Sustainability in the supply chain of Enel Green Power North America (EGPNA)

**PROBLEM**

Problem Statement: EGPNA would like to improve the sustainability of its supply chain, but does not have an understanding of what components have the greatest impact.

EGPNA has processes for managing sustainability in the construction, commissioning and operation of its facilities, but lacks a framework for its supply chain operations.

Which products have the greatest impact on the company’s supply chain from the sustainability perspective?

**PROJECT SCOPE**

- A framework for evaluating the sustainability of the components of EGPNA’s supply chain.
- A pilot hotspot analysis, to identify where to start and what indicators to use.
- Recommendations on how to develop a repeatable process that will enable EGPNA to embed sustainability into its supply chain.

**BUSINESS CASE**

- Sustainability is increasingly material to investors and energy consumers.
- EGPNA is installing sustainable energy solutions.
- Are EGPNA’s suppliers sustainable?
- EGPNA seeks to embed sustainability in its procurement and supply chain within 3 years.
- The company’s reporting will be enhanced as a result.

**METHODOLOGY**

1. Identify primary consumption points from Enel’s purchasing data
2. Identify material issues from literature
3. Define scorecard using benchmarks
4. Hotspot Analysis

**RESULTS**

**WIND**

- Manufacturing: has the most impact in the life cycle of a wind plant, particularly cables, tower and nacelle.
  - A long life of operation significantly reduces overall impacts. Environmental impacts decrease by around 2% for an increased lifetime of 4 years (20% of the baseline 20 years).
  - Recycling is the second most important phase. It is very important to recycle metals to account for end-of-cycle credits of avoided impact.
  - Even better, turbines should be built with recycled metals.
- Transportation can range between 1% and 40% of the impact, justifying a case-by-case analysis.
- Human rights and human safety are a very material issue in wind power and should be studied further.
- In sensitive communities, analyze the potential impacts of land use, deforestation, noise and local impacts on biodiversity, generally included in Environmental Impact Assessments (EIA) in project design.

**SOLAR**

- Energy Management
- Hazardous Waste Management
- Hazardous Materials Management
- Lifecycle impacts of products and services
  - Products that are able to be recycled, End of life material recovered
  - Materials sourcing, Tungsten, Tin, Tantalum, and gold sourcing
  - Conflict materials

**ELECTRICAL EQUIPMENT**

- Energy Management
  - Target suppliers with comprehensive recycling and waste management policies.
  - Target suppliers that have programs in place for reclamation of GIS switchgear at end of life.
- Lifecycle impacts of products and services
  - Target suppliers with comprehensive recycling and waste management policies.
  - Target suppliers that have programs in place for reclamation of GIS switchgear at end of life.
- Product Safety
- Materials sourcing
- Business Ethics and Competition

**TRANSPORTATION**

- CO2 emissions framework
  - Determine the top components by weight
  - Determine emissions by multiplying number of units, weight, distance and emissions factor for each mode of transportation.

**GOVERNANCE**

1. Leadership
2. Ethics
3. Reporting

**NEXT STEPS**

1. Break down into components each of the categories analyzed (Wind, Solar, Electrical Components).
2. For each component, create benchmark scorecards, derived from the scorecards provided in this project.
3. Assess suppliers in regard to the key indicators and hotspots identified, using the scorecards.
4. Use the assessment for purchasing decisions, and collaborate with suppliers to improve the metrics.

**TEAM**

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