SolAqua project
Innovative Photovoltaics on Water

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ISE Conference 2013

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- Current National 2020 RE plan calls for ~27MWp of PVs installed
- 0.7% gross energy (~1.75% of electricity)

- Now there is talk for 100MWp or more.
- Rooftops and some empty land can accommodate this but how much more?
- Beyond 2020?

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- A 1 MWp farm occupies ~3 football fields.

Size of 10 MWp farm

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- **Issues**
- Impermeability, Corrosion
- Weather
- Salt, biological growth

- **Advantages**
- Unlimited space
- Possible cooling effect

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- Most of the existing (experimental) installations are either simple rafts with PVs on top or in lakes/ponds

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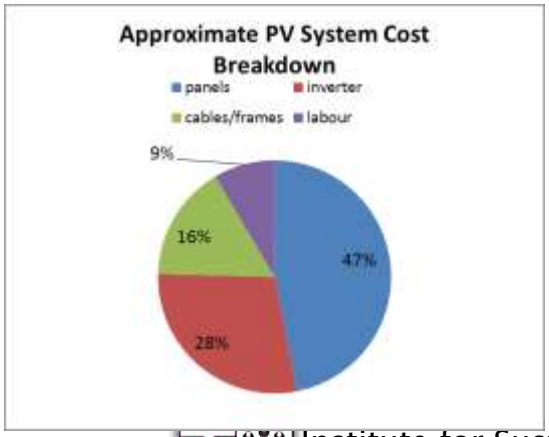
- Problems with this approach

- Cost - Same cost as land based systems + cost of pontoon and water impermeability.
- Slightly lower productivity than optimized land based due to angle – but possible gain due to cooling of panels
- LCE with such systems will likely be higher than land based systems.



SolAqua project

- 3 year project funded by 2012 MCST R&I grant

- Partners

University of Malta (ISE)

Pandia Energy (Malta) Ltd.,

General Membrane Ltd.,

3 streams of research run sequentially

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- Stream 1 – test existing (patented) technologies of floating panels on water in a cost effective way
- Stream 2 – (being patented) innovative ways of floating conventional panels on water
- Stream 3 – (being patented) innovative PVs designed specifically for water.