

NAVIGATING THE RISKS IN ENVIRONMENTAL COMMODITY MARKETS

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Types of Environmental Commodities

RPS – Renewable Energy Certificates

Carbon Cap & Trade

- Allowances
- Offsets

Low Carbon Fuel Standards

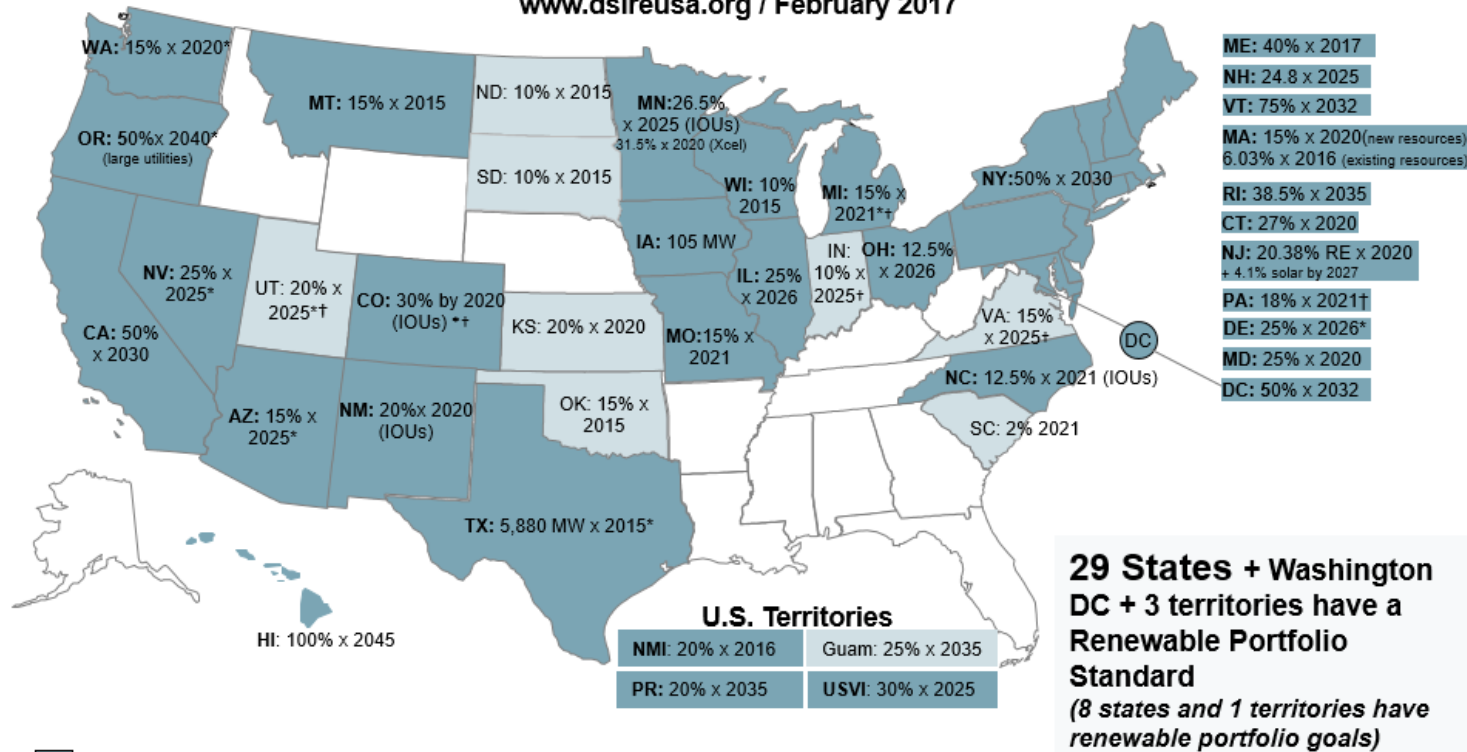
Federal Renewable Fuels Standards

SO_x/NO_x Cap and Trade

RPS Requiriements Growing

Renewable Portfolio Standard Policies

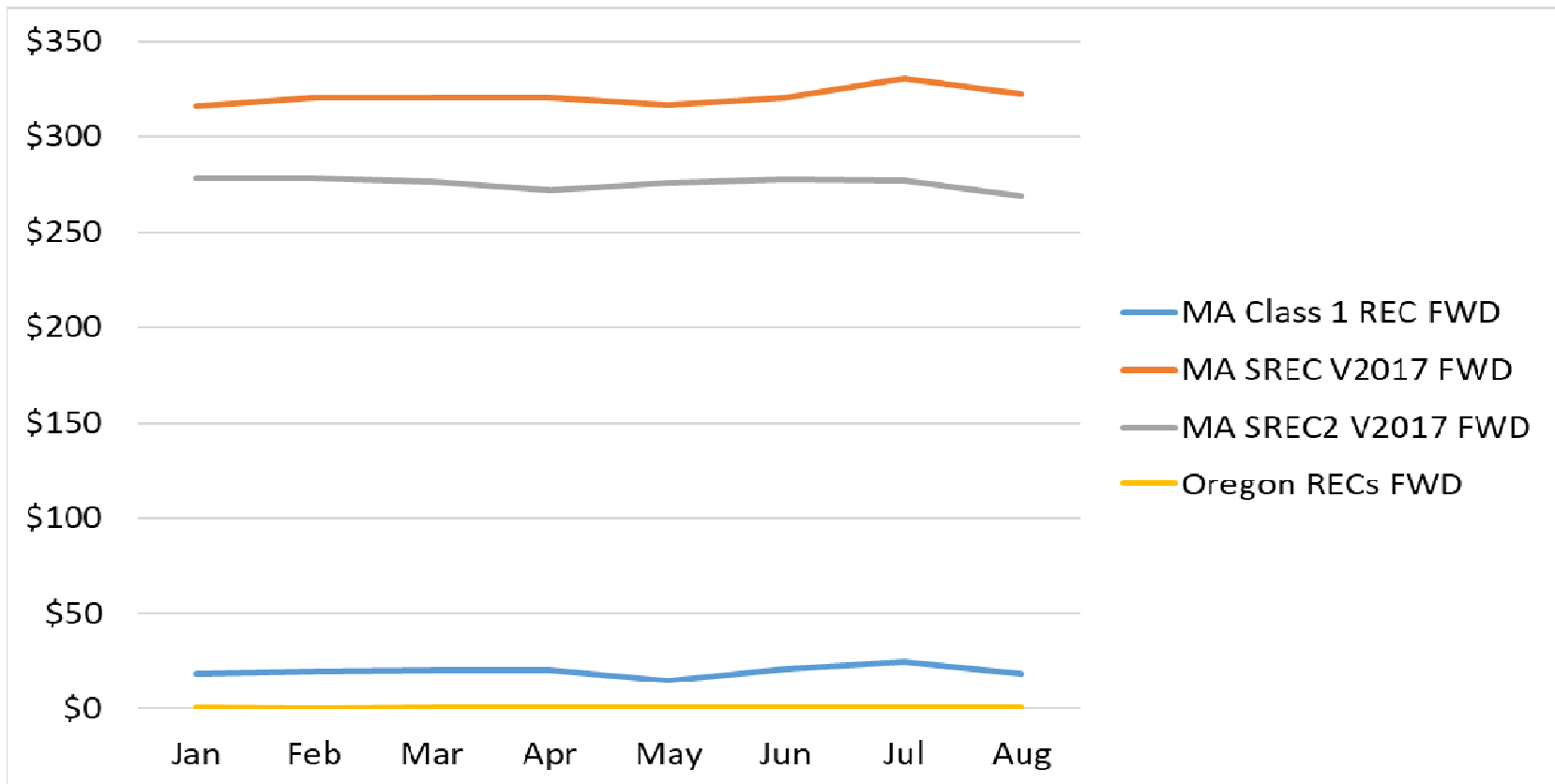
www.dsireusa.org / February 2017



Renewable portfolio standard
 Renewable portfolio goal

* Extra credit for solar or customer-sited renewables
 † Includes non-renewable alternative resources

Not All RECS Are Created Equal ...



Example current price levels: Oregon RECS: US\$0.30; Mass SREC 1: US\$335.00

REC FACTORS

- Requirements based on RPS and reside with LSEs
- 1 MWh of renewable energy = 1 REC
- “Minted” when energy is generated.
- Different markets, different rules, different prices:
 - NEPOOL, PJM - generally higher priced
 - WECC, Texas, Voluntary – generally lower priced
- Numerous classes and carve outs (solar, chicken litter, swine, etc.)
- Alternative Compliance Price sets cap
- Vintage specific –generation & retirement have to match

Forward Transfer Certificates

- A unique form of performance assurance
- Provide a guarantee of receipt upon creation
- Available for NEPOOL RECs as well as other markets
- Rescindable and non-rescindable designations
- Limited to one level of assignment
- ***Not tested in bankruptcy***

N.A. Carbon Cap and Trade Markets.

