



Tidal Energy Projects in Indonesia (TEPI)

**Supporting the emergence of first tidal farms
in Indonesia**

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AGENCE FRANÇAISE DE DÉVELOPPEMENT | FRENCH DEVELOPMENT AGENCY

AFD at a glance

Established in 1941, Agence Française de Développement (AFD) is the bilateral Development Bank of France.

AFD promotes economically, socially and environmentally sustainable development.

- EUR 9.2 Billion committed in 2016 in more than 90 countries
- 25% dedicated to the energy sector
- Loans, grants and technical assistance

AFD activities in the Indonesian energy sector

■ Financing of PLN (national utility) grid projects

- Java – Bali interconnection, West Kalimantan, Jakarta I & II for a total of 250 MUSD through sovereign and non-sovereign loans

■ Budgetary loan dedicated to the energy sector

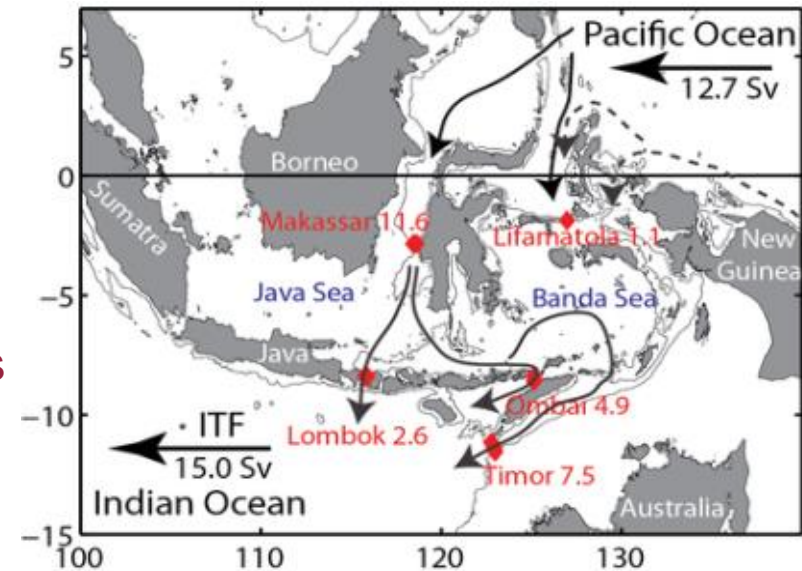
- *Sustainable and Inclusive Energy Program*, 150 MUSD loan, cofinancing with World Bank, ADB and KfW
- Technical assistance mobilized on a grant basis to support policy elaboration
 - ➔ *Dialogue with the Indonesian authorities to support their energy policies development: context in which TEPI was initiated*

Interest for tidal in Indonesia?

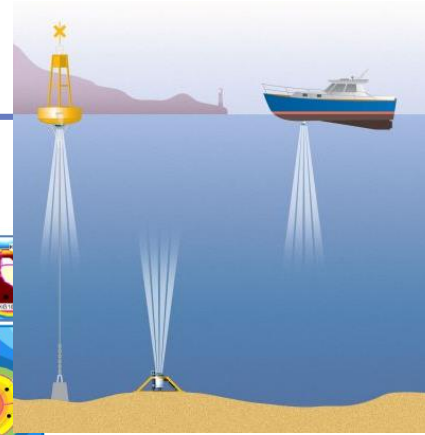
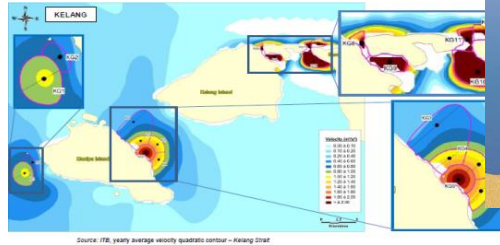
- Indonesia may represent one of the best technical potential in the world for tidal current turbine (common belief)
- Electricity generation costs are really high in islands which are not connected to the main grid

Thus, the following approach has been developed jointly by EBTKE & AFD:

- Identify a list of sites which present both a good technical potential and a suitable economic interest based on available data;
- Conduct numerical modelling to select three sites among this list;
- Conduct campaign measures on these designated sites;
- Launch a bidding process to select Independent Power Producers.



