

OCEAN THERMAL ENERGY DEVELOPMENT IN MALAYSIA

By

Dato' Ir Dr A. Bakar Jaafar

E-mail: bakar.jaafar@gmail.com

OUTLINE OF PRESENTATION

1. PREAMBLE
2. TEMPERATURE DIFFERENTIAL OFF SABAH TROUGH
3. POWER POTENTIAL & PROPOSED SCHEME
4. L.I.F.T. APPROACH
5. SUB-REGIONAL COOPERATION ON OTEC

| | | | |
|-------------------|----------------------|--------------------------------|-----------------------|
| Region | | | |
| Temperate | | SOLAR WAVE | TIDAL WIND |
| | OTEC | | |
| Sub-Tropic | TIDAL | SOLAR OTEC WAVE | WIND |
| | | | OTEC |
| Tropic | WAVE WIND | SOLAR TIDAL | |
| | LOW | MEDIUM | HIGH |

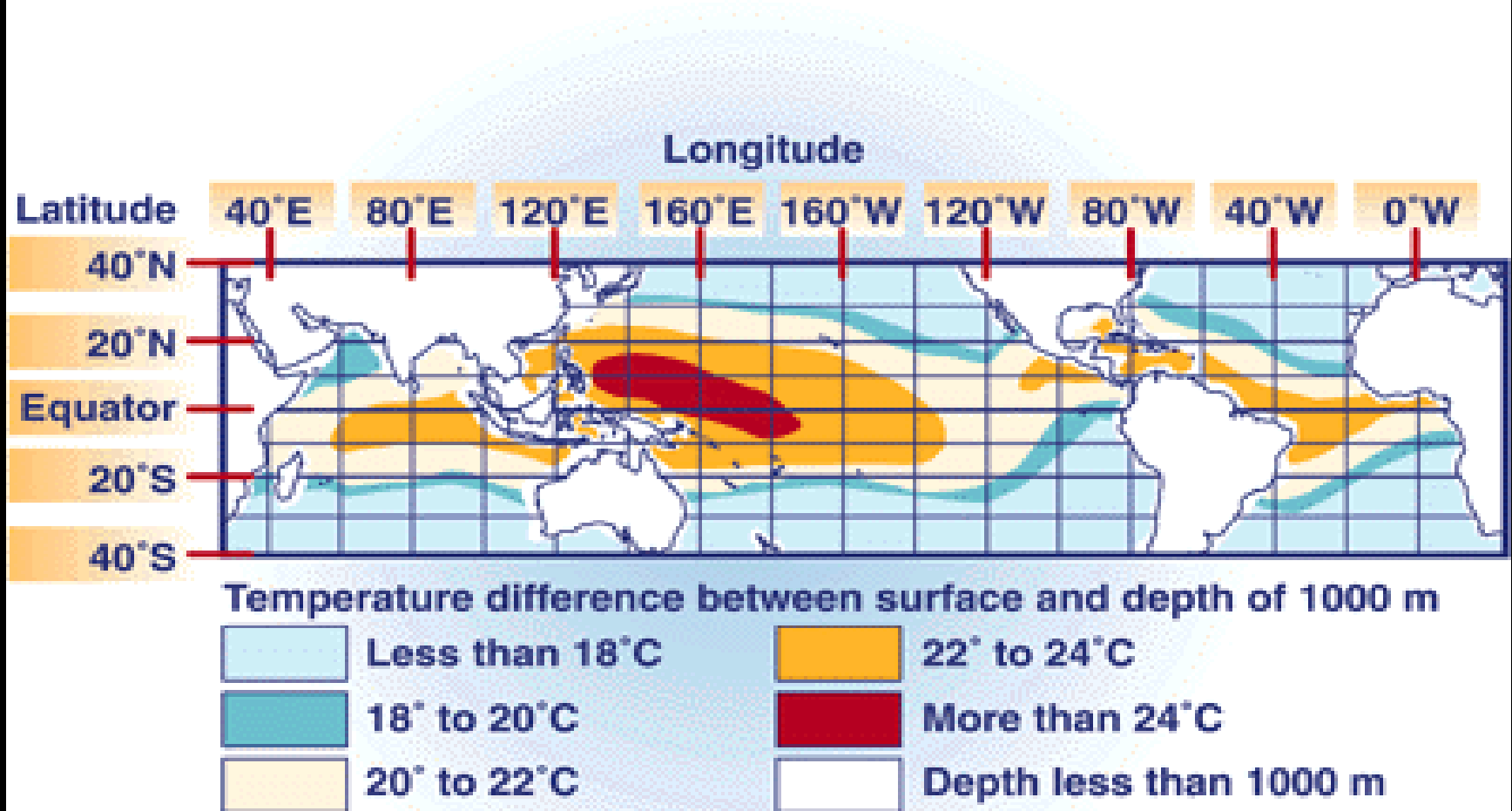
1. PREAMBLE

1. 1980: PhD Course in Marine Resources: OTEC @University of Hawaii-Manoa with Prof John Bardach and Dr John Craven;
2. Malaysia Marine Survey in the South China Sea (MyMRS): 2006-08
3. Series of Briefings on OTEC Potential to Continental Shelf Committee, NSC Secretariat PM's Dept.; MOSTI, MEGTW, MIGHT, and MIMA ...

