
 - risk of generation shifts to new fossil fuel-fired sources
- ◆ Emissions Leakage:
 - the concept that compliance with the RGGI CO2 Budget Trading Program, and the incorporation of related CO2 compliance costs by electric generators that are subject to the program, could result in a shift of electricity generation and emissions from CO2-emitting sources that are subject to RGGI to CO2-emitting sources that are not subject to RGGI.

RGGI Applicability – Model Rule

(a) Units. Any unit that, at any time on or after January 1, 2005, serves an electricity generator with a nameplate capacity equal to or greater than 25 MWe shall be a CO₂ budget unit, and any source that includes one or more such units shall be a CO₂ budget source, subject to the requirements of this Part.

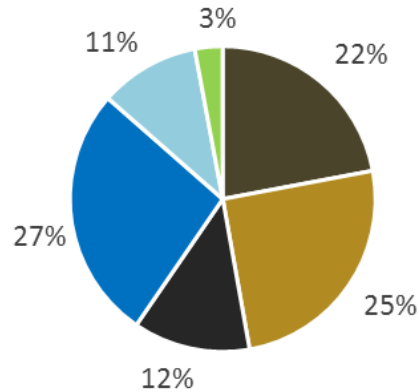
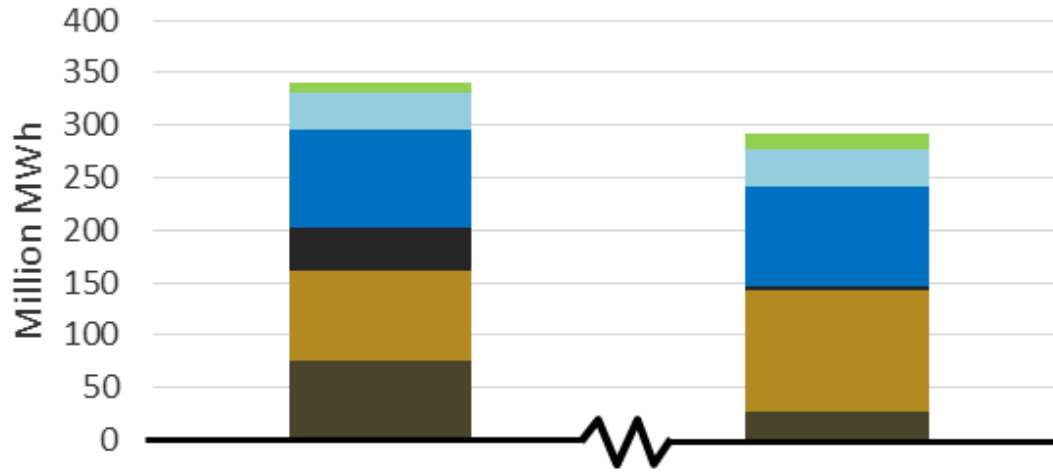
RGGI Experience: Environmental Benefits