TEPI – In theory



Launching

Step 1: list of sites

Step 2: selection of 3 sites

Step 3: ADCP campaigns

Step 4: Call for projects

March 2016

○ List of 10 sites elaborated thanks to literature review and satellite data

September 2016

○ List of 3 sites thanks to numerical modelling

January 2017

○ ADCP & bathymetry measure campaigns

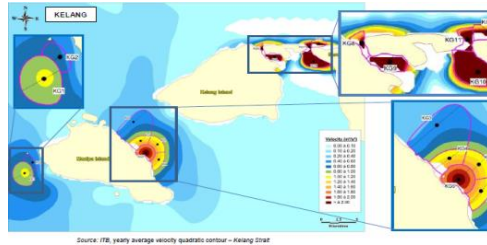
March 2017

October 2017

○ Open international call for projects with ADCP & bathymetry results in open source

○ Workshop organized with French & Indonesian Ministries of Energy, PLN and AFD

TEPI – In reality

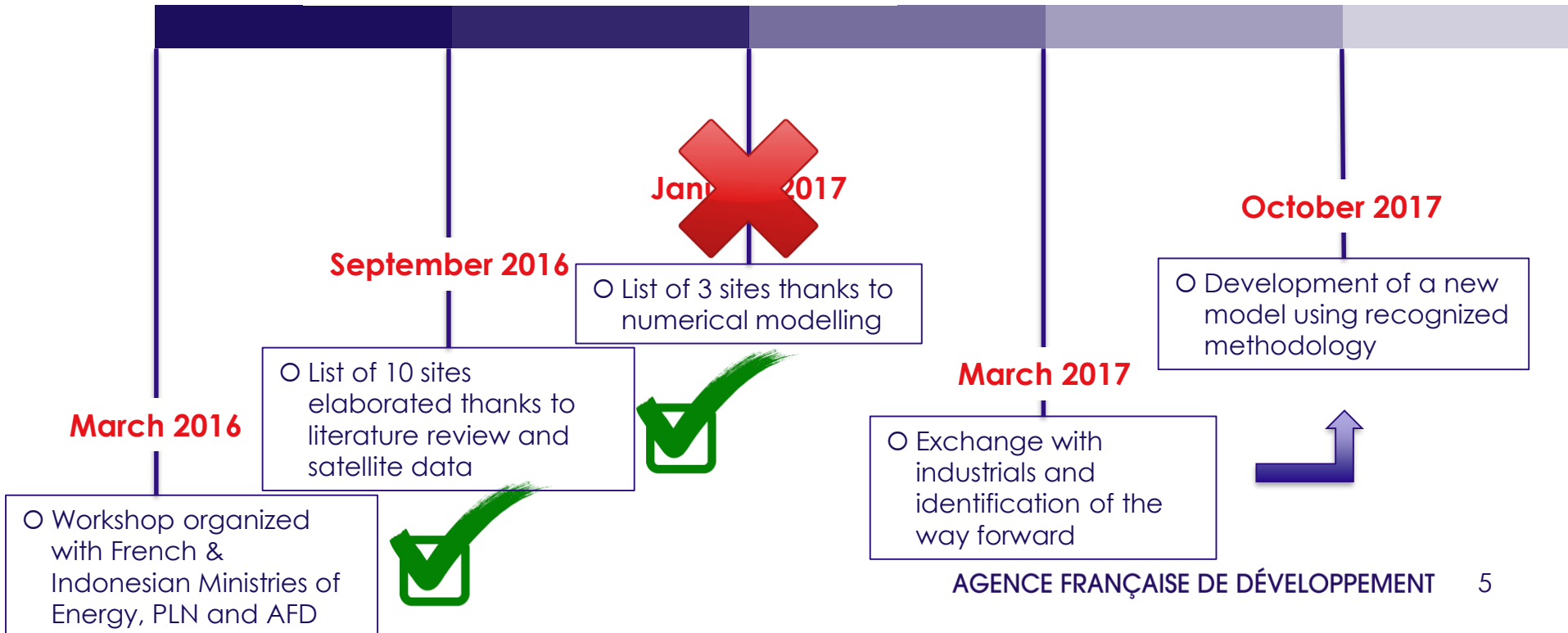


Launching

Step 1: list of sites

Step 2: selection of 3 sites

Step 3: study tour Step 2 bis: new numerical modelling



Key take away

- **Hegemonic opinion is not necessarily facts based**
 - Investigation can be costly and is not in the core activities of developers (lots of investments in technology and project development in Indonesia but no clear database proving the potential)
- **Innovative sector = learning by doing**
 - Unpredicted is more than likely: phased approached allows ratchet effect
- **Dialogue with potential developers is key to ensure success**
 - No consensus on data = fewer bidders, usefulness to use recognized protocol/model



Thanks for your attention

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