

Solar ferry boats for passenger transport

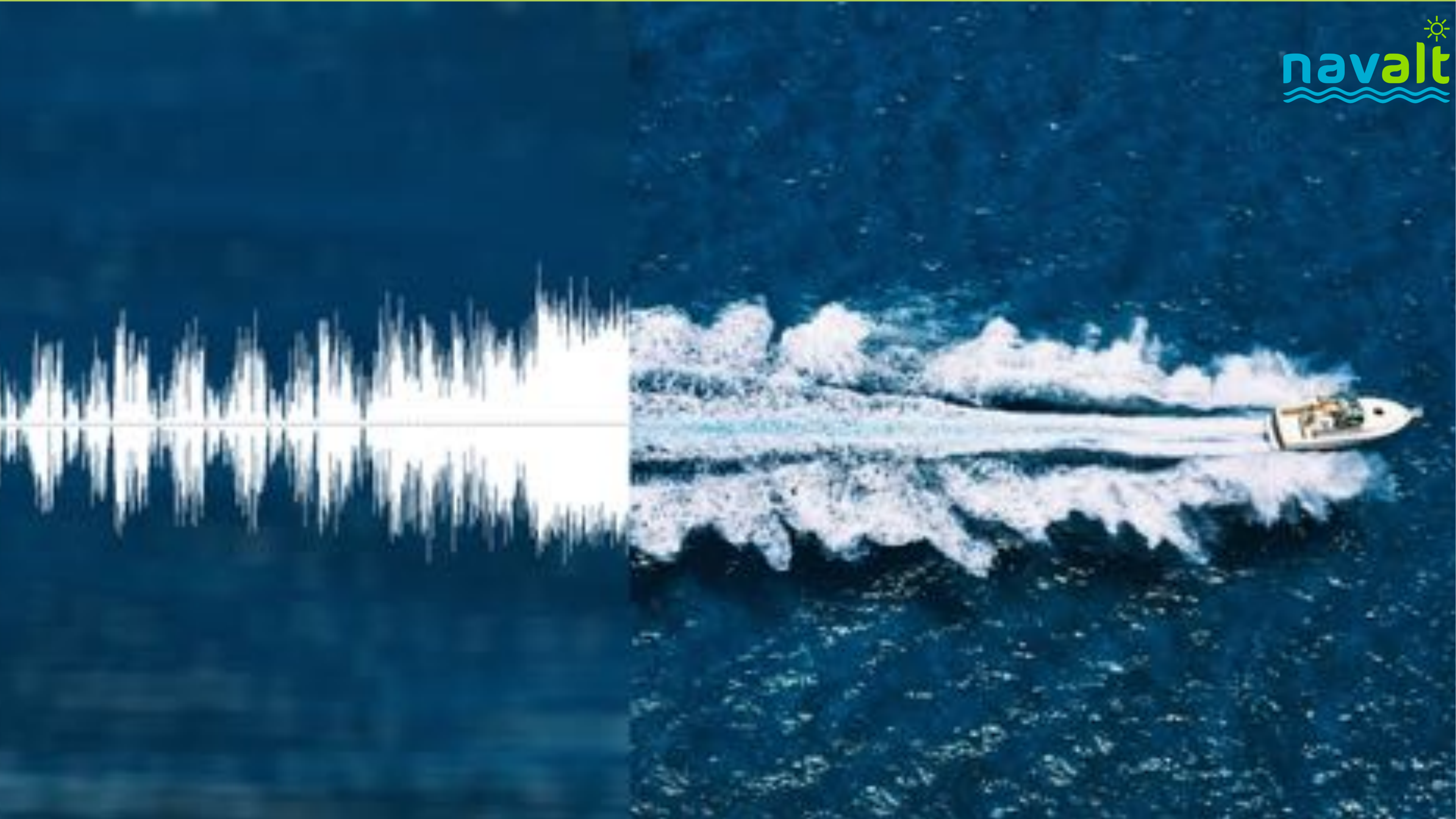






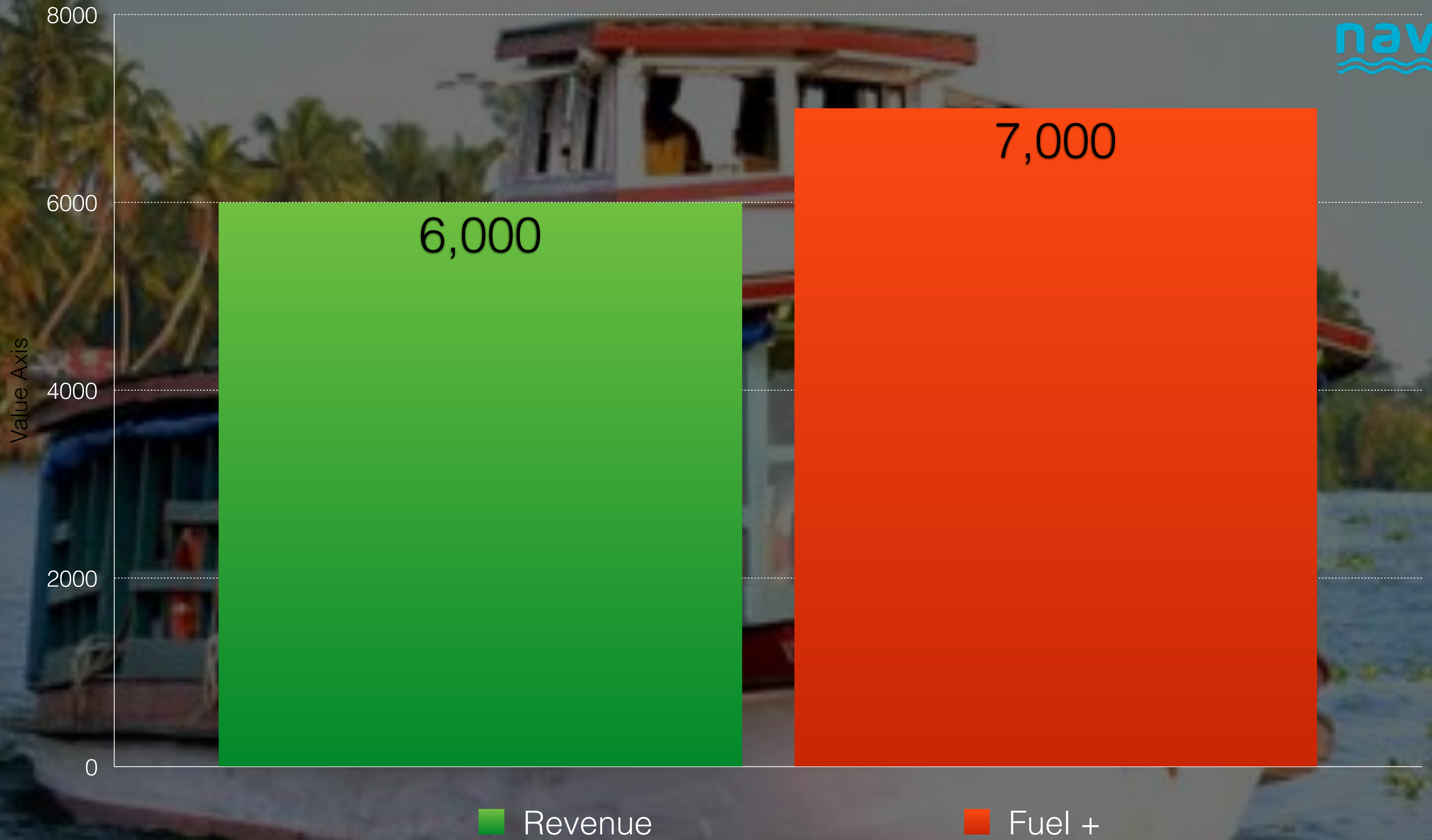


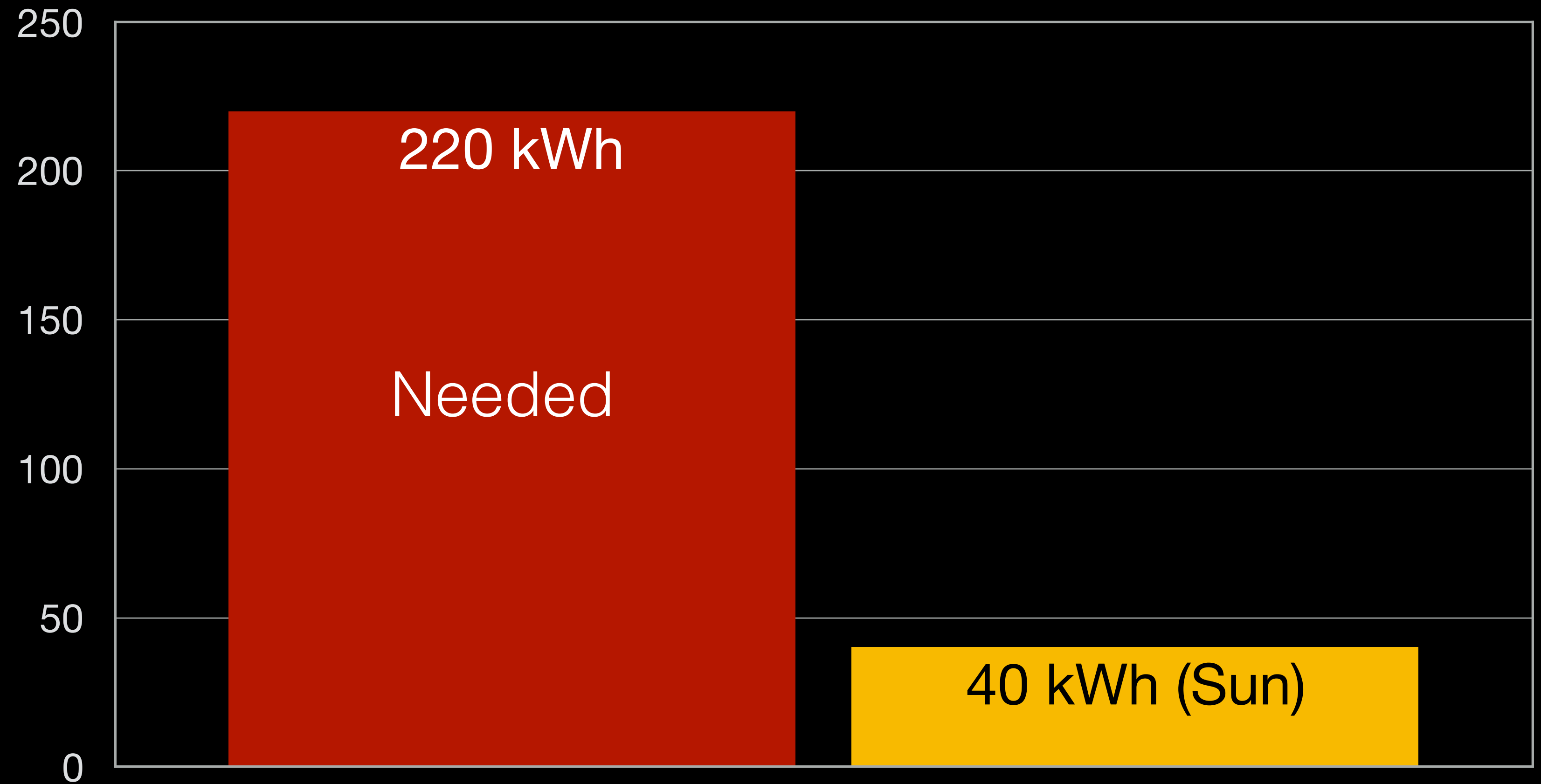