- **California:** Locked in until 2030 ([AB 398](#)); [Quebec](#) linked; and [Ontario](#) to link
- **Oregon:** Cap and Trade legislation in 2018
- **Washington:** Department of Ecology [Clean Air Rule](#) to be replaced by tax or cap and trade?
- [RGGI](#): Decade old and going strong
- [Alberta](#): Tax/Output-based hybrid with [offset trading](#)
- [PanCanadian](#) requirement: Price carbon or feds will do it for you.

Offsets Characteristics

Offsets must be:

- **Real:** The carbon reductions must have already occurred
- **Additional:** offset must represent emission reductions that are in addition to what would have occurred otherwise
- **Permanent:** offset must represent emission reductions that are non-reversible or must be sequestered for 100-years or more
- **Verifiable:** sufficient data quantity and quality must be available to ensure emission reductions can be verified by an independent third party auditor (verifier) against an established protocol
- **Quantifiable:** emission reductions represented by offsets must be reliably measured or estimated, and capable of being quantified
- **Enforceable:** offset ownership is undisputed and enforcement mechanisms exist to ensure that all program rules are followed.

Offsets...

- Generated by emission reducing projects approved under various protocols – different in every jurisdiction
- Alternative to allowances
- Incent innovation with long-term benefit
- Usable for compliance up to certain caps
- OTC only
- *Invalidation risk varies by market and protocol*

Offsets: What works for your jurisdiction?

Current California Protocols

- U.S. Forest Projects
- Urban Forest Projects
- Livestock Projects
- Ozone Depleting Substances (ODS) Projects
- Mine Methane Capture (MMC)
- Rice Cultivation Projects

