Using the vertical motion of the tides as a Prime Mover-T Mormino Global Tidal Energy Systems LLC 2018

Some Extreme Tidal Ranges

Leaf Lake, Ungava Bay, Quebec	32.0
Newport, Bristol Channel, United Kingdom	30.3
Sunrise, Turnagain Arm, Cook Inlet, Alaska	30.3
Burnham, Parrett River, United Kingdom	29.9
Weston-super-Mare, Bristol Channel, United Kingdom	29.5
Koksoak River entrance, Hudson Bay, Canada	28.5
Granville, France	28.2
Banco Direccion, Magellan Strait, Chile	28.0
Iles Chausey, English Channel Islands	26.9
Ria Coig, Argentina	26.6
Cape Astronomicheski, Kamchatka, Russia	24.1

-Strictly the Rise/Fall of Tides a New Reusable energy source.

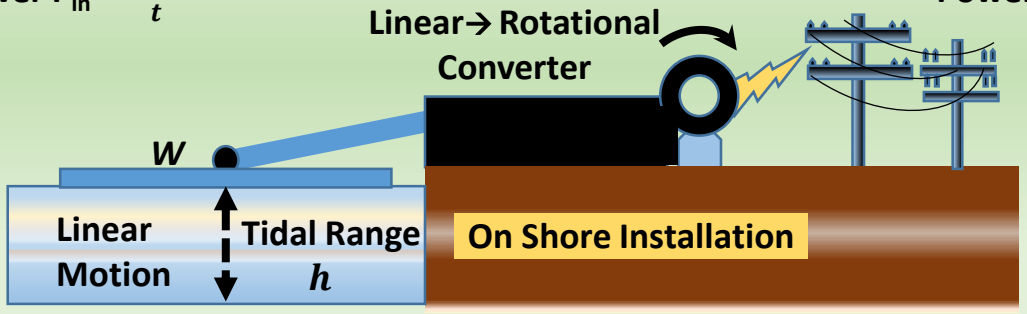
-Benign, inexhaustible, predictable, available globally 24/7. [1]

-Completely environmentally friendly, available at the water's edge.

PROBLEM: How to convert strictly the vertical motion of the tides to rotational motion on land for driving Power Equipment.

Power $P_{in} = \frac{Wxh}{t}$

Power $P_{out} = P_{in} - \epsilon$



Directly Coupled System (DCS)

<Immediate use of rise/fall of tides>

Pat. issued 2019

SOLUTION:

-Platform W and Boom supply Torque. [2]

-Torque rotates a driver gear calibrated to first gear of compound gear train.

-Compound gear train steps up rpm to range of Device's shaft 1800, 2400, etc.

-Hybrid option: Dress platform W with solar panels.

Summary

-Tidal is cost free compared to producing & transporting fossil/nuclear fuels.

-Predictable, inexhaustible source of 100% clean energy. No fossil fuel emissions or nuclear waste issues. No ocean cables or large land purchases.

- DCS modular, modifiable, transportable.

-Impervious to CME or EMP radiation. Environmentally benign

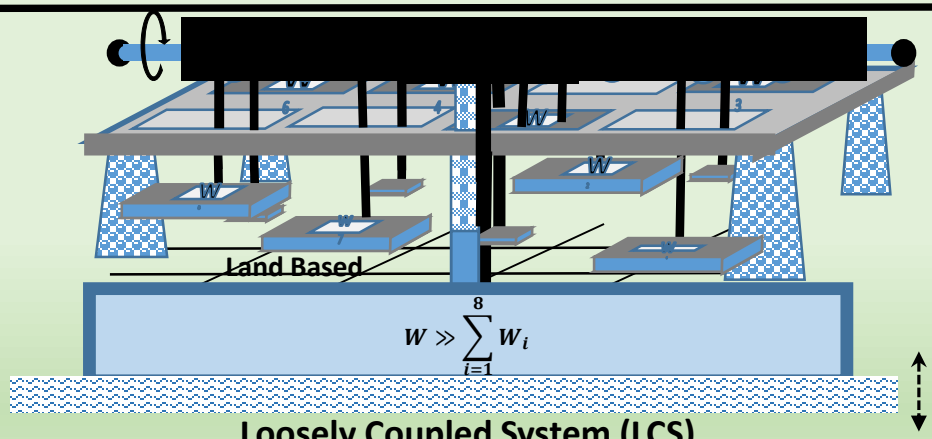
-Steel production, new industry, construction, engineering, computer tech… [4]

pathway from plight of inner cities. Dual Civilian-Military use.

-Small systems provide rapid access to electricity for coastal villages/communities, islands or input to existing electric grids.

-Platforms optionally become revenue generators (fishing, docking, food, fuel etc.) driving construction/energy cost towards zero.

-1000's of idle vessels using small dockside DCS with common attachment, input to the National Grid – possible elimination of some existing plants.



Solution as a: Potential Energy Farm [3]

Loosely Coupled System (LCS)

<Offloads Potential Energy from ocean to land>

-Arbitrary sized matrix of weights raised by high/low tidal cycles.

-Proper subset of weights, monitored by a control system, descend to rotate generator.

-Hybrid System combines solar.