Energy Balance

Lighter Materials

Weight

35 T → 17 T

Optimum Shape

Drag

50 kW → 15 kW

Efficient Power Train

Reliability

Marine approved

Safe Battery Chemistry



**Lithium Iron
Phosphate (LFP)**



**Lithium Titanium
Oxide (LTO)**



Safety

Information



History was made on 12 Jan 2017

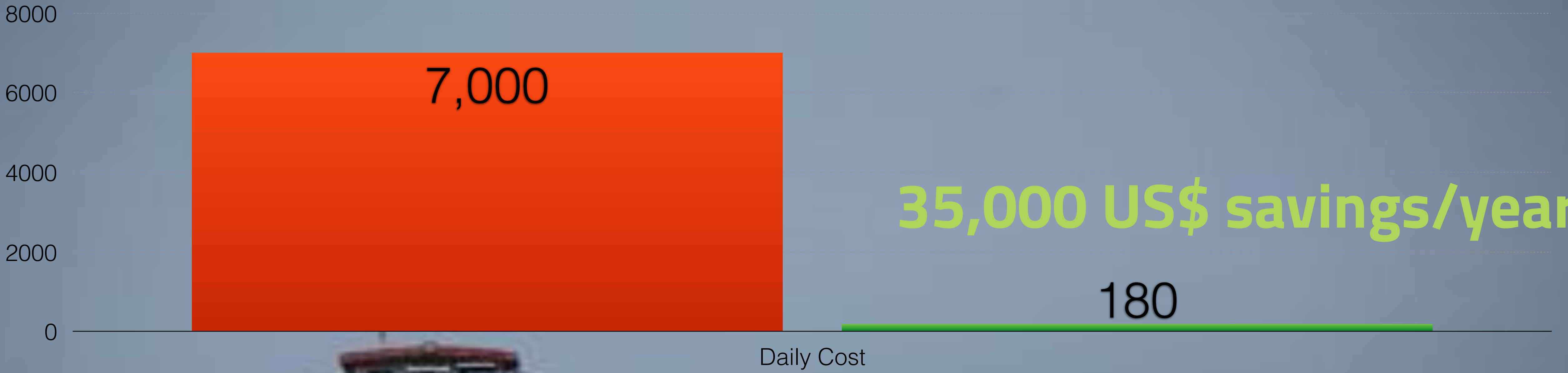


Kerala Chief Minister,
Sri. Pinarayi Vijayan

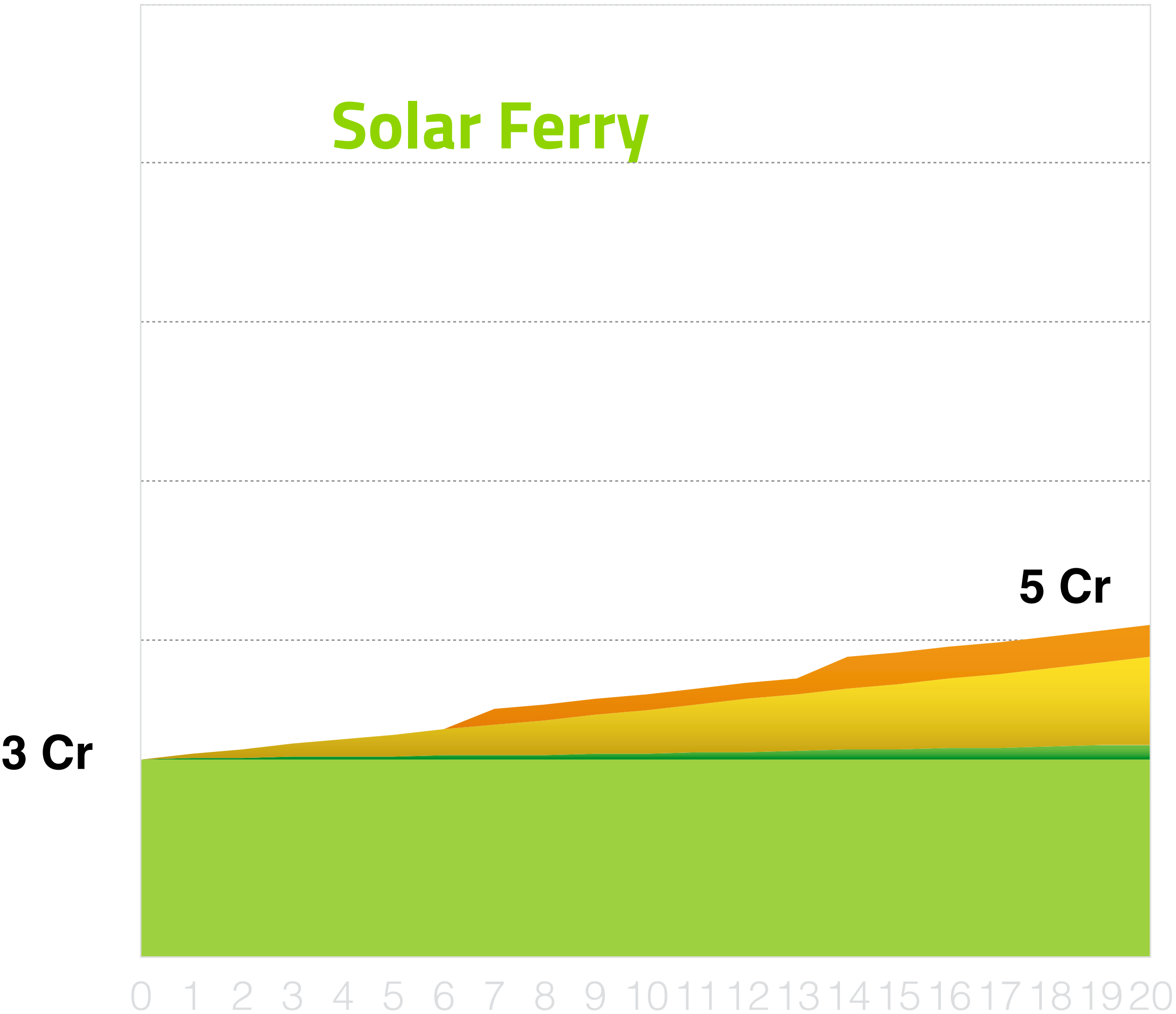
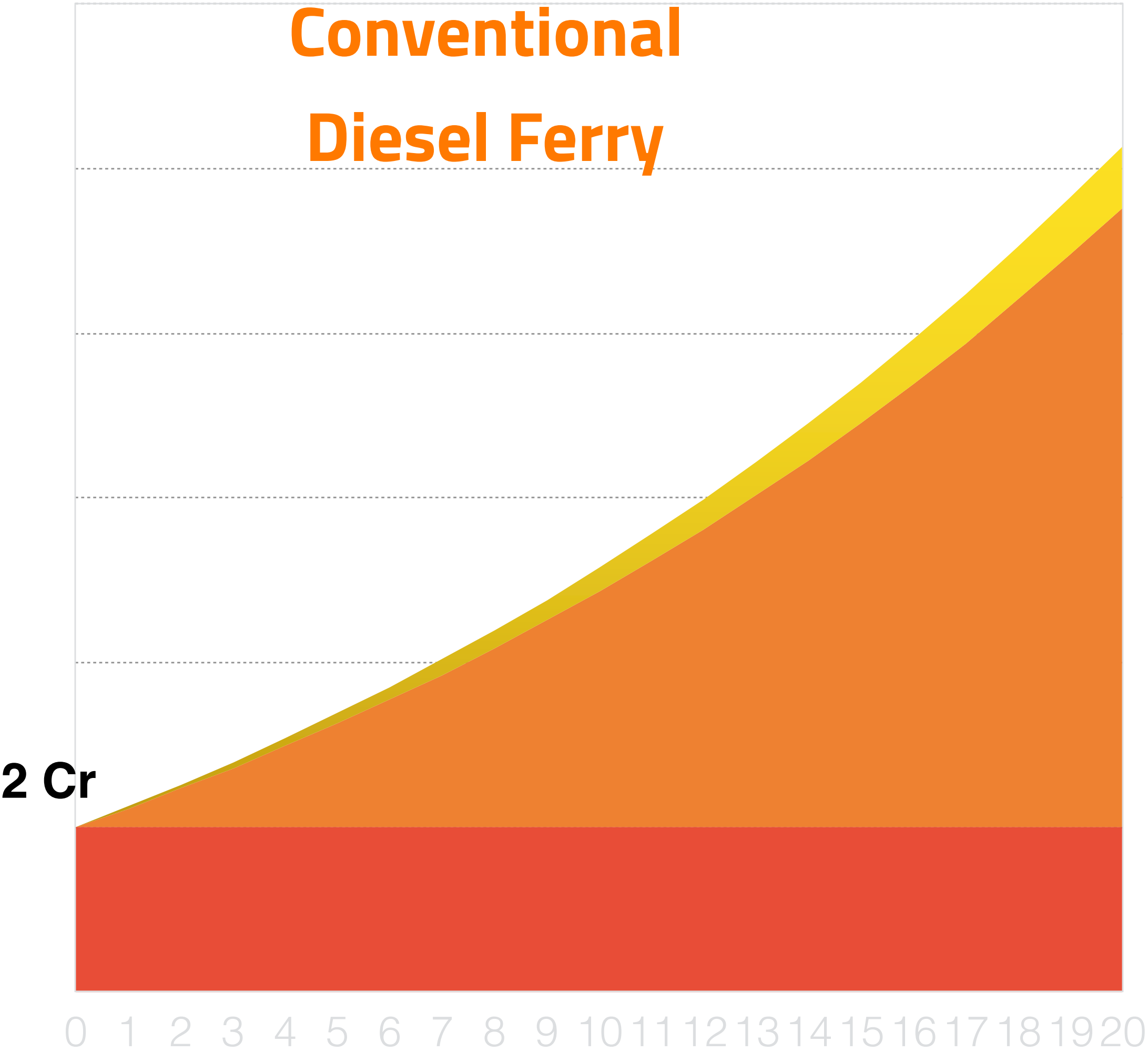