RGGI Power Sector Pollution Reductions

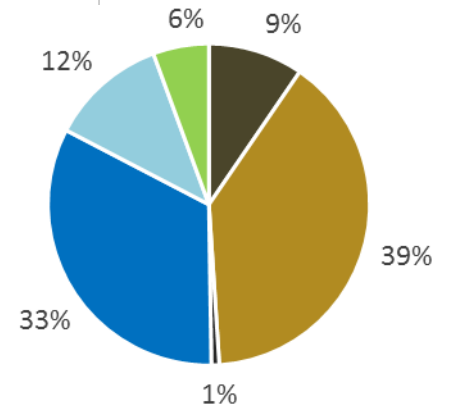


RGGI Experience: Total Generation Mix

Total generation mix in RGGI states



- Coal
- Gas
- Petroleum
- Nuclear
- Hydro
- Non-Hydro Renewable

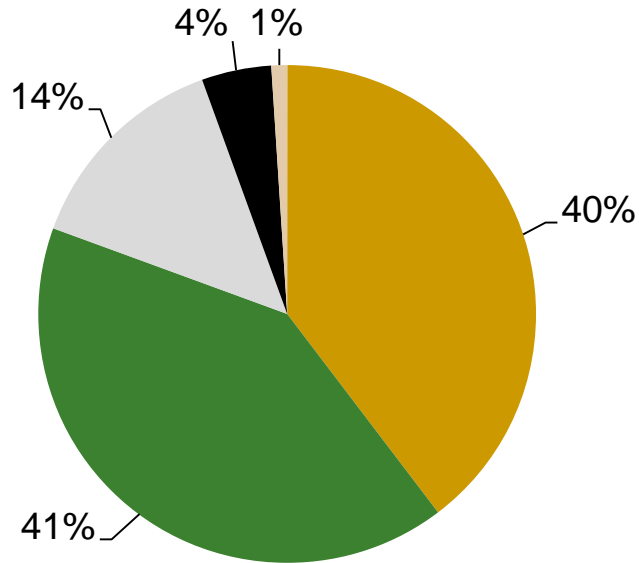


Age of the RGGI Region's Coal Fleet (2012)

	1-10 Years	11-20 Years	21-30 Years	31-40 Years	41-50 Years	51+ Years
Total Coal Summer Capacity (MW)	-	180.00	2,015.20	395.00	4,125.30	3,750.10
% of RGGI Region Coal Capacity	0.00%	1.72%	19.26%	3.77%	39.42%	35.83%

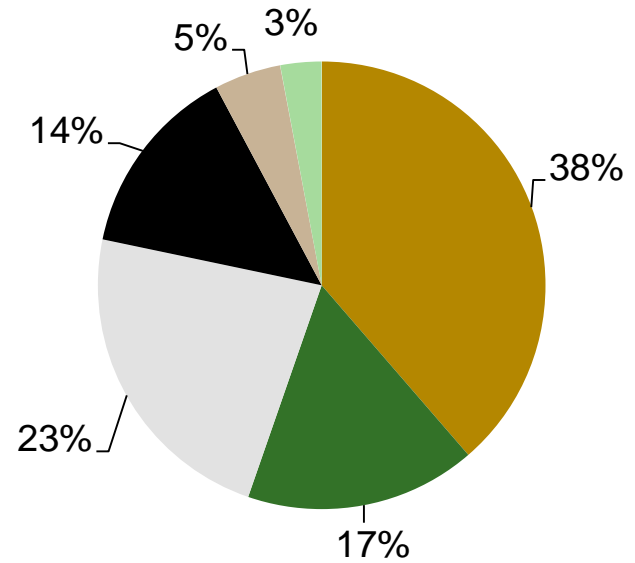
Maryland Summer Capacity (MW)