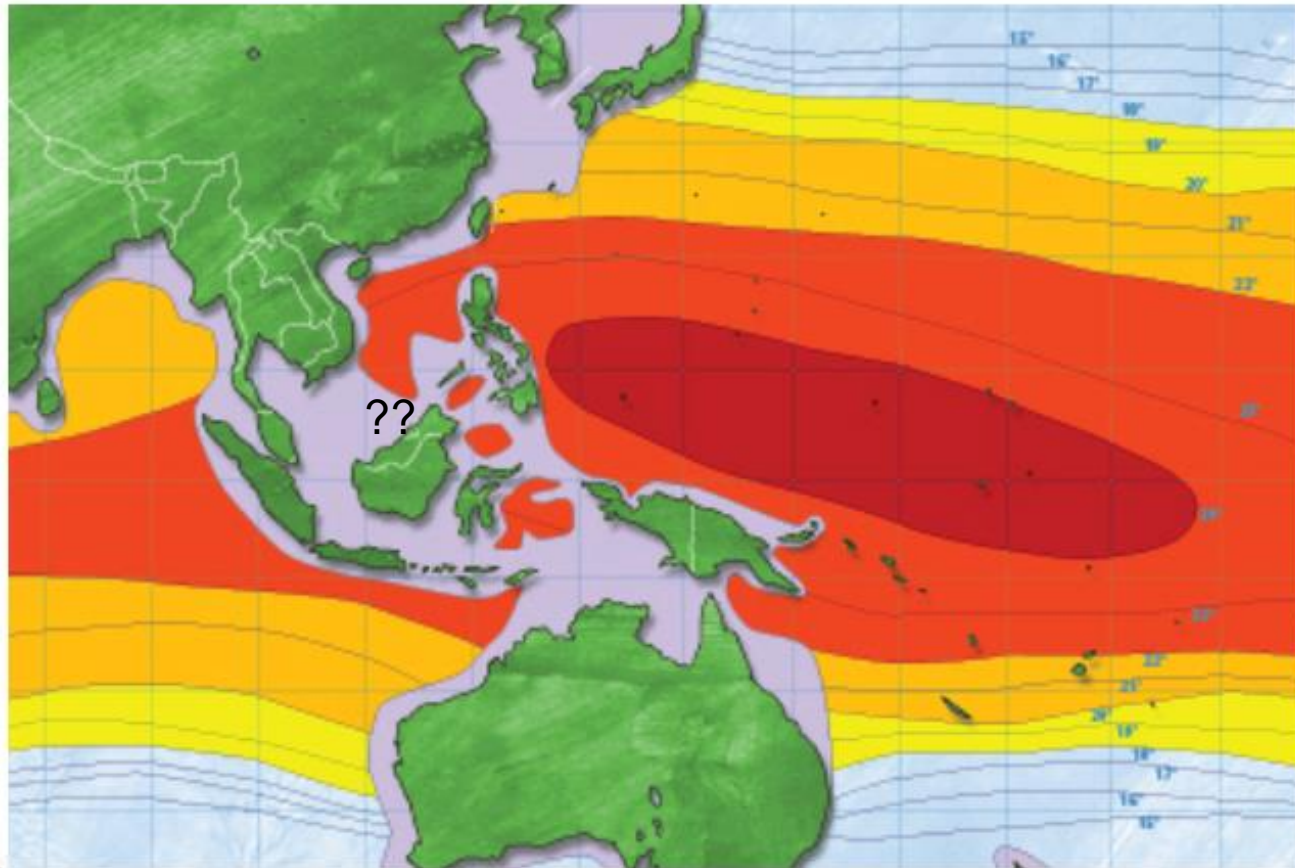
Selected Publication on OTEC Potential in Malaysia

- Academy of Sciences Malaysia, *EstDotMy*
- www.straightfront.blogspot.com
- MILLENIA Magazine
- Proceedings of CETDEM Seminar on RE, 3 November 2009
- MIMA Bulletin March 2012 (forthcoming)

