Purpose

» Help businesses and institutions **better understand** the mechanics and implications of popular renewable energy purchasing options.

» **Provide a framework** for analyzing and prioritizing different options especially as WRI’s accounting framework does not provide a hierarchy of project types.

» Provide institutions with the **information and resources to communicate clearly and transparently** about their purchases, so the nuances between deals will be clear.
Three Basic Purchasing Options

» Just buy RECs to make the green claim
» Finance or own a project
» Power Purchase Agreement

» Or combination of the three

Source: ILSR
Green Power Used to be Only About Buying RECs

» If you’re just buying RECs then being green equals paying a premium
» Now you can also buy the energy or buy a hedge and see economic benefits
» If you have land or rooftops, solar can be cheap enough that it can make sense even without the tax credit
Now It’s More Complicated

» Potential conflicts between environment and economic benefits.

» Going forward make sure that if the goal is environmental that economics don’t interfere or conflict with environmental goals.
RPSs and RECs

» REC is a imperfect tool for making environmental claims, but it’s what we have

» REC is a added value stream, but one that varies in cost and significance state-by-state or even utility by utility

» RPS policy mandates the use of RECs, buying RECs plays “keep-away” from the utility, arguably creating a larger market for renewables
  › Have to evaluate each REC market across the states
  › Each RPS is different
  › Some RPSs are fully subscribed
  › Some RPSs are targets rather than mandates
29 States + Washington DC + 3 territories have a Renewable Portfolio Standard (8 states and 1 territory have renewable portfolio goals)

Renewable Portfolio Standard Policies
www.dsireusa.org / August 2016

ME: 40% x 2017
NH: 24.8% x 2025
VT: 75% x 2032
MA: 15% x 2020 (new resources) 6.03% x 2016 (existing resources)
RI: 38.5% x 2035
CT: 27% x 2020
NJ: 20.38% RE x 2020 = 4.1% solar by 2027
PA: 18% x 2021
DE: 25% x 2026
MD: 20% x 2022
DC: 20% x 2020

**State RPSs**

Renewable portfolio standard
Renewable portfolio goal

* Extra credit for solar or customer-sited renewables
† Includes non-renewable alternative resources
Voluntary REC Prices
Compliance REC Prices
REC and CO2 Emissions

- Avoided CO2 emissions are not tracked within REC tracking systems, so the burden is on the buyer
- REC arbitrage is encouraged and tacitly endorsed as fiscally responsible

But be aware of the limitations and of the story that you want to tell.
  - CO2 offset based on location of the REC and not your location
  - Analysis of the market where the REC is generated
  - Green-e certification
Green Claims

» It’s clear that you have to own a REC to make a green claim
These types of purchases are Scope 2 under WRI standards

Scope 2 guidance does not evaluate additionality

Basing the emissions data on the location of the RECs would give a more granular GHG reduction profile
Additionality

» Am I really making a difference?
» This appears to be the main concern among folks

» Remember that a RE project needs many things to get built
  › Think about how your institution can help and how those various ways of helping can help meet the institutional goals
  › Buy the electricity
  › Finance the project
  › Buy RECs
Additionality Continued

» Regulatory Additionality – is the project creating a RE market in the location it was generated?
  › Are you buying/retiring RPS eligible REC’s therefore making the regulated market have to create another project to keep up?
  › RPS fully subscribed, in existence, or not?
  › Are you still helping the state meet its goal of renewables?
Look at Big Picture Project Impacts

» **Environmental Benefit**
  › More renewable energy is better for the environment, anywhere for global impact

» **Capacity Impact**
  › Is it more important to impact local capacity, regional capacity, national, or international?

» **Financial Impact**
  › Long term PPA most beneficial to a project
  › RECs still add value
  › Evaluate who you’re buying the RECs from—will they build more projects
Google’s Approach

» Wanted ”additional” renewable power generation
» Wanted their efforts to be scalable

1. On-site is their first priority
2. Didn’t think unbundled RECs offered enough additionality
3. Went with PPAs that include bundled RECs
4. The product they want isn’t offered by the utility—so these are work-arounds.
Google’s Green PPA Approach

» PPA provides a long-term stable cash stream to the project, more than just a REC contract

» Focus on projects that don’t exist yet;

» Or help a developer that owns many projects and would use the cash flow from RECs in an existing project to fund more projects
Outstanding Questions

» What are the specific impacts and relative merits of pursuing out-of-region vs. in-region deals, especially where large price differences exist?

» Is it appropriate to consider the U.S. as one electric market for renewable energy transactions and accounting, even though electricity cannot physically be delivered nationally?

» How to assess the impacts of REC arbitrage?

» How out-of-region REC deals specifically impact New England renewable energy markets?
Conclusions

» Different types of renewable energy transactions have different types of impact.
» You can prioritize local capacity, regional capacity, or national capacity.
» Your purchase is ultimately about helping finance a project.
» Transparency and clear communications are important to ensure no double counting and to make sure institutions are accurately and consistently representing the projects and purchases they are making.
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