Minister of Power,
Sri. Piyush Goyal

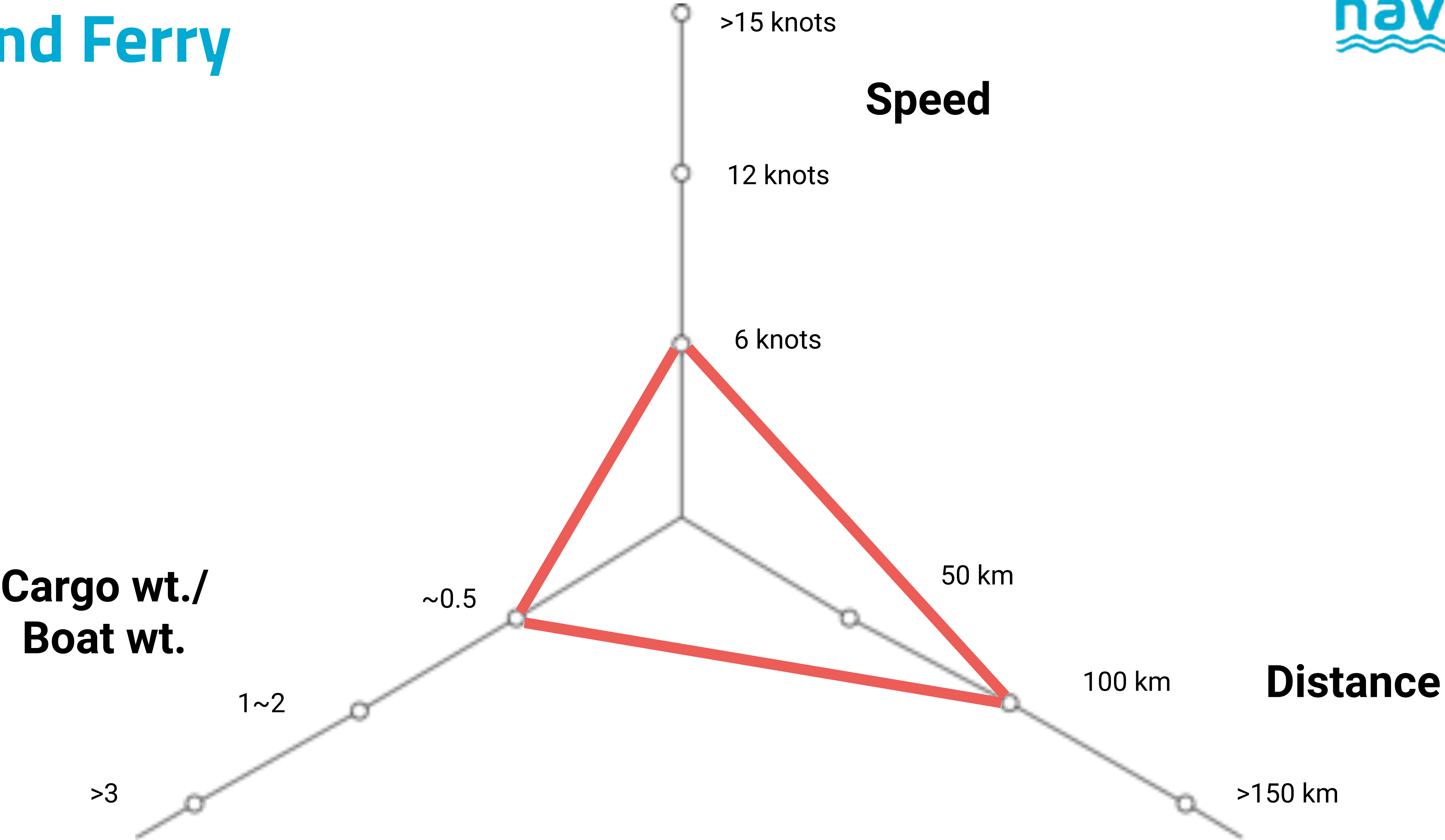
https://www.youtube.com/watch?v=kIF_mC3RxNo