GLOBAL OCEAN THERMAL ENERGY POTENTIAL



Ocean thermal energy resources: Indonesia



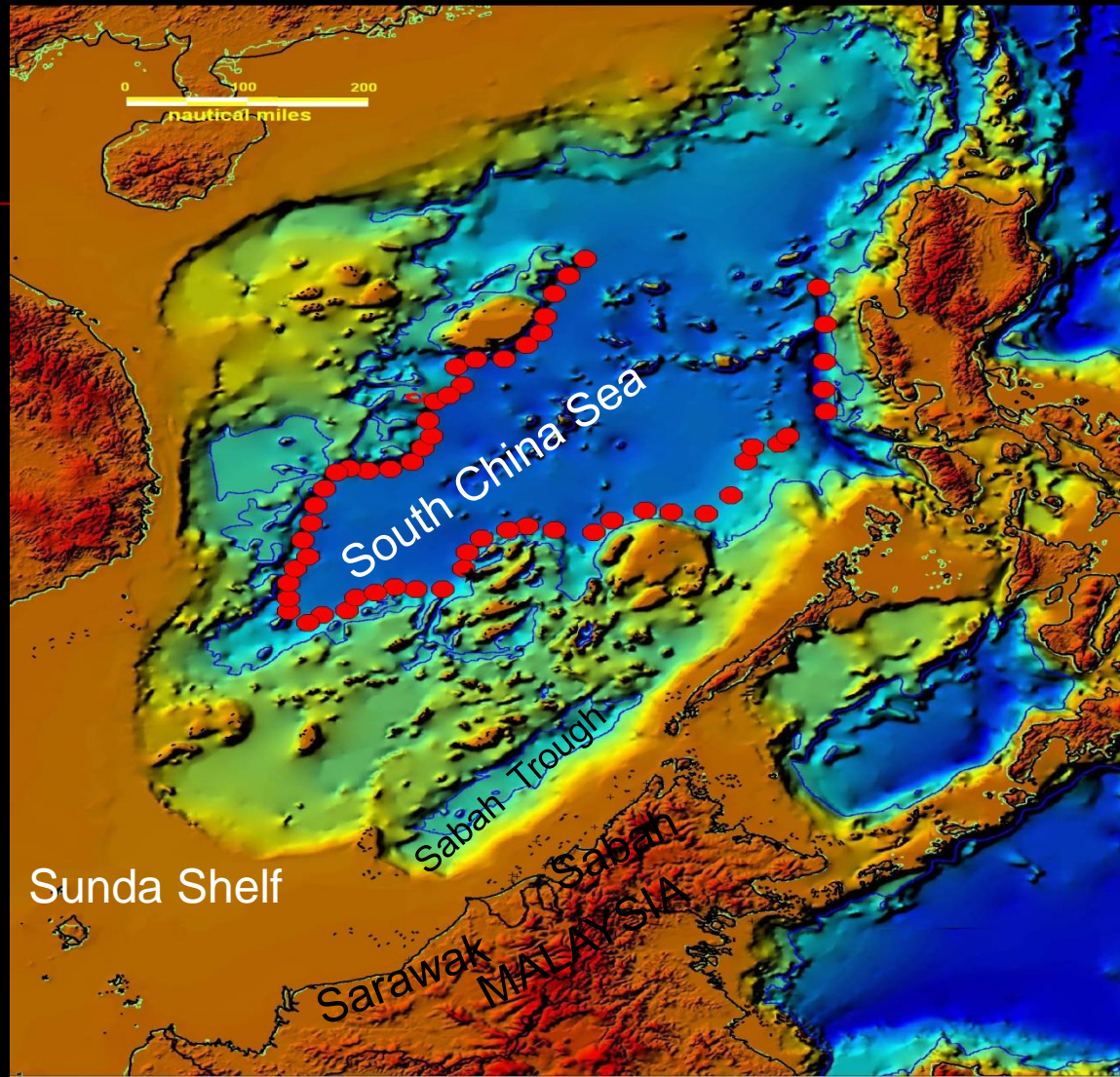
UNSW
THE UNIVERSITY OF NEW SOUTH WALES

IPEN

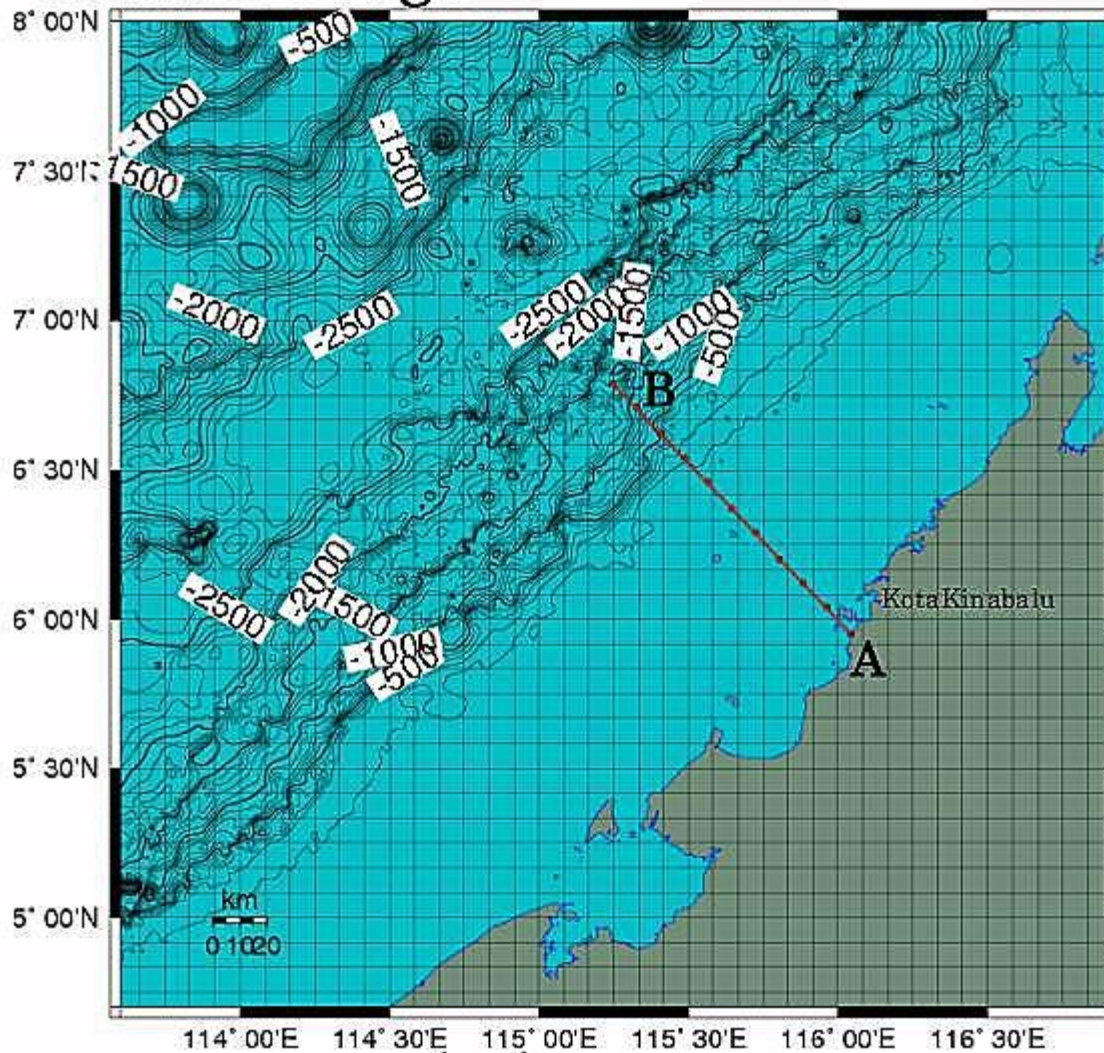
Ocean Energy

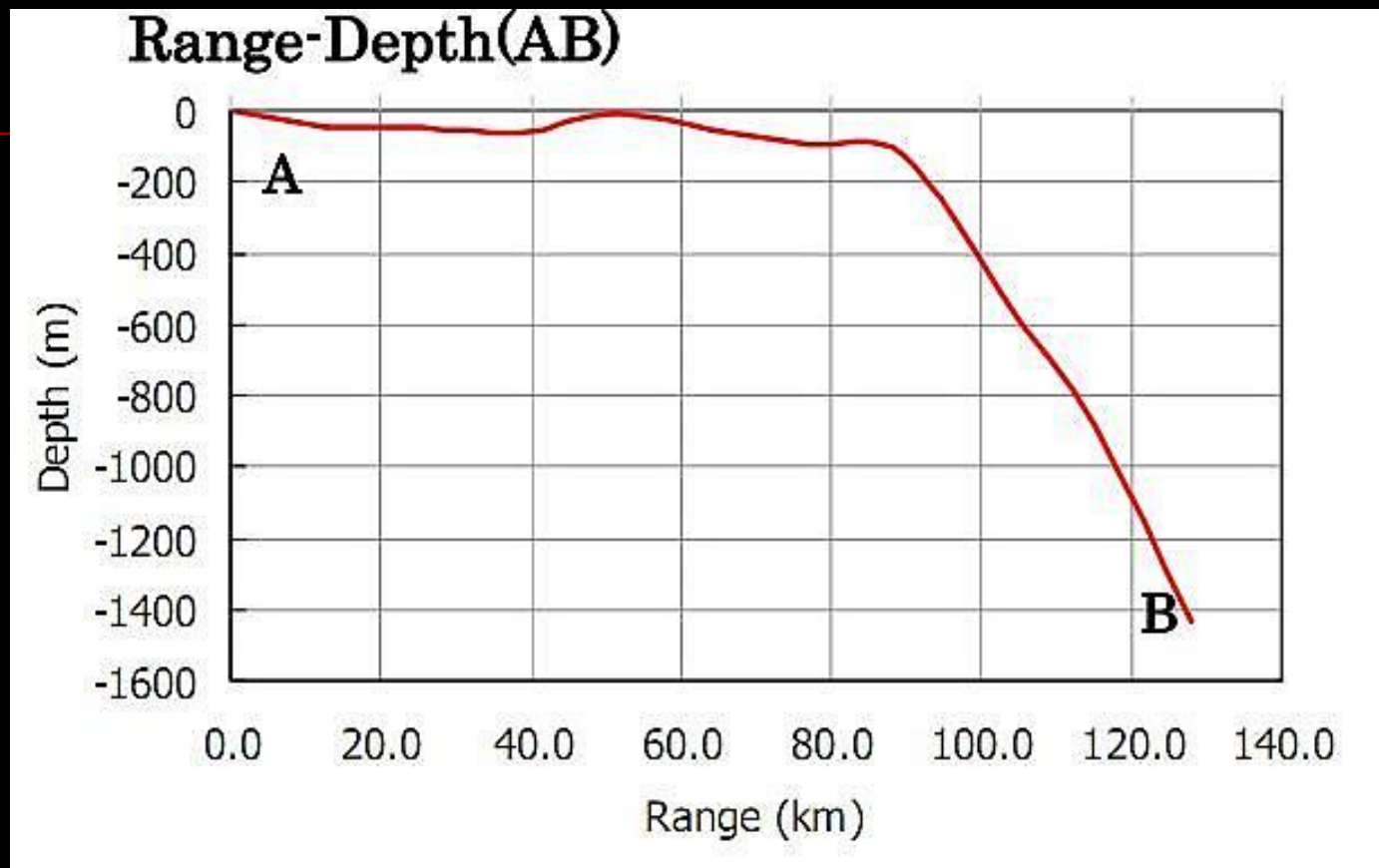
