Wind Resource

A. Introduction

1. Motivation for Understanding Wind Resource

WIND TOKBINE DESIGN REALISTIC REPRESENTATION OF WIND TO "DRIVE" MODERS RESOURCE ESTIMATION FOR SITING WHOT TO LOCATE THEINES WHERE THEY WILL PRODUCE PUNCTL WIND FINERASTING FIR POWER PROD Whon WHON A PLANT HILL PRODUCE POWER - Wind & Tidal Power

- Wind & Tidal Power Wind Resource - 2 ME/ESE 4470 – Wind & Tidal Power

Wind Resource

Extraterrestria

Short-wavelength

radiation.

Kinetic

energy

Long-wavelength

radiation.

91 400

Sensible

heat

energy

Potential, latent,

chemical and

nuclear energy

A. Introduction

2. Wind Resource - Where Does it Come From and How Does it Fit in the Bigger

41 400 Water vapour Condensation Atmosphere Wind Air particles Evapo-ration 36 000 400 Waves. Oceans 65 400 Hydrosphere Water currents, 5700 Picture? reservoirs tides Welting run-of (21) ô, Sough ENERCY 5600 Upper Polar ice. 15 600 lithosphere moisture. Soil , rock inorganic 133 Organic matter Volcanism 0-3 Fossil deposits Rock Radioactive matter 25 Inorganic matter Sorenson, Renewable Energy, 2nd Edition From mantle

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Wind Resource

B. Wind Motion

1. Macroscopic Motions

AT EQUATOR AR RISES &

CREATES LOW PRESSURE Polar Easterlies

Prevailing Westerlies

When AM LOWS & SINKS

AR RUS TO EMARK Tradewinds

As TRADEWINDS

Doldrums

Tradewinds

AT ERMAN , TRADE WINDS MEET

WINDS ARIMALILY VORTICAL DOLD RUMS Prevailing Westerlies

Polar Easterlies