Life Cycle Cost

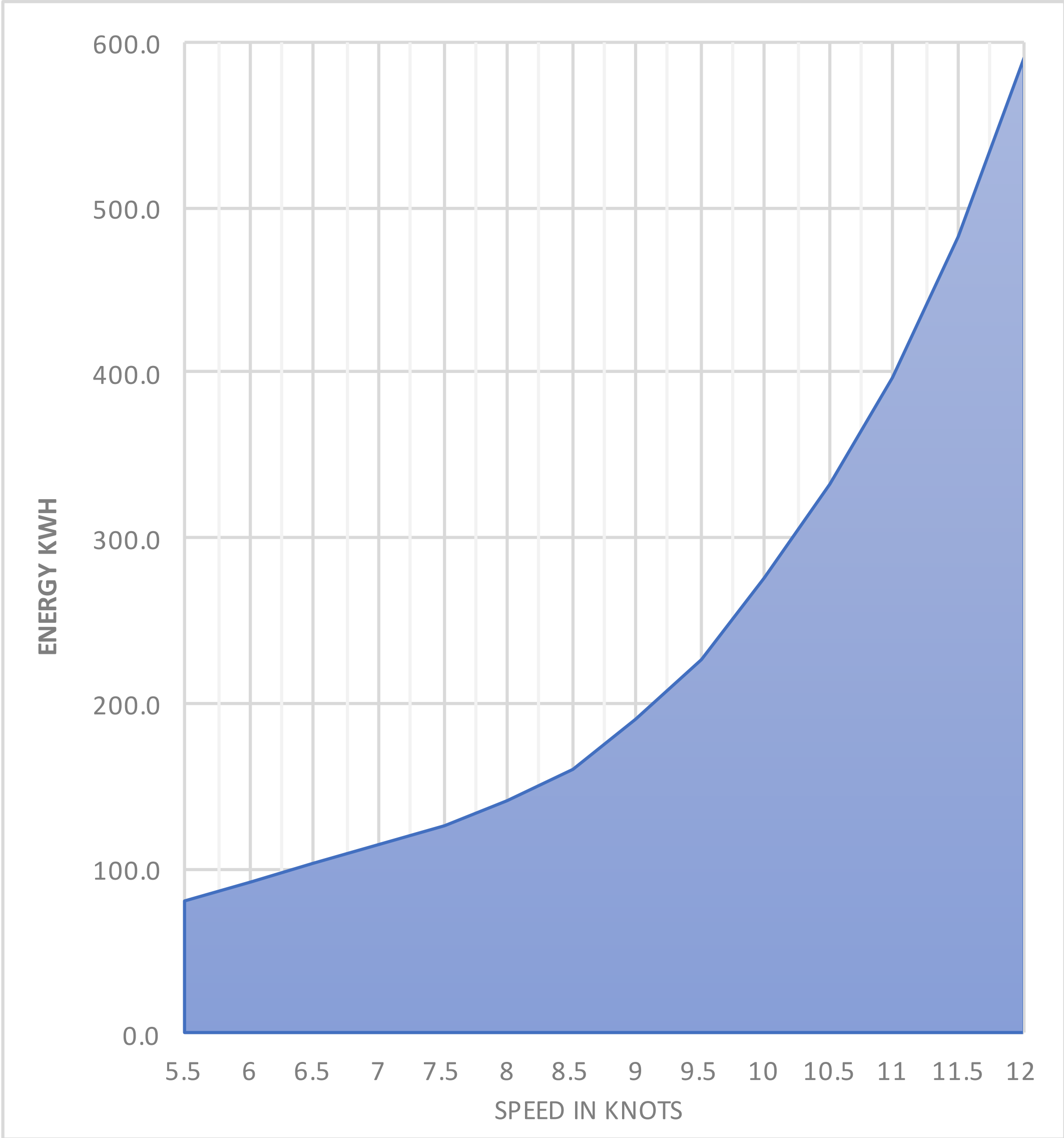
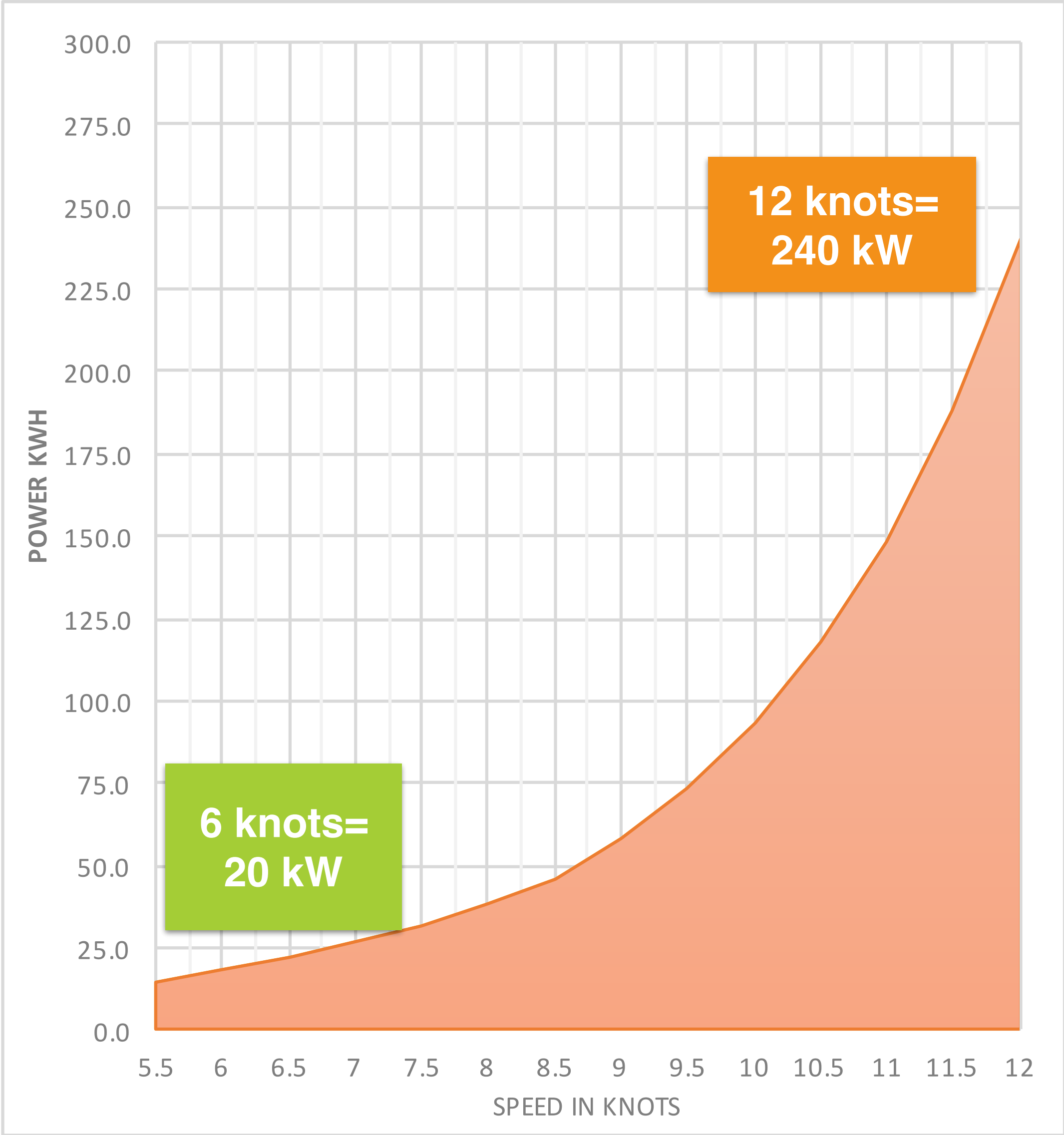


