



ELEMENT MARKETS

Current Regulatory Landscape: GHG and Renewable Markets



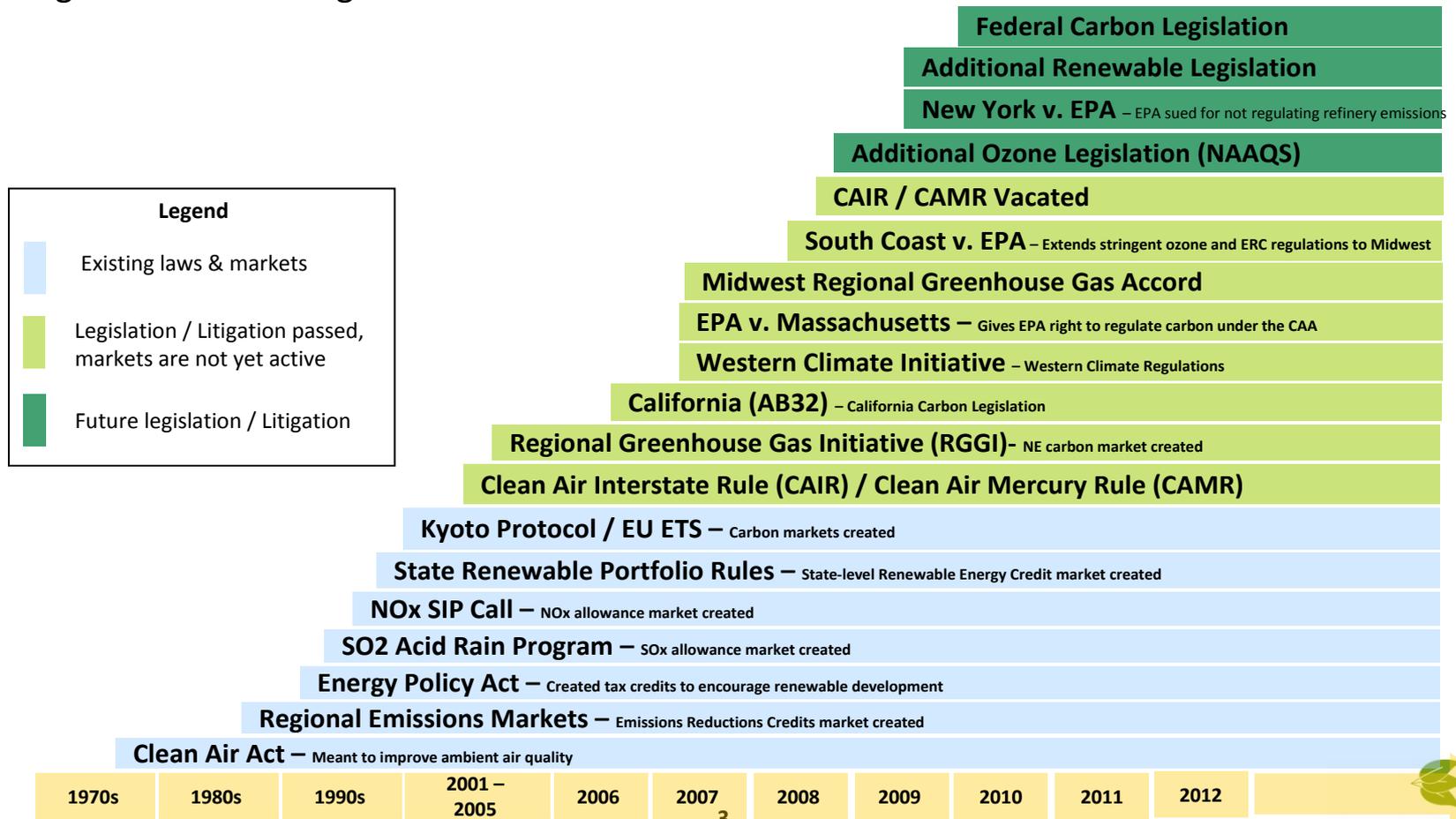
Introduction



- Concerns of energy security, global warming, and air pollution are driving a clean energy revolution in the U.S. and around the world
- Domestically, this is leading to an increasing number of regulations that govern greenhouse gas (GHG) emissions and mandate renewable generation at federal, regional, and state levels
- Regulations affecting entities include state level plans to abate GHGs, a regional cap and trade scheme for greenhouse gases, and state-imposed renewable portfolio standards

