A portfolio approach to renewable energy

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This is Cummins

- Founded in 1919 – Columbus, IN
- 58,600 global employees
- $20.4B sales in 2017
- 104 manufacturing plants
- Tech centers, warehouses, offices
- 600 distributors, 6000 dealers
Why we act

BY 2030...

55% MORE MATERIAL EXTRACTION
30% MORE ENERGY
40% MORE FRESH WATER

45% OF CUMMINS OPERATIONS ARE IN WATER STRESSED AREAS
UNEVEN REGULATORY ENFORCEMENT

REAL BUSINESS EFFECTS
Inability to sell products • supply chain disruption • material price volatility • competition for metals and minerals • community distress
Cummins Eco-Efficiency Principles

- Use Less, Use Better, Use Again hierarchy
- Systemic thinking
- Risk & science-based prioritization
  - Additional
  - Tangible
  - Cost effective
  - Transparent
Energy footprint & goal

Global footprint – 2017

- 991,300,000 kWh electricity
- 12,840,000 gallons diesel fuel
- 1,585,000,000 cubic feet natural gas
- $150 million total energy spend
- 806,200 metric tons CO₂e emissions
- 1,585,000,000 cubic feet natural gas

Reduce GHG emissions through:
- Energy efficiency
- Renewable energy

REDUCE ENERGY USE INTENSITY IN FACILITIES
2020 GOAL 32 PERCENT
2017 PROGRESS • 25 PERCENT

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Cummins renewable energy portfolio

Onsite owned

Guiding principles:
- Additional
- Tangible
- Transparent
- Cost effective

Offsite PPA
Cummins onsite renewable energy
Meadow Lake VI VPPA:
- 75 MW wind farm expansion
- 262,000 MWh/yr
- 165,000 MTCO$_2$e/yr
Cummins VPPA case study

- Alignment with company goals
- Cost-benefit analysis
- Risk mitigation approach

<table>
<thead>
<tr>
<th>Risk</th>
<th>Initial</th>
<th>Final</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market (Price) Risk</td>
<td>red</td>
<td>green</td>
<td>Potential that market costs drop below our contract price</td>
</tr>
<tr>
<td>Negative Price Risk</td>
<td>red</td>
<td>green</td>
<td>Developer sells into market at a negative price, which may be incentivized by tax credits</td>
</tr>
<tr>
<td>Accounting Risk</td>
<td>red</td>
<td>green</td>
<td>Triggers unwanted accounting treatments</td>
</tr>
<tr>
<td>Legal risk</td>
<td>red</td>
<td>green</td>
<td>Legal liabilities arising from contract and operation of the wind farm</td>
</tr>
<tr>
<td>Reputational risk</td>
<td>red</td>
<td>green</td>
<td>NIMBY issues; any negative backlash associated with the operation of the selected project</td>
</tr>
<tr>
<td>Environmental risk</td>
<td>red</td>
<td>green</td>
<td>Potential harm to wildlife, sensitive habitat, etc.</td>
</tr>
<tr>
<td>Execution and operational risk</td>
<td>red</td>
<td>green</td>
<td>Project delays, cancellations and/or poor performance</td>
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Relative GHG impact of energy plan by 2020

Compared to GHG emissions of the company’s own operations in 2010

56.4% OVERALL REDUCTION IN GHG FOOTPRINT

Projected GHG intensity benefits

24.0% EFFICIENCY 2017–2020
10.0% EFFICIENCY 2010–2016
1.4% ONSITE RENEWABLES
21.0% VIRTUAL PPA

43.6% REMAINING GHG

MINIMAL LAND, WATER, AND WILDLIFE IMPACT
What’s next…
Q+A