Inland Ferry



Optimisation

For 55 km



RORO Ferry



Patrol Boat



Passenger



Fishing Boat



Harbour Boat

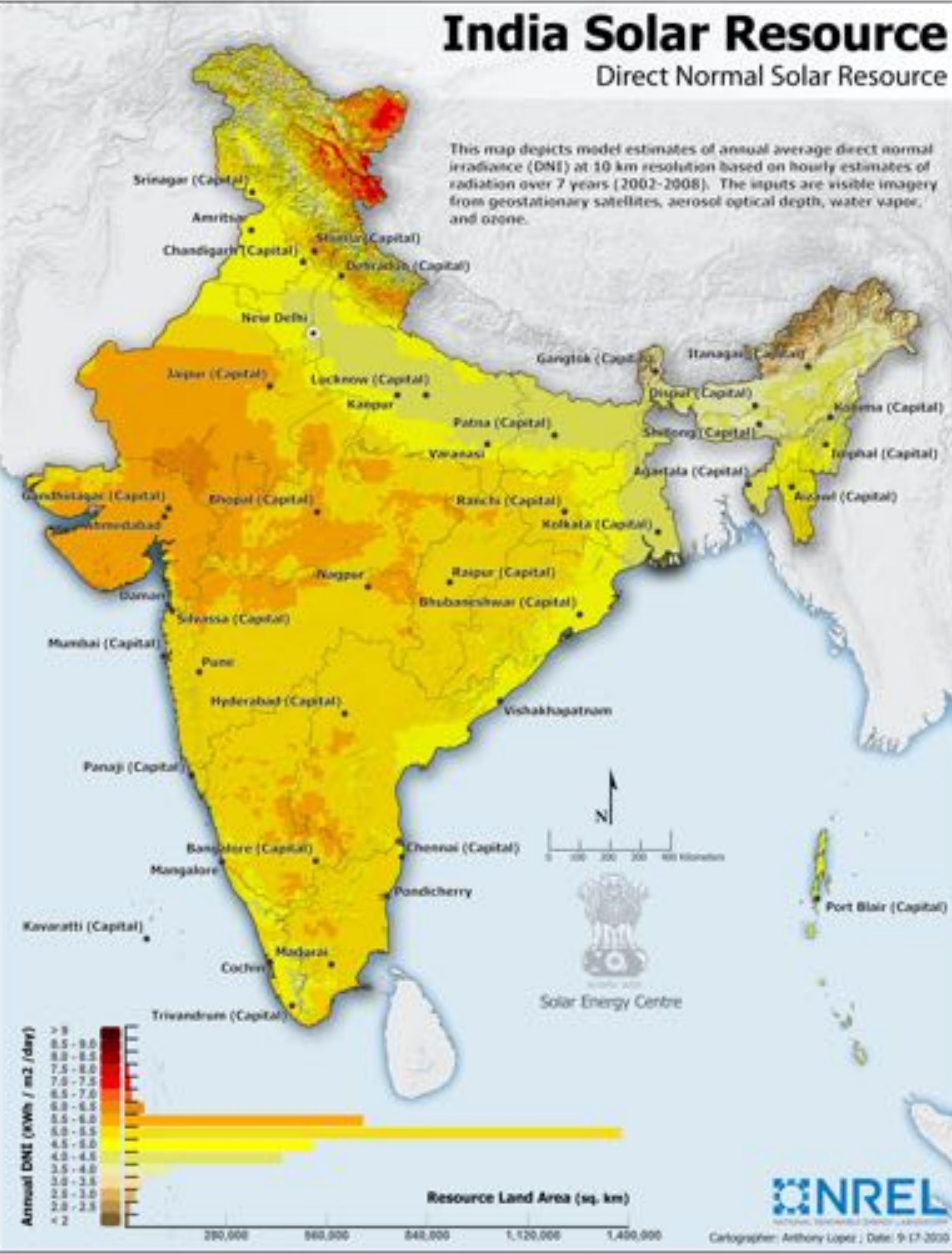
A large, solid blue arrow pointing to the right, spanning the width of the slide.

Speed, Distance, Weight

India Solar Resource

Direct Normal Solar Resource

This map depicts model estimates of annual average direct normal irradiance (DNI) at 10 km resolution based on hourly estimates of radiation over 7 years (2002-2008). The inputs are visible imagery from geostationary satellites, aerosol optical depth, water vapor, and ozone.





