

Wind farm design for oelbubuk in East Nusa Tenggara, Indonesia

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Abstrak

Electrification ratio of NTT is 28.7 % in 2008. Technical and economical assessments to investigate the possibilities to implement wind farm in East Nusa Tenggara (NTT) province is directed to contribute in the effort to raise the electricity ratio in this province. Some areas are having yearly average wind speed greater than 5 m/sec and the wind power density greater than 300 Watt/m² . Wind farm is proposed to reduce local dependency to Diesel Power Plant (DPP) and to exerting an effort to reduce CO₂ emission. The result of survey, Wind Energy Conversion (WEC) selection and simulation to get wind farm configuration for Oelbubuk, in South Central Timor (TTS) Regency in NTT is described. The evaluation of three different WEC having capacity greater than 250kW per unit and its formation are described. The assessment of electricity facilities of DPP in SOE city, its load profile in 2008 and the possible of interconnection to wind farm are described.