Complex Regulations

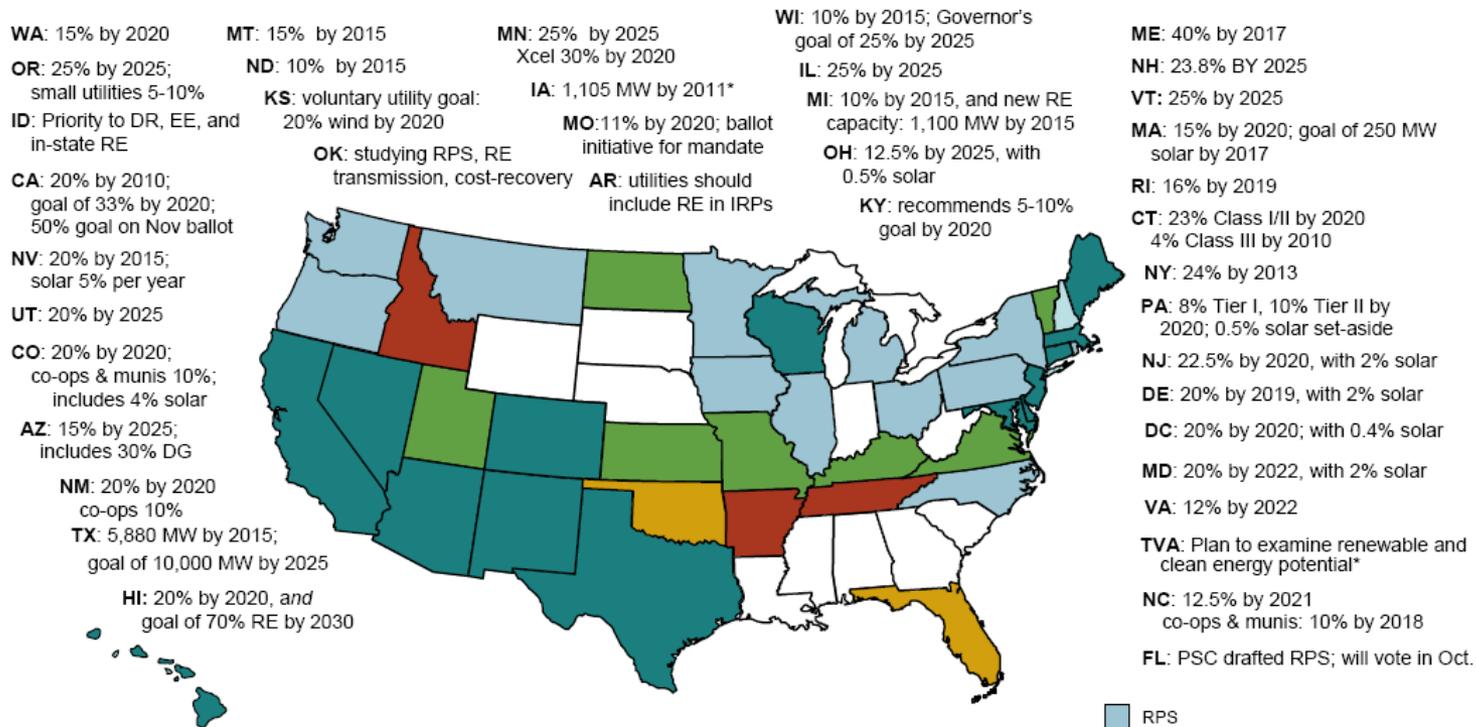
- Existing legislation passed to mitigate pollution has created a number of environmental attribute markets in the U.S. and abroad
- In the last year, the country has begun gearing up for new greenhouse gas and renewables regulations at the regional and federal levels