2005



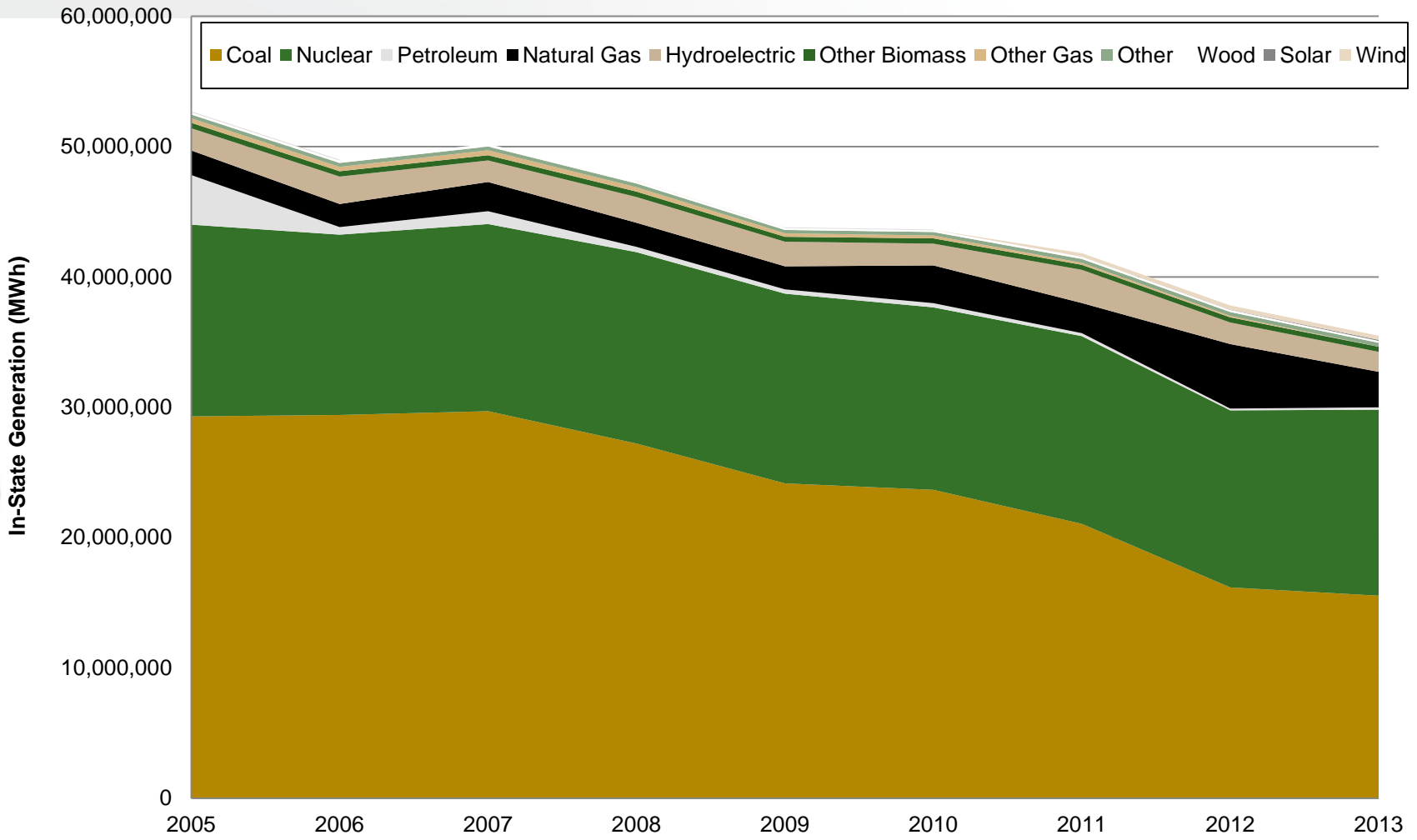
- Coal
- Gas and Oil
- Nuclear
- Hydroelectric
- Other and Renewables