End of Road for Diesel Boats



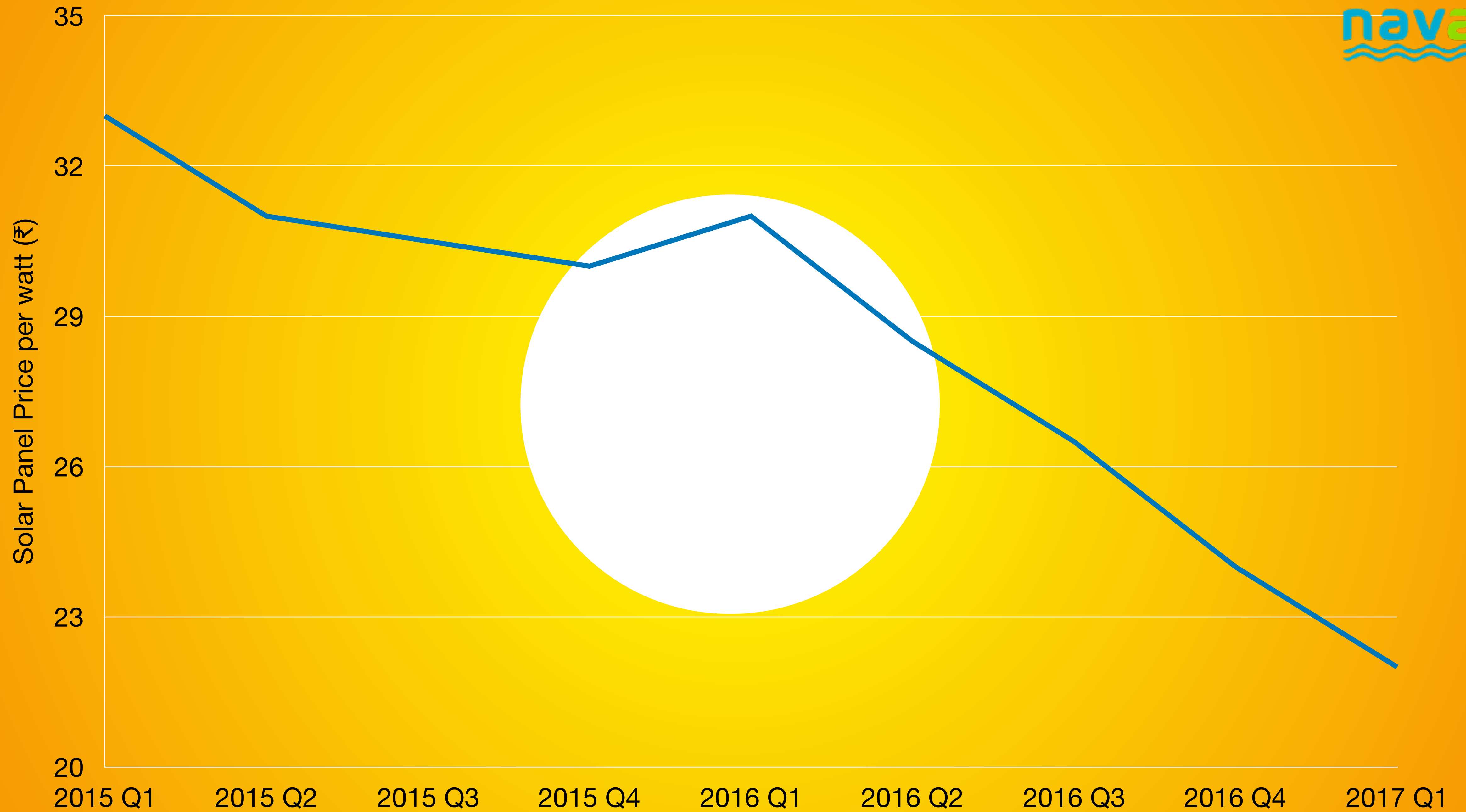
Awards



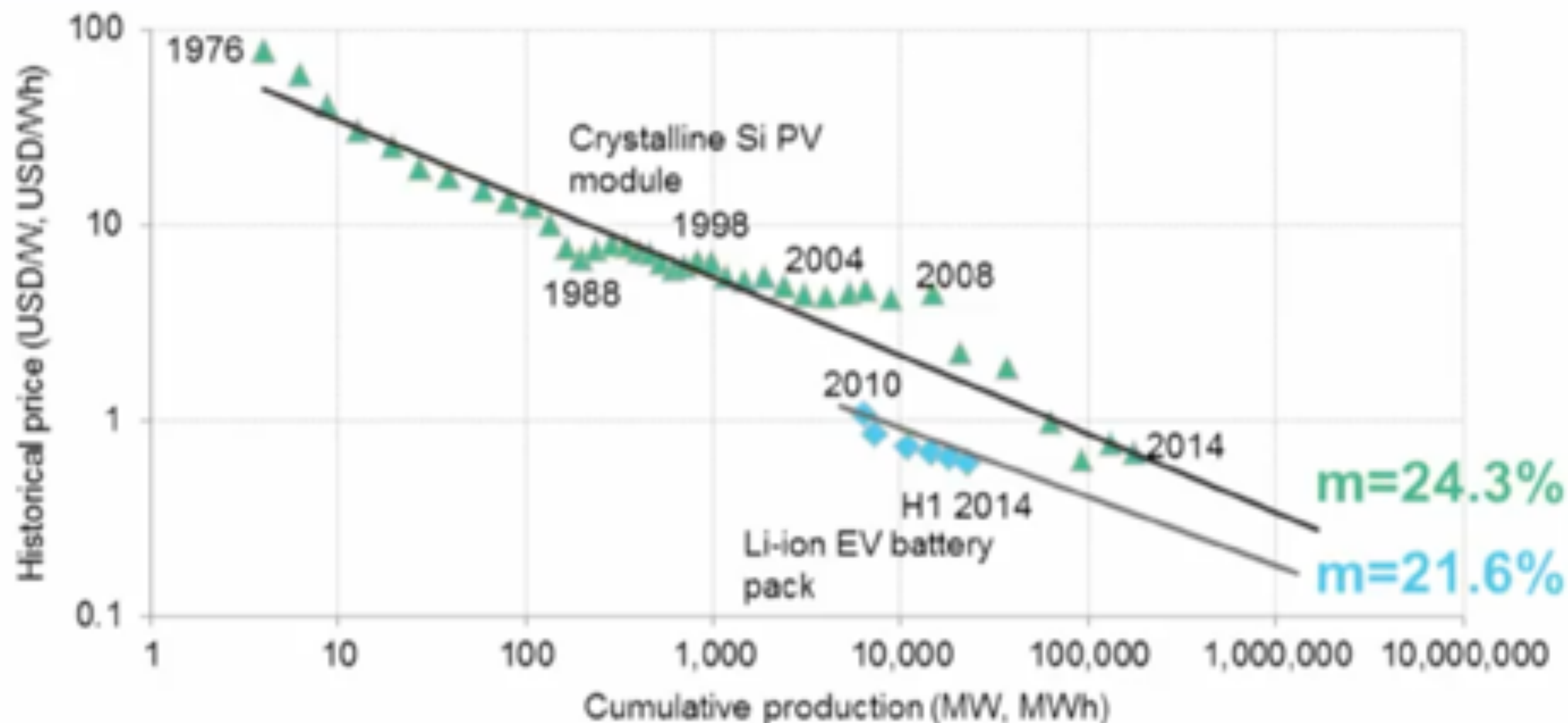
PM Award for Social Innovation 2017

- RINA Significant Small Ship in the World 2017
- FICCI R&D Catapult Award for Best Innovation 2017
 - AFI Silicon Valley Trek Winner 2017
 - Destination Kerala, Startup of Year 2017
- TiE Kerala Startup Entrepreneur of Year 2017
- Tissot Signature Award for Innovation 2017
 - Social Innovator Winner 2016
- Global Top 5 in Transportation 2017





LITHIUM-ION EV BATTERY EXPERIENCE CURVE COMPARED WITH SOLAR PV EXPERIENCE CURVE



Note: Prices are in real (2014) USD.

Source: Bloomberg New Energy Finance, Maycock, Battery University, MIT

Best Research-Cell Efficiencies

Efficiency (%)