Renewable Portfolio Standards

Federal Energy Regulatory Commission • Market Oversight @ FERC.gov

Renewable Energy Portfolio Standards (RPS)



Updates at: <http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-rps.pdf>

Notes: Alaska has no RPS; * Iowa has a goal of 1,000 MW of wind by 2010; TVA's "Renewable Energy and Clean Energy Assessment" is from the Public Power Authority; it is not a state policy.

Abbreviations: DG: distributed generation; DR: demand response; EE: energy efficiency; IRP: integrated resource plan.

Sources: Derived from data in: EEI, EIA, LBNL, PUCs, State legislative tracking services, Database of State Incentives for Renewables and Efficiency, and the Union of Concerned Scientists.

- RPS
- Strengthened/ amended RPS
- Voluntary standards or goals
- Proposed RPS or studying RPS
- Other renewable energy goal

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REC Markets Update

- RPS policy continues to grow and evolve
- In 2007,
 - 4 states established new RPS policies (IL, NH, NC, OR)
 - 11 states revised existing RPS programs (CA, CO, CT, DE, MD, ME, MN, NJ, NM, PA, TX)
 - 3 states created non-binding renewable energy goals (MO, ND, VA)
- Similar updates to RPS policy have occurred thus far in 2008

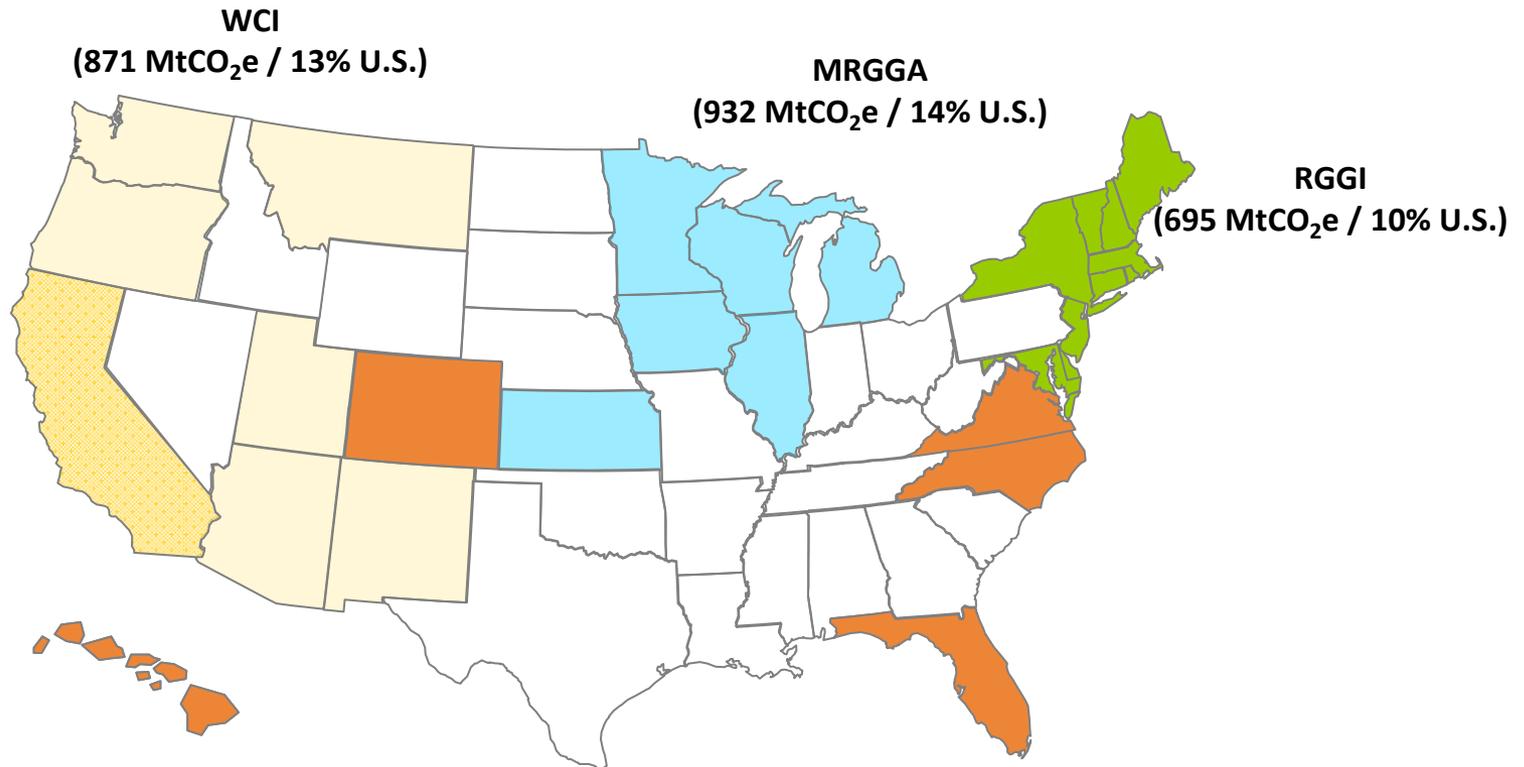
New RPS Developments

- Florida
 - Florida PSC must develop an RPS by 2/1/2009
 - Currently utilities must produce at least 20% from renewables
- Michigan
 - Approved on 10/6/2008
 - 10% from renewables by 2015
- Missouri
 - RPS to be voted on in 11/4/2008 ballot
 - Would require 2% from renewables by 2011 and 15% by 2021
- Ohio
 - Approved on 5/1/2008
 - 12.5% from renewables by 2025

RPS Revisions in Process

- California
 - Proposition 7 would require 50% renewables by 2025
 - Publicly owned utilities would have to comply to RPS
- District of Columbia
 - Clean and Affordable Energy Act of 2008 increased % renewables and ACP
- New Jersey
 - SRECs from non-net metered systems are RPS eligible
