Moving Money
From Coal to Clean

September, 2017
Goals of Coal to Clean

• Helping utilities *modernize their generation fleets*;

• Helping workers and communities *when power plants close*;

• Lowering power plant *emissions*;

• Saving customers *money*. 
The *Coal to Clean* strategy

**Consumers get lower energy costs via federal tax credits and securitization**
- While federal tax incentives are still in place, customers can save money by replacing high-cost coal with lower cost wind and solar generation
- With low interest rates, securitization of stranded costs via customer-backed bonds can eliminate the usual spike in electricity rates from early plant closure

**Utilities grow their business by recovering and reinvesting capital**
- Utilities get immediate cost recovery from the proceeds of the securitization
- Frees up capital they can “up-cycle” into more profitable clean energy investments
- This allows them to accelerate planned retirements and spur unplanned retirements
- Reduces future risks and improves their environmental performance

**Workers and affected communities get transition assistance**
- Share of savings from securitization reserved for coal worker and community transition assistance
- Can get bi-partisan support in legislatures as it does not rely on state taxation on spending and is focused on providing benefits to largely rural communities
Coal to Clean can reduce emissions faster than the Clean Power Plan

Source: EIA Annual Energy Outlook 2017

High Coal to Clean Scenario – 50% of at risk coal retired early
Low Coal to Clean Scenario – 20% of at risk coal retired early
EIA 2017 Reference Case

Source: EIA Annual Energy Outlook 2017
Why is this possible? Replacing older, dirtier power plants has gotten easier

• The cost is plummeting for cleaner power.
  – Wind and solar costs are now often lower than fossil costs
  – Cost of natural gas remains very low

• Stricter air pollution rules are motivating plant replacement
  – New rules on SO$_x$, NO$_x$, Hg, ozone and regional haze

• Some new financing options can lower the cost of plant replacement, particularly in states with vertically integrated, rate regulated investor owned utilities.
It costs less to build new clean energy than it does to keep operating old coal.

At less than $25 per megawatt-hour, building new wind is less expensive than continuing operation of most of PacifiCorp’s coal and gas plants.
We propose using securitization to unlock these benefits

1. Utility-owned fossil: Legacy fossil plants marked by high fuel and O&M expenses

2. Renewable PPAs: Fossil plant converted to regulatory asset and replaced with cheaper wind/solar under PPA

3. Securitization: Regulatory assets are refinanced at lower cost of debt and amortization period extended

4. Capital recycling w/ tax incentives: PPAs replaced with utility-owned wind at savings to ratepayers

Risky regulatory asset and huge up-front ratepayer costs for early retirement

Securitization provides immediate savings, eliminates regulatory asset, but erodes utility ratebase

Utility ownership as a carrot

Ratepayer savings, but no utility benefits

$54/MWh COE

$13/MWh

$7/MWh

$24/MWh

$4/MWh

$32/MWh COE
We can harness the **savings** to address several challenges...

These **SAVINGS** can be used for several purposes, such as:

1. Assistance to workers and communities affected by coal plant closures;
2. Rate reductions for customers;
3. Investment in energy efficiency;
4. Lower cost capital for lending to renewable projects.
The opportunity is large – **192 GW Coal at Risk**, 102 GW in regulated utilities, 55 GW in IPPs, 24 GW in public utilities, and 10 GW in co-ops.

- Unregulated total includes IOU and IPP
- Public total includes Muni, Political Sub. and State

### NERC Regional PPA Estimates Used

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<th>Region</th>
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Source: EIA 860, EIA 861, EIA 923, AWEA, FERC Form 1, SEC Filings, CPI analysis
A little under half of that (90 GW) is in Coops, Public Utilities, and Restructured Markets – we need to expand our approach to address this.
The coal at risk is concentrated in the **Midwest** and **Southeast**

*HVDC Transmission investments are poised to break down the price gradient between central wind and the southeast*

Source: EIA 860, EIA 861, EIA 923, AWEA, FERC Form 1, SEC Filings, CPI analysis
Opportunities for expansion exist even without enacting legislation in new jurisdictions – but new legislation will be needed in many key states.
Realizing the full potential of this opportunity requires a coordinated campaign with a national scope based on rigorous economic analysis.

**For Utilities**

- Lobby legislators to eliminate legal hurdles and first-mover reluctance
- Show financial impact is positive without impacting system reliability
- Act as neutral ally if the utility is willing to move towards renewables

**For Legislatures**

- Show benefits exist for affected coal communities and ratepayers
- Control messaging to make the transition about economic opportunity
- Drive legislation forward with bipartisan support to clear path for securitization

**For Regulators**

- Bridge the divide between advocates, consumer groups, and the utility by providing analyses that are mutually beneficial and produce constructive outcomes
- Active engagements in proceedings to work toward desired results