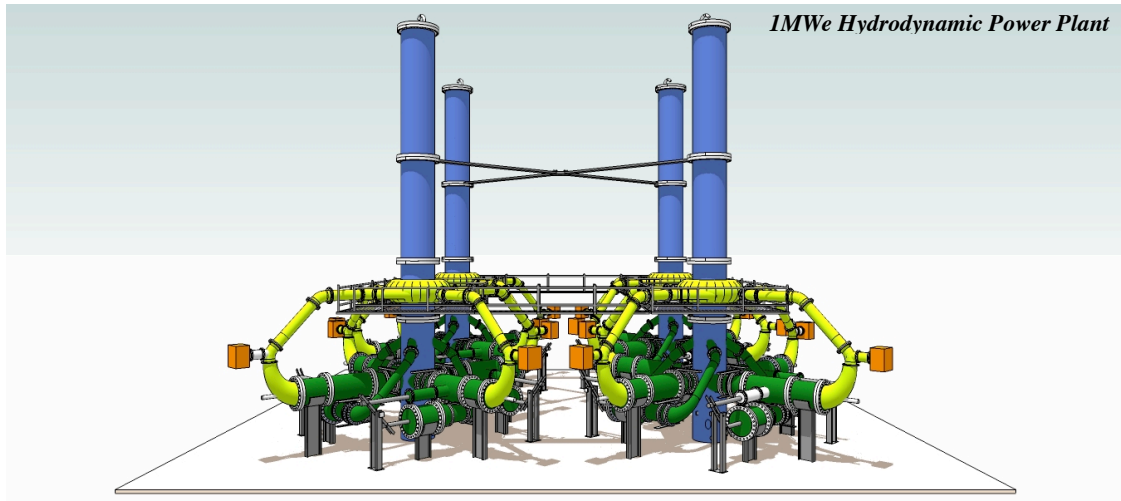


Symposium: World Renewable Energy Congress
Bali, Indonesia, 17-19 October 2011.

*Selected by UNFCCC 2011: to exhibit the Hydrodynamic Power Technology at UNFCC COP17
Climate Change Convention, in Durban, South Africa, 28 November – 7 December 2011.*

HYDRODYNAMIC POWER TECHNOLOGY.

Renewable Energy Technology Frontier for Remote Areas Electrifications and
for Power Supply Efficiencies for Regional and Metropolitan areas.
Creating Sustainable Developments through Social, Economic and
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IMWe Hydrodynamic Power Plant

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General Notations

UNFCCC: Hydrodynamic Power Technology was the only new cleantech selected to exhibit at COP15 Climate Summit in Copenhagen Denmark, 3 December 2009; and again at COP17 in Durban, South Africa, 28 November to 5 December 2011.

Technical Paper: Presented at the World Renewable Energy Congress 2011 in Bali, Indonesia; and at COP17 in Durban, South Africa.

Technical Paper: Published is an introductory-basic 1st edition in various international technical, engineering and science journals, including at the UNFCCC official website. Technical Papers comprises of five (5) Volumes of Technical and Engineering Computations, including Hydrodynamic Power Technology Encyclopedia (excluded).

Hydrodynamic-Power Technology: is protected under world-wide granted patents and patents pending. Patents name: James Kwok: Hydrodynamic-Cycle Energy Generation: Published by World Intellectual Properties Organization (WIPO) Geneva. PCT/AU2008/001888/AUPatent No 2008902488/2008338258, PCT/AU2010/000430, PCT/AU2010/904786,

Hidro+ Smart Generator: is the generating plant brand name.

Keywords:

Hydrodynamic-Cycle Process and Principles, Hydrodynamic Power Technology, Hybrid Hydrodynamic-Cycle, Applied Hydrodynamic Pascal, Hydrostatic Pressure Potential Energy, Hydrostatic Pressure Derived Force and Velocity, Organic Water Column, Fluid Recycle Derived Water Column Potential Energy (FDPE), Applied Energy Inertia Principles, and an Adjunct to Science Paradigm.



Early Prototype



Demonstration Unit



Pre-Commercial Plant

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ABSTRACT

Indonesia has enacted Law No. 30 Year 2007 on the development of renewable energy stations for power generation to provide electrifications for remote areas throughout Indonesia Archipelago.

The total Indonesia power generation capacity is approximately 25,000 MWe. The National Energy Policy has targeted some 5000MWe of renewable energy mix by 2025.

The Government has also enacted Law for the acceleration to increase generating capacity to be sourced from including geothermal, hydro scheme and ocean energy.

Many initiatives have been focused on installing solar roof panels for individual homes in the remote areas, however various problems have emerged from these efforts including lack of technical support for operating the units, lack of access for repair and maintenance, and little or no spare parts availability.

The main issues above have made solar roof installations for individual houses, and other forms of remote generating technologies such as shore wave generator, under straits currents, wind and any other forms of mini generators are also faced with serious challenges,

The experience from other countries including in Australia where feed-in tariff and interconnection onto transmission network system from small photo voltaic units have been filled and compounded with failures as it causes transmission instability on technical perspectives, and on commercial points the feed-in tariff needed to be well subsidized by the Government and thus unsustainable and unviable. Furthermore, the market management was a total disarray, and manipulations on metering double counting emerged unabated, resulting in the collapse of many solar companies and increased electricity prices.

Those mistakes by others should provide Indonesia and all nations across the world in both developing and developed countries with valuable information to form the key principles for renewable energy implementation methodology and Laws.

The renewable energy initiatives in all nations should be based on a stand-alone installation viability, meanings:

- Capital investment must provide financial returns without relying on public, private and/or Government's subsidies.
- There should not have an artificial feed-in tariff.
- It is best to exclude small solar PV at houses feeding into the grid as it is counter productive to what otherwise is a sustainable market,

system and technical management.

- It should rely on a community based localized stand-alone generator with a capacity of 250kW or more catering for a cluster of villages or within a 5 kilometers radius. Whilst the 250kW capacity appears large, the provision for additional electricity demands in the subsequent immediate future can be well served. On this basis generators must be capable to be turned-down automatically based on loads system without any damage incurred onto the generator.
- The generator and technology chosen for each installation should be based only on what is accessible and commercially fair to each community to deliver low costs electricity with the least environmental and health impact especially for communities in far reaching areas, and capable to be operated as a Distributed Power System (DPS) or as an embedded generator supplying at the load-system.
- It should provide access for local job opportunities through the provisions of traineeships for local technicians to self manage the generator and for the provision involves in generator operational, maintenance and management.
- It should provide local communities with access for skills and training into industry and manufacturing on new cleantech sector for the Regional areas, rather than only at localized areas where dedications are for access to clean water, electricity, central hot water system, community modern cooking facilities, sanitation, sustainable housings, health and educations, and social welfare for the elderly, thereby achieving a net sustainable development.

Hydrodynamic-Power innovative technology is aimed to contribute and delivering a net sustainable development in humanitarian endeavors and environmental sustainability. The implementation strategy is therefore based on commercially shares basis, thereby providing communities to universal access to modern technology, affordable electricity generation, distribution and management, delivering low cost yet reliable electricity supply for lighting and modern cooking, leading to new industry/manufacturing, jobs for skills, and training.

These platforms need to be achieved having taken into considerations that the expansion of transmission grids is economically counter productive.