19

Hugh Outhred, STTNAS Seminar, 30 July 2011

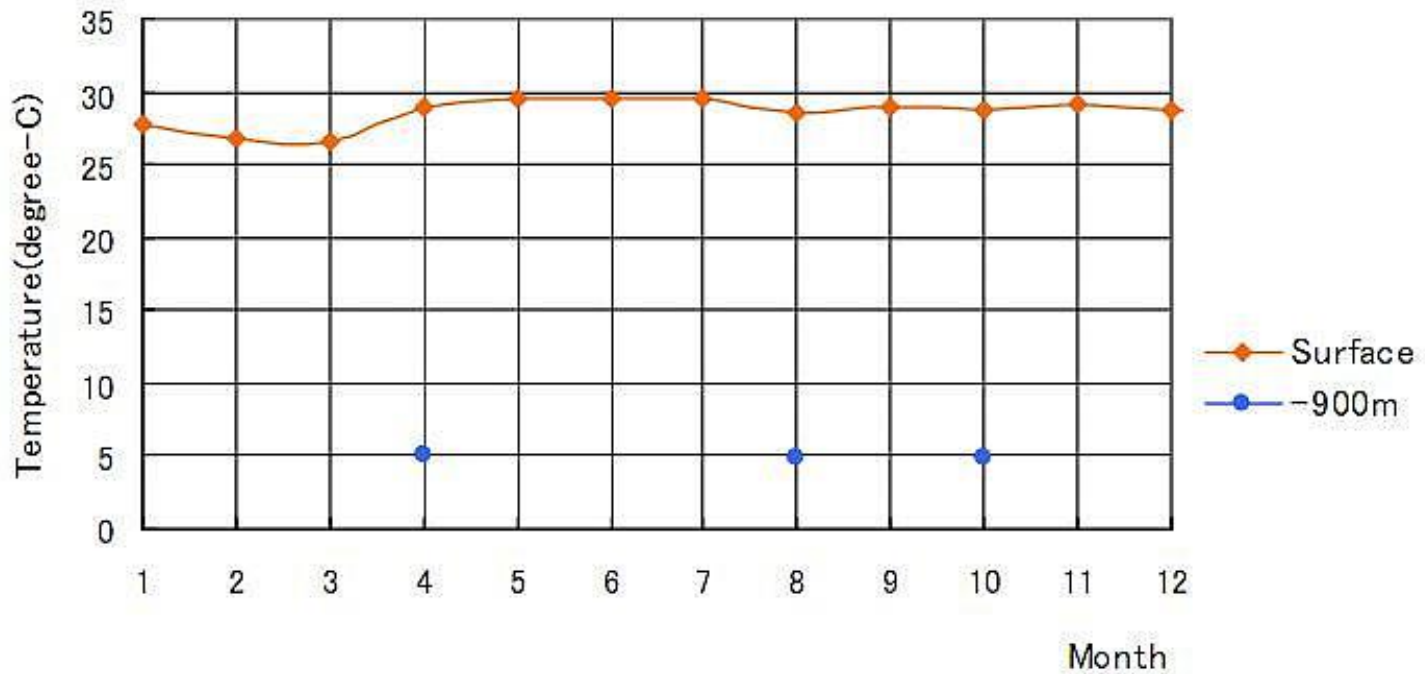


Sabah Trough

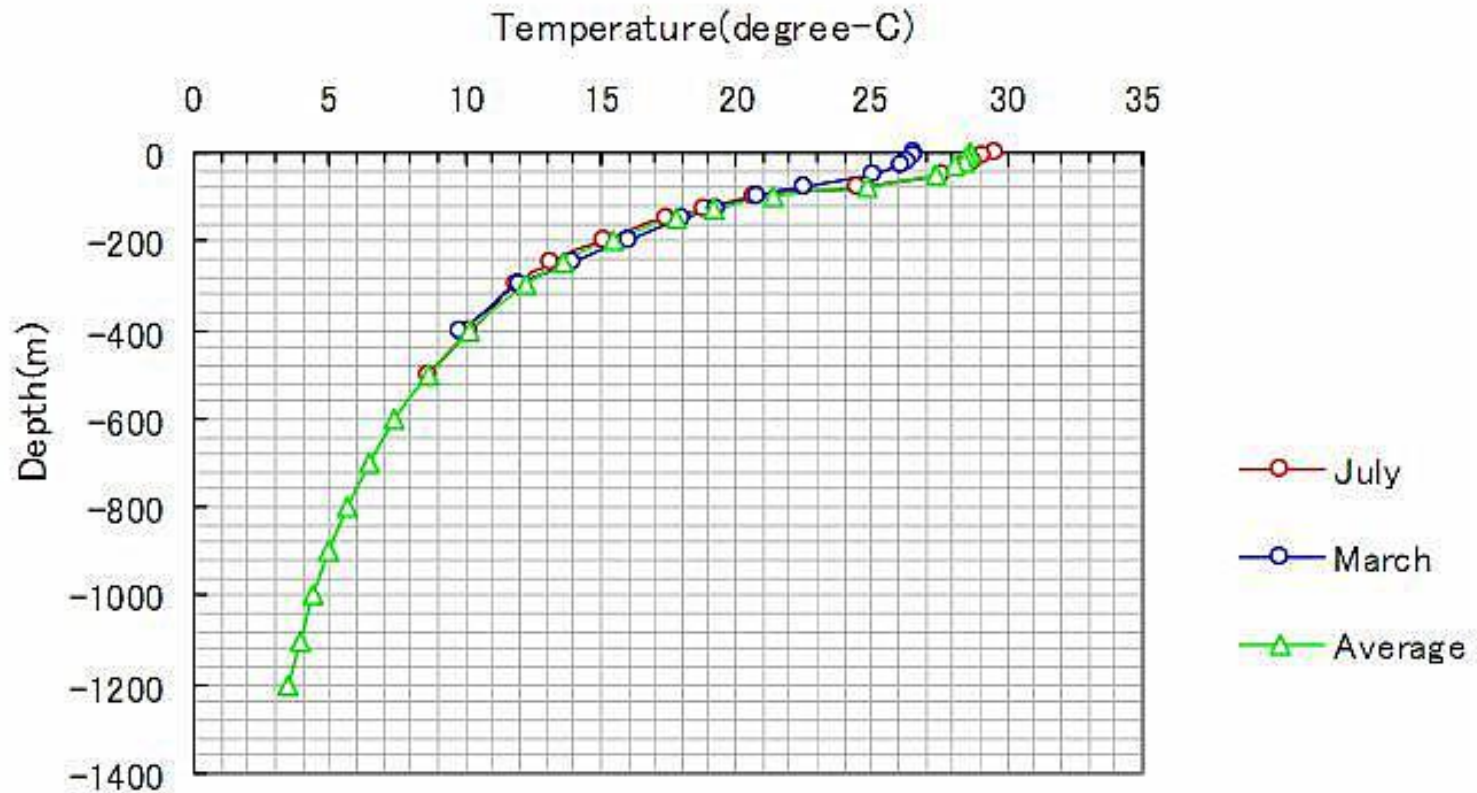




Average sea temperature

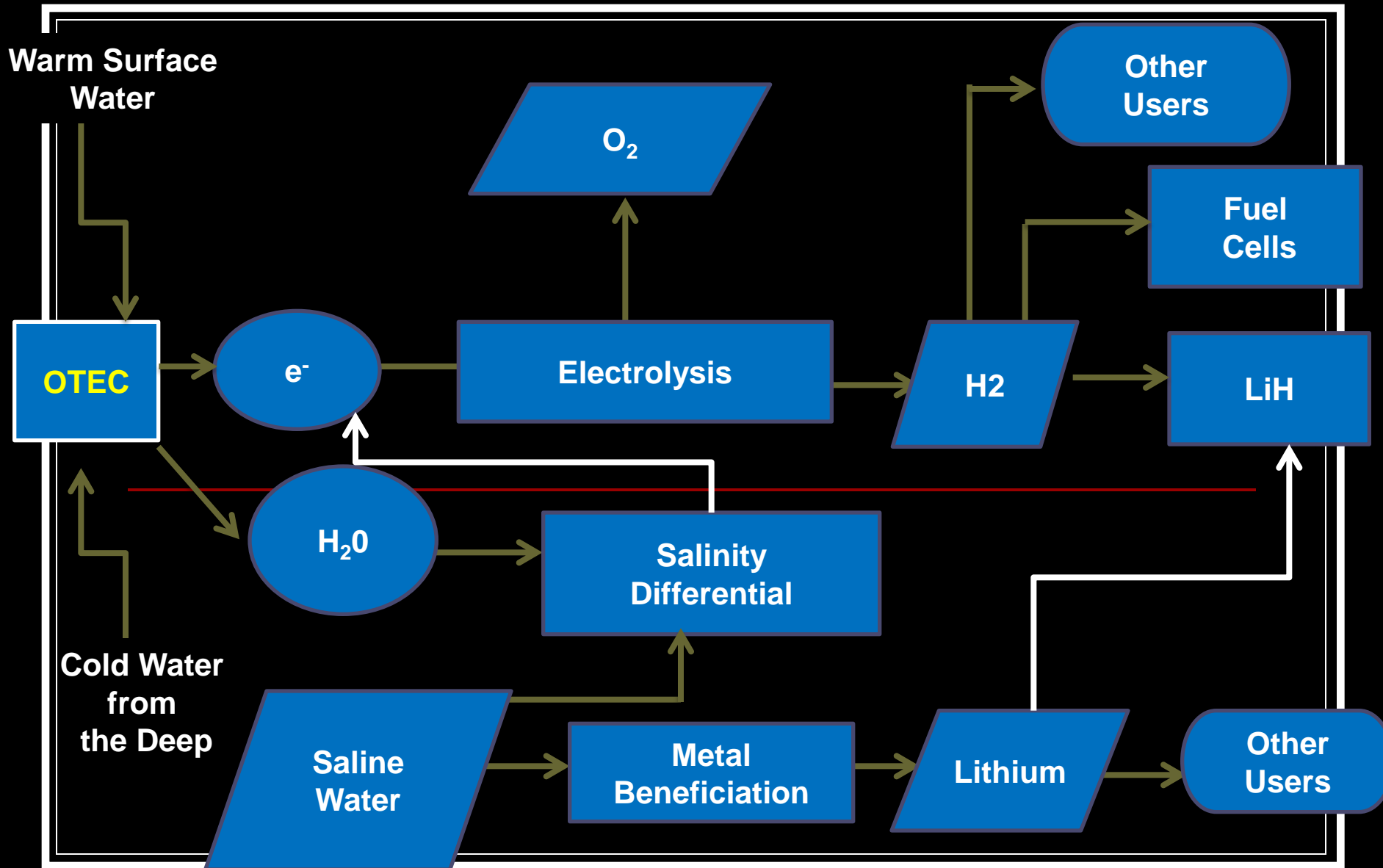


Temperature-Depth