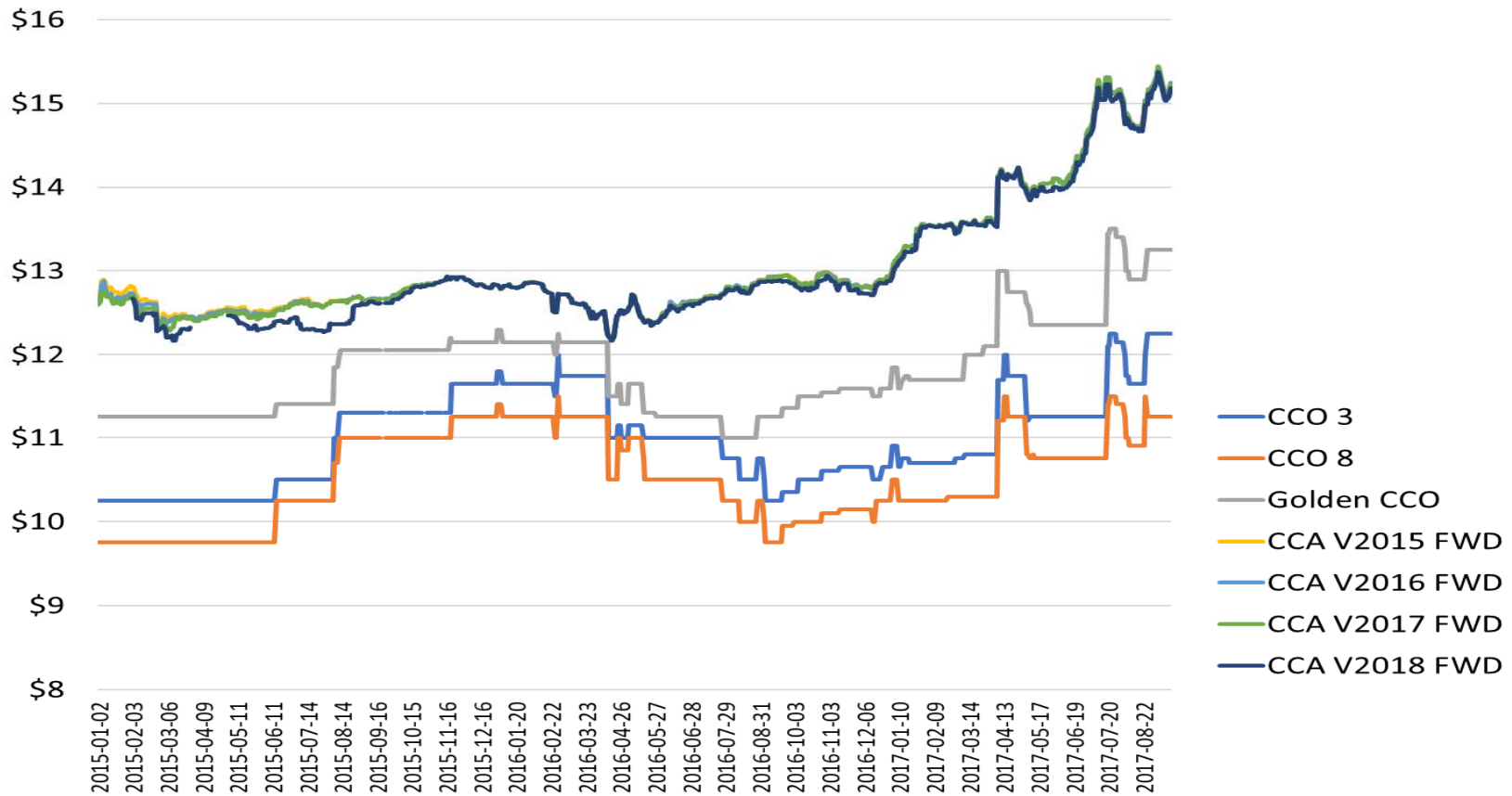
Current RGGI protocols

- Landfill methane Projects
- Sulfur Hexafluoride (SF₆) reduction in electric power sector
- U.S. Forest Projects (for CT and NY only)
- Building Sector Energy Efficiency Projects
- Agricultural manure management Projects

Offset Invalidation Risk

- Offsets are subject to a verification & audit process;
- California dual verification shortens invalidation period from 8 years to three years
- Golden Offsets – guarantee against invalidation risk
- Invalidation Examples:
 - ODS
 - Forestry

