

## PhD Proposal 6: Flybrid Rail Car Charging Station uses Natural Wind, Water, Sun or Regenerative Braking System to Charge the Rail Car

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I am working in a rare Multidisciplinary PhD Project, which its outcome would benefit people in remote areas, by enabling them to visualise the technology [as I manufacture, apply it, build the Machines, test them, use them] to make their living out of it. Everyone knows that a coastal line train would boost up economy of "rural areas and especially those in bush areas". This Research Proposal is for charging the Rail Car which has easy access to the River, Ocean, high speed Wind or Sun.

### Summary of the Research Proposal:

The outcomes of this PhD research would be "saving fuel, low air pollution, not purchasing of unnecessarily equipment for the smart grid, more than all its energy efficiency is 85% higher than the chemical battery". My PhD proposal is to build a River turbine with primitive material: Black wood of Australia, import all electrical parts of it, which University Academics are not competent to manufacture its prototype, build a wind turbine the same way, install on top of a Stratco Gable carport already built with locally made materials and installed by D.I.Y. [Slides are available]. Then store the energy in an Electro-Mechanical Machine [D.I.Y]. The 27 Solar panels PV power station is already installed on the roof. The combination of this built and would be built system would then be tested for materials used in Energy Storage system, power output of the solar power station using a specific tool, Wind Turbine on carport, River turbine in the Hydraulic channel [or in Canning River] would be used to charge a Flybrid rail car prototype by direct connection to the rail car charging Station. Every task of manufacturing prototype would be recorded in specific video training, for broadcast between the stakeholders at the University and PTA [Public Transport Authority] for collaboration, marking, assessment, direction, consultation, team work etc. by special Video Conferencing System [2018]. PTA has announced support of manufacturers in WA at Bellevue [Midvale, Perth] for assembly and commissioning facility. This facility will be used in the future for maintenance of the Public Transport Authority's railcar fleets. Bellevue is an ideal place to assemble and commission the new railcars.

The Electro-mechanical energy Storage system uses Wind, Water and Sun to store all energy harvested from the ocean/river, Wind or sun and regenerative braking system as kinetic energy, which then is converted to electrical power through the generator for the Rail car.

All mechanical engineering supervision for this innovative PhD proposal would be provided by . Rare electrical parts would be purchased, and some electrical parts would be assembled by myself. **Only one competent PhD supervisor from Australian University in any of the following fields is required:**

- DC Generator
- Instrumentation & Control
- electromagnetism
- Wind Turbine
- River Turbine
- Nanotechnology
- Educational Technology [VEL/CSCL/or eLearning]
- Risk/Scope Management Techniques in "Engineering/Project Management" and Academic Publication

Three Co-Supervisors from Iranian Universities have been found in 2018. Australian University Policy for supervision to allow the Co-Supervision from Australian University and Main Supervision from overseas University needs to be changed. Otherwise only Malaysian- Monash University has provided me with two main supervisors and no Australian University Campus [I tried 26] has provided me with Main Supervisor since Aug 2016.

My PhD proposal objectives are:

- to build a River turbine with primitive material: Black wood of Australia,
- to import all electrical parts of it,
- to build a wind turbine the same way,
- to install the wind turbine on top of a Stratco Gable carport, which is already built with locally made materials and installed by D.I.Y. [Slides are available].
- to store the energy in an Electro-Mechanical Machine [D.I.Y].
- to connect the 27 Solar panels power station which are already installed on the roof to the energy storage system
- The combination of the carport and PV which are already built [2013 and what I would built later, would then be tested for materials used in Energy Storage system, power output, etc. Refer to PhD Proposals 1-3.
- To test the power output of the solar power station and the wind Turbine installed on the carport ridge,
- To use the River turbine in the Hydraulic channel [or Canning River] to charge a wooden flybrid Rail Car prototype by direct connection to the Rail Car Charging Stop.

- Every task of manufacturing the prototypes would be recorded work-based training videos, for broadcasting between the stakeholders at Murdoch University and DTU for collaboration, marking, assessment, direction, consultation, team work etc by special Logitech Video Conferencing System [in the market from 2017].
- Electromechanical Energy Storage system uses Nanotube or Hardened steel to store all energy harvested from the ocean/river, wind, Sun and regenerative braking system as kinetic energy, which then is converted to electrical power through the generator for flybrid Rail Car.
- All Mechanical engineering supervision for this innovative PhD proposal would be provided by Ewindfly [Afsaneh Cooper's small Business in Flybrid Rail Car Research]
- All electrical parts would be purchased by myself or built by myself.
- Only one competent PhD supervisor from Australian University expert is required.
- This PhD Proposal has 5 other PhD Proposals attached to it.

DTU is the top 7<sup>TH</sup> world university in Environmental Engineering, and is the perfect joint University for Australian University with a very weak Mechanical Engineering department, but strong Nanotechnology and Environmental Engineering departments.

Denmark has a very long history of Wind Turbine Technology and its application.

The second option: University of Tehran, has offered two Main Supervisor for all the project and that University has processed my PhD Application. Still Australian academics are behind for my field of research.

To be able to fully understand this PhD Proposal 6 you need to read my 5 PhD Proposals about:

1. Flywheel [FESS] for Wind Turbine
2. River Turbine
3. All Electric Car Charging Station
4. eLearning-eFactory
5. eLearning in Small Business