

## **Attachment 1: Description of Emission Reduction Measure Form**

Please fill out one form for each emission reduction measure. See instructions in Attachment 2.

**Title: Wind Farm Development, Cape Mendocino, Humboldt County**

**Type of Measure (check all that apply):**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Direct Regulation   | <input type="checkbox"/> Market-Based Compliance          |
| <input type="checkbox"/> Monetary Incentive   | <input type="checkbox"/> Non-Monetary Incentive           |
| <input type="checkbox"/> Voluntary  | <input type="checkbox"/> Alternative Compliance Mechanism |
| <input checked="" type="checkbox"/> Other Describe: <b>mandatory off-set for industrial emissions increases</b> |   |

**Responsible Agency: ARB (an assumption)**

**Sector:**

- |   |  |
|---|--|
| <input type="checkbox"/> Transportation   | <input checked="" type="checkbox"/> Electricity Generation                                     |
| <input type="checkbox"/> Other Industrial | <input type="checkbox"/> Refineries  |
| <input type="checkbox"/> Agriculture      | <input type="checkbox"/> Cement  |
| <input type="checkbox"/> Sequestration    | <input checked="" type="checkbox"/> Other Describe: <b>offset credits for renewable energy</b> |

**2020 Baseline Emissions Assumed (MMT CO<sub>2</sub>E): ARB estimate**

**Percent Reduction in 2020: indeterminate**

**Cost-Effectiveness (\$/metric ton CO<sub>2</sub>E) in 2020: not possible to project**

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**Description:** 2400 KW wind farm at Cape Mendocino, displace power generated with fossil fuels. Very high wind location owned by US Coast Guard.

**Emission Reduction Calculations and Assumptions:** wind turbine capacity factor = 40%; 2400 KW installed capacity; 5000 tons of CO<sub>2</sub> displaced each year for each 1000 KW of installed capacity, based on off-setting coal fired power generation; total annual CO<sub>2</sub> emissions eliminated by this project = 12,000 tons. Equivalent to planting 1200 acres of forest. Emissions estimates from Vermont Agency for Natural Resources.

**Cost-Effectiveness Calculation and Assumptions:** by it's very nature a wind farm generating into the grid will offset emissions. Cost effectiveness of emissions reduction is the same as overall project cost effectiveness. A high wind location such as Cape Mendocino provides a very high capacity factor and will pay for itself in 3.5 to 4 years. The installation as envisioned will be acceptably profitable.

**Implementation Barriers and Ways to Overcome Them:** 1) Coast Guard is very slow to act on promised license for wind energy monitoring. Overcome by suggesting that this project have higher priority. Help Coast Guard to understand public benefit of pollution reduction. 2) NEPA review process is long and cumbersome. Overcome by taking a reasonable point of view toward impacts of the project.

**Potential Impact on Criteria and Toxic Pollutants:** elimination of toxic pollutants, 0.3 tons per year of sulfur and nitrogen oxide; generates no toxic pollutants; generally a wind farm will generate more power than it took to manufacture and install in 2 to 3 months.

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**NOTES:**

Suggestion that direct investment in investigation and development of commercial, utility-scale wind farms in California and elsewhere constitutes a significant way to offset pollution from fossil fuel power plants.

Suggest that mandatory investment in wind energy project investigations and development be part of the mix of mandatory off-site mitigations for increased pollution from industrial plant expansions. This will be just as valuable as the planting of trees, a measure recently required by the California Attorney General's office.