3. POWER POTENTIAL & PROPOSED SCHEME

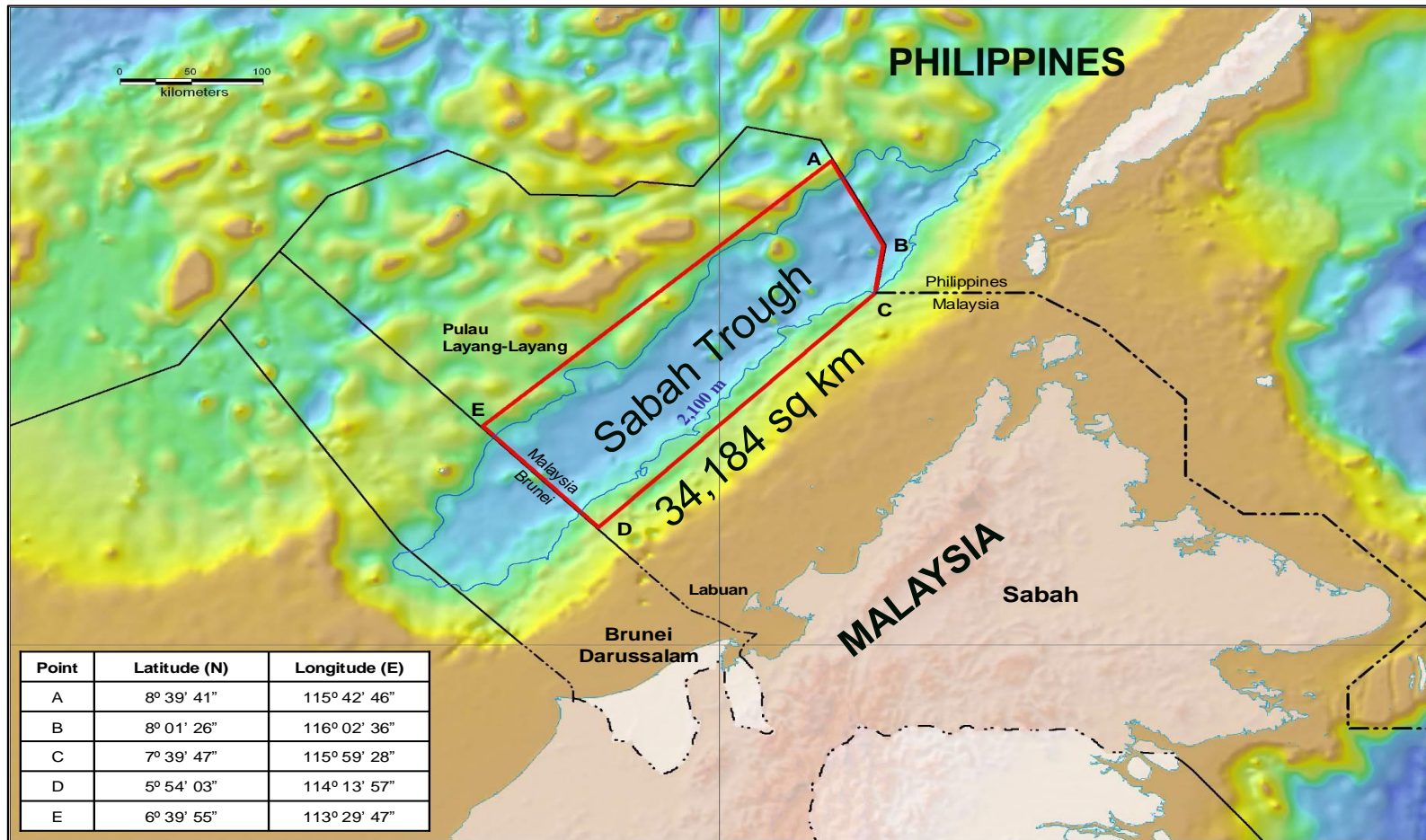
- Potential: 50,000 MW i.e. double the currently installed electrical power capacity in Malaysia
- Producing, other than freshwater, Hydrogen, Lithium, Lithium Hydride



4. L.I.F.T. APPROACH

1. Legal Framework: Section 3 of EEZ Act of 1984; new OTEC Development Bill 2013?
2. Policy for Concession to OTE-NAS, not PETRONAS, for the right to explore and exploit the water column in the Sabah Trough within 2100 m isobath
3. Finance through private investments, block by block, through production sharing
4. Promotion of commercially viable technology for power generation, freshwater harvesting, hydrogen production, lithium beneficiation, and manufacture of lithium-hydride cells.

5. SUBREGIONAL COOPERATION IN OCEAN THERMAL ENERGY DEVELOPMENT: BRUNEI DS-MALAYSIA-PHILIPPINES



TERIMA KASIH

شكر (syukran)

谢谢 (xiè xiè)

Thank You

Merci

Gracias

Спасибо



Dato' Ir Dr A Bakar Jaafar, PEng, FIEM, FASc

