

Molokai Wind Farm

Basic Questions and Answers (Part 1)

By Steve Morgan

A quick disclaimer – I currently do not represent a position of support or opposition in regard to the proposed wind farm. My only intention of this series is to help our community in getting a basic understanding of this project.

Why is the state actively seeking to build windmills on Molokai?

The urgency to build a wind farm on Molokai originates with State Bill HRS 269-92, which mandates that the state of Hawaii replace 40 percent of its oil consumption by the year 2030 with renewable energy. Mandated intervals also require a 10 percent reduction in oil consumption by 2010, which has been met. By 2015, renewable energy must reach the 15 percent level and by 2020 a 25 percent level must be reached.

Wind energy from Molokai and Lanai is recognized as a significant contributor to reaching these goals. According to Hawaiian Electric, the only other readily available source of renewable energy that could substitute the capacity of wind would be bio diesel, both created domestically and imported. The cost of biodiesel however, would be expected to be considerably higher than that of wind power. The primary motive for the creation of HRS 269-92 centers on major concerns of rising oil prices and its impact upon our economy. In the last two years the price of oil has risen 119%. On Molokai, the primary source of our power is oil based. Even our ability to pump water is determined by the availability of oil.

How many windmills are being proposed for Molokai?

The number of wind turbines will range from a minimum of 56 to a maximum of 174 dependent on the total output size of the project (either 200 megawatts (MW) or 400 MW). The number also depends on the size of the turbines themselves which range from 2.3MW to 3.6 MW. For example, a total output capacity of 200 MW would require 87 turbines each with a capacity of 2.3 MW. If turbines with a capacity of 3.6 MW were used, the total number required would be 56 turbines.

Where will the inter-island cable come on shore?

Although the final location of cable landing is yet to be determined, the three proposed sites include the areas of Ilio Point, Hale O Lono and Pala`au.

Is the cable safe or cause harm to the reef?

Although further conclusions may result during the course of the environmental impact statement (EIS) process, the impact should be minimal. A cable system with a rating of 400 MW is likely to require at least three conductors (power lines) bundled together into a single line, each conductor being four inches in diameter. Beyond the original settling on the ocean floor, which takes a few days, no further significant disruption should occur.

No reports of human safety concerns have been reported in other areas of the world where similar cabling has been used. Keys to avoiding environmental damage include the method in which the cable is laid, and avoiding highly sensitive marine environments. At this time, many submarine cables exist between the islands.

For cable diagrams and mapping:

<http://hawaii.gov/dbedt/info/energy/efficiency/ppe/Resources/2010%20Presentations/Kam.pdf>