2014

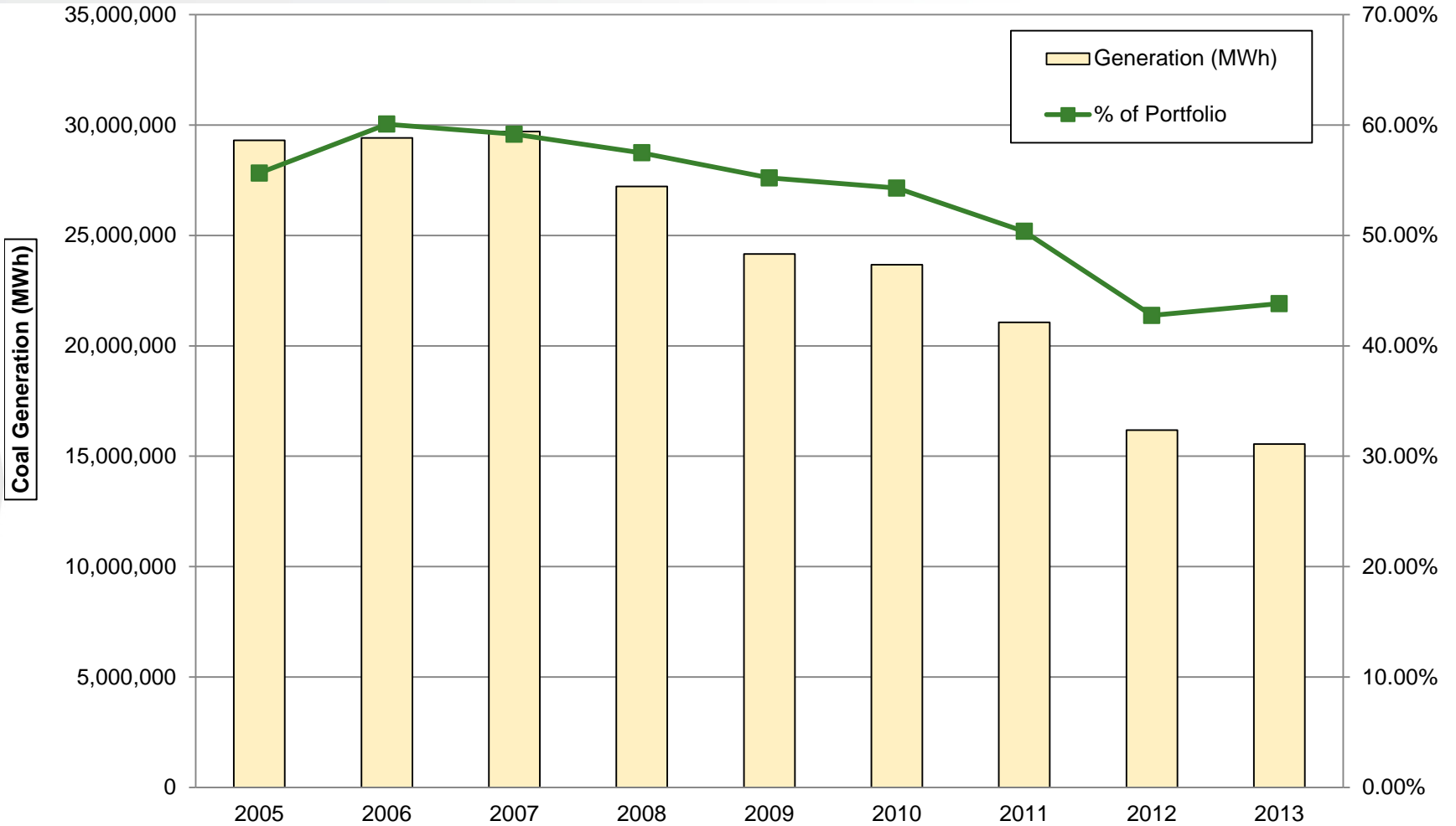


- Coal
- Gas
- Oil
- Nuclear
- Hydroelectric
- Other and Renewables

Maryland In-State Generation Profile



Maryland In-State Coal Generation



RGGI's Efficient Market-Based System

- CO₂ allowance auctions are open to all qualified applicants
- After six years no evidence of anti-competitive conduct
- 29 quarterly auctions held since September 2008
 - Total of 784 million CO₂ allowances sold
- CO₂ allowance auction clearing prices have ranged from \$1.86 to \$6.02.

RGGI Auction Clearing Prices Summary

First Control Period Auctions												
AUCTION:	3	4	5	6	7	8	9	10	11	12	13	14
Clearing Price	\$3.51	\$3.23	\$2.19	\$2.05	\$2.07	\$1.88	\$1.86	\$1.86	\$1.89	\$1.89	\$1.89	\$1.89
Allowance Demand	2.5x	2.6x	2.5x	2.6x	2.3x	1.3x	0.75x	0.57x	1.1x	0.3x	0.18x	0.63x

Second & Third Control Period Auctions															
AUCTION:	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Clearing Price	\$1.93	\$1.93	\$1.93	\$1.93	\$2.80	\$3.21	\$2.67	\$3.00	\$4.00	\$5.02	\$4.88	\$5.21	\$5.41	\$5.50	\$6.02
Allowance Demand	0.62x	0.57x	0.65x	0.53x	2.2x	2.1x	2.01x	2.7x	3.1x	2.9x	2.5x	2.5x	2.8x	3.1x	3.4x
						Allowance Demand with CCR supply		2.5x							2.1x

Why Market-Based Multi-State Cap?

- Proven model
- Cost-effective
- Limit on emissions
- Provides economic benefits
- Closely aligns with the regional nature of the electricity grid
- Fosters regional cooperation
- Simple, transparent, and verifiable tracking and compliance system

RGGI Program Review

- Regular program review has been key to RGGI's success
- Upcoming (2016) program review will include meetings to gather stakeholder and expert input
 - Topics may include program design and successes, the RGGI cap, program flexibility mechanisms, and other stakeholder considerations
 - Also an opportunity to discuss considerations for potential Clean Power Plan compliance
 - First public meeting scheduled for Nov. 17 in NY
- Improvements implemented in previous (2012) program review included 45% reduction in the RGGI cap, interim cap adjustments, and the creation of the Cost Containment Reserve (CCR)