 - BPU adopted temporary amendments consistent with SREC change. Temporary amendments valid until 5/31/2012

Regional U.S. GHG Initiatives



-  Regional Greenhouse Gas Initiative (RGGI)
-  Global Warming Solution Act of 2006 (AB32)
-  Western Climate Initiative (WCI)
-  Midwest Regional GHG Accord (MRGGA)
-  Individual State GHG Reduction Goals

GHG Markets Update

- Discussion and debate about GHG legislation and programs was at an all-time high in 2008
 - Federal
 - Both the Lieberman-Warner and Dingell-Boucher bills outlining cap-and-trade programs were released
 - The EPA released its Advanced Notice for Proposed Rulemaking (ANPR), which would regulate GHGs under the Clean Air Act in the absence of federal legislation
 - Regional – Without federal action, regional programs have moved forward
 - RGGI held its first auction of allowances recently, which cleared at \$3.07/ton
 - California's AB32 has released its Scoping Plan and will begin trading in 2012
 - The Western Climate Initiative (WCI) has also released a draft of its plan and will begin trading in 2012 as well
 - The Midwest Regional Greenhouse Gas Accord (MRGGA) is under development but has yet to set a timeline
 - Florida has expressed interest in joining either RGGI or WCI and is currently an observer to both programs
 - Canada
 - The Canadian federal GHG program is moving forward with a start date of Jan. 1st 2010
 - Individual provinces also have their own programs – with some of them being apart of WCI (British Columbia, Manitoba, Ontario, Quebec)

Summary

- Existing legislation passed to mitigate pollution has created a number of environmental attribute markets in the U.S. and abroad.
- These newly created markets will both affect and be affected by existing and future legislation.
- In order to fully understand the opportunities and challenges brought by changing legislation, it is imperative to evaluate the interplay between existing, changing and future legislation

Thank You

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