Allowances are priced at a premium

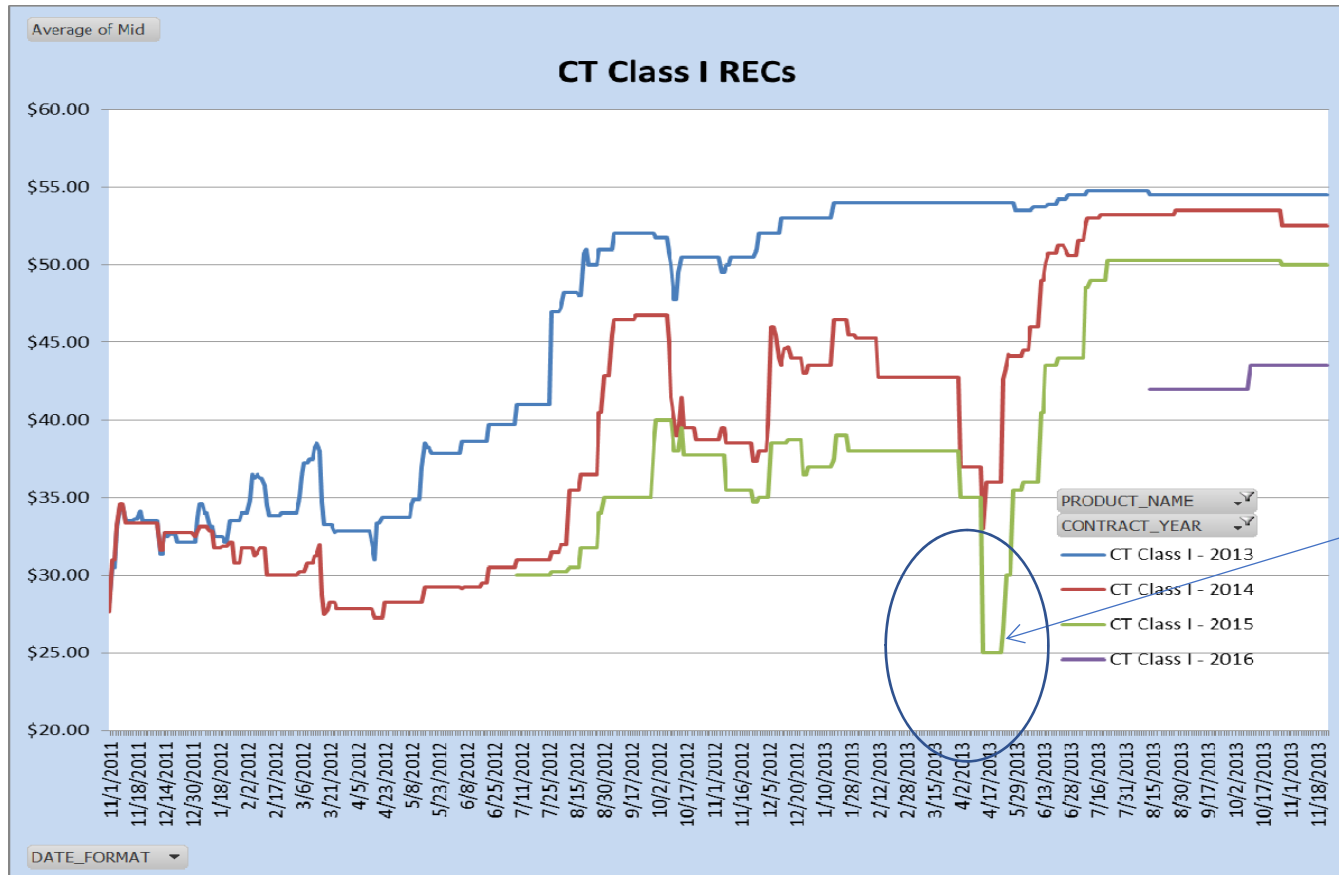


STROKE OF THE PEN RISK

Legislative, regulatory, legal risks unrelated to market fundamentals

- Unquantifiable
- Unpredictable
- Large impact
- Appear to be serving narrow interests at the expense of broader market
- Undermine confidence
- Discourage investors

STROKE OF THE PEN RISK



Connecticut introduces bill to modify state RPS

Who Wears the Stroke of Pen Risk?

Example Change of Law provision:

If any statutes, rules, regulations, or any governmental action is enacted, amended, granted or revoked, and such action has the effect of changing the Delivery and sale procedures set forth herein, such that (1) Delivery of the RECs becomes impracticable or impossible, (2) or such Products are no longer eligible for use for compliance purposes under the Applicable Standard, (3) Solar Carve-Out II is eliminated; or (4) *the percentage of electricity that suppliers in [Jurisdiction] are required to obtain from qualifying sources under the Applicable Standard is reduced* (any such event, a “Change in Law”)

How Can You Hold A Property Interest When Something is Expressly Not Property?

- UCC Article 9 – secured transactions only applies to “**property**”
- Statutes/Regulations generally specify that ECs are licenses and “confer no property rights”
 - Example: Cal. Code Regs., tit. 17, §§ 95802, subd. (a)(299); 95820, subd. (c)): “Each compliance instrument issued by the Executive Officer represents a limited authorization to emit up to one metric ton in CO₂e of any greenhouse gas specified in section 95810, subject to all applicable limitations specified in this article. No provision of this article may be construed to limit the authority of the Executive Officer to terminate or limit such authorization to emit. ***A compliance instrument issued by the Executive Officer does not constitute property or a property right.***” (Id., at § 95820, subd. (c), italics added.)

The “Hallmark of Property” for private transactions

- “In determining whether permits or licenses are property, the courts consider whether the permit or license is transferable, the extent to which the government has the right to regulate the underlying activity, or to revoke, suspend, or modify the permit or license, and whether there has been a legislative or regulatory expression that issuance of the permit does not create a property right. Considering these hallmarks of property, the courts generally have found that licenses and permits do not constitute property rights for purposes of the takings clause. ***However, where a license bears the hallmarks of property, it has been held to be a protectable property right.***”
- [Cal Chamber v. ARB](#)

EC Credit Risk Nuances

- Compliance Entities vs Trading Entities
- Payment Terms: Payment before delivery?
- Auction dynamics – SREC floors
- Compliance Date vs. Delivery Date
- Unit Contingency – Best efforts to create commodity
- [FTC Green Guide](#): Can you claim full benefit of renewable power?

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QUESTION & COMMENTS?

