

Business presentation

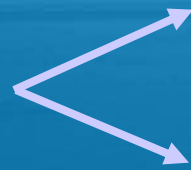


Tocado International BV

In a glance



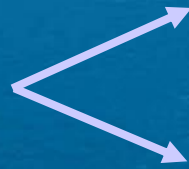
World Energy



82% fossil fuels

Alternatives huge challenge

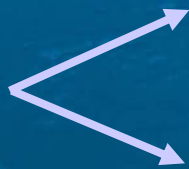
Tidal Energy



Important contribution energy mix

100% predictable

Tocado

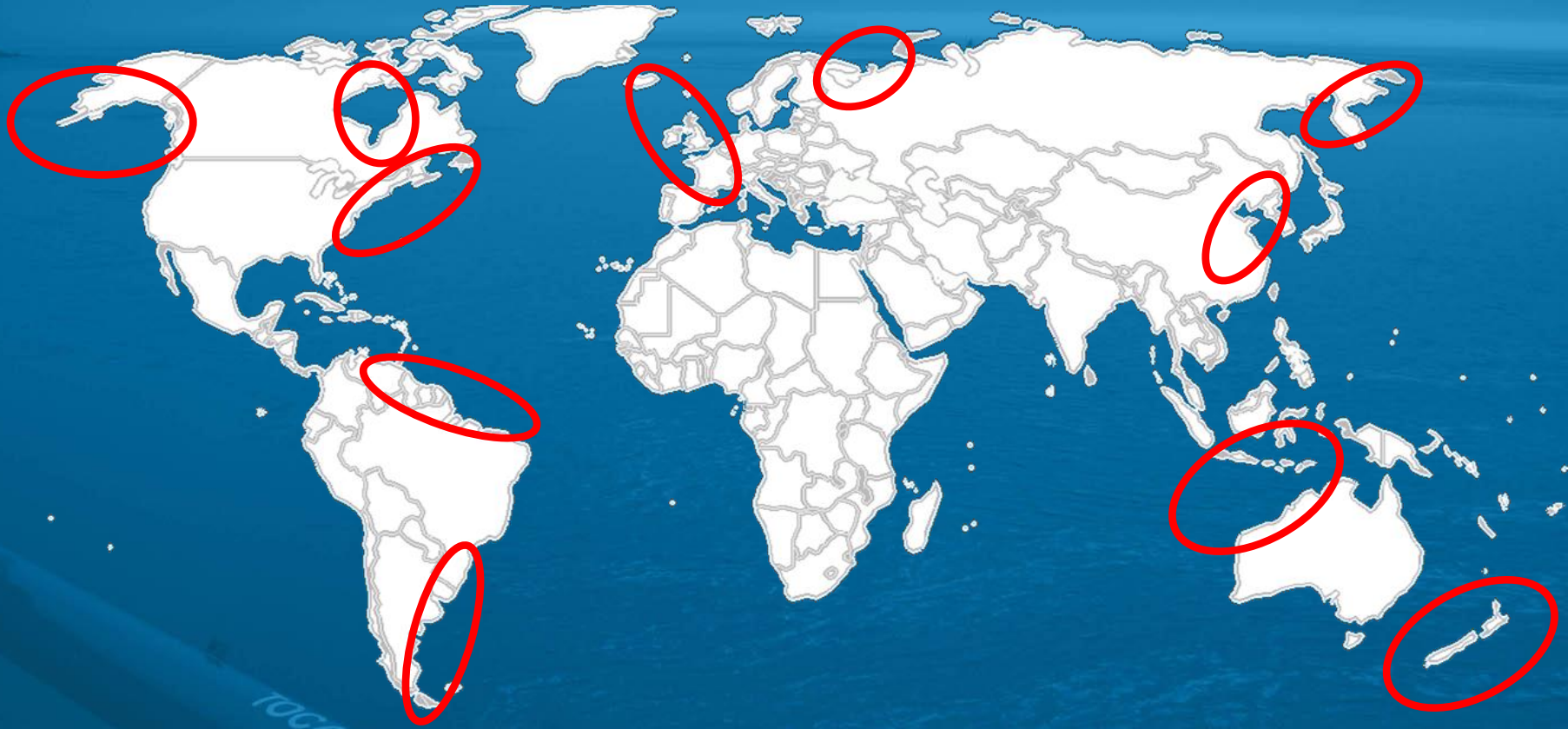


Leading player in new industry

Reliable technology

TOCARDO AQUA INSHORE
TIDAL STREAM TURBINE

Tidal energy potential



TOCARDO AQUA INSHAKE
TIDAL STREAM TURBINE

140.000 – 180.000 MW

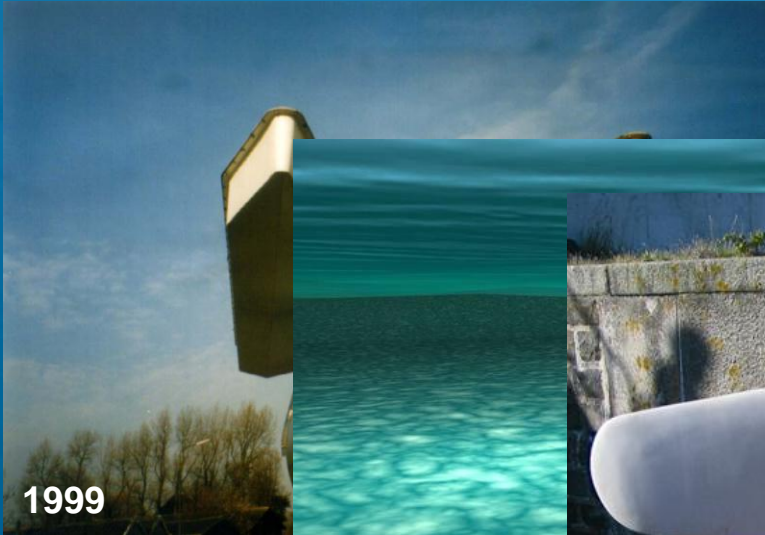
~ 7% of world's electricity consumption

Who we are...



- Ambitious and growing organization
- Started in NL and since 2008 also in UK
- First commercial products available
- Several projects in development (NL & UK)
- First steps in North American market





1999

Floating venturi



2002

Ring generator



2005

Horizontal axis
(prototype)



2008

Commercial model – Tocardo T50-A

TOCARDO AQUA INSHORE
TIDAL STREAM TURBINE



• Ambition 2018:

- Largest tidal energy turbine manufacturer by number of installed turbines
- Top 3 by installed capacity

• Focus on effectiveness:

- Reliability
- Lowest Total Cost of Energy (TCE)

• Company focus:

- Tocardo: turbine sales, do site development to support market growth
- Local presence in market required

TOCARDO AQUA INSHORE
TIDAL STREAM TURBINE



Tocado International BV

Sales

- site pre-development
- project sales
- jv's with developers in key markets
- turn-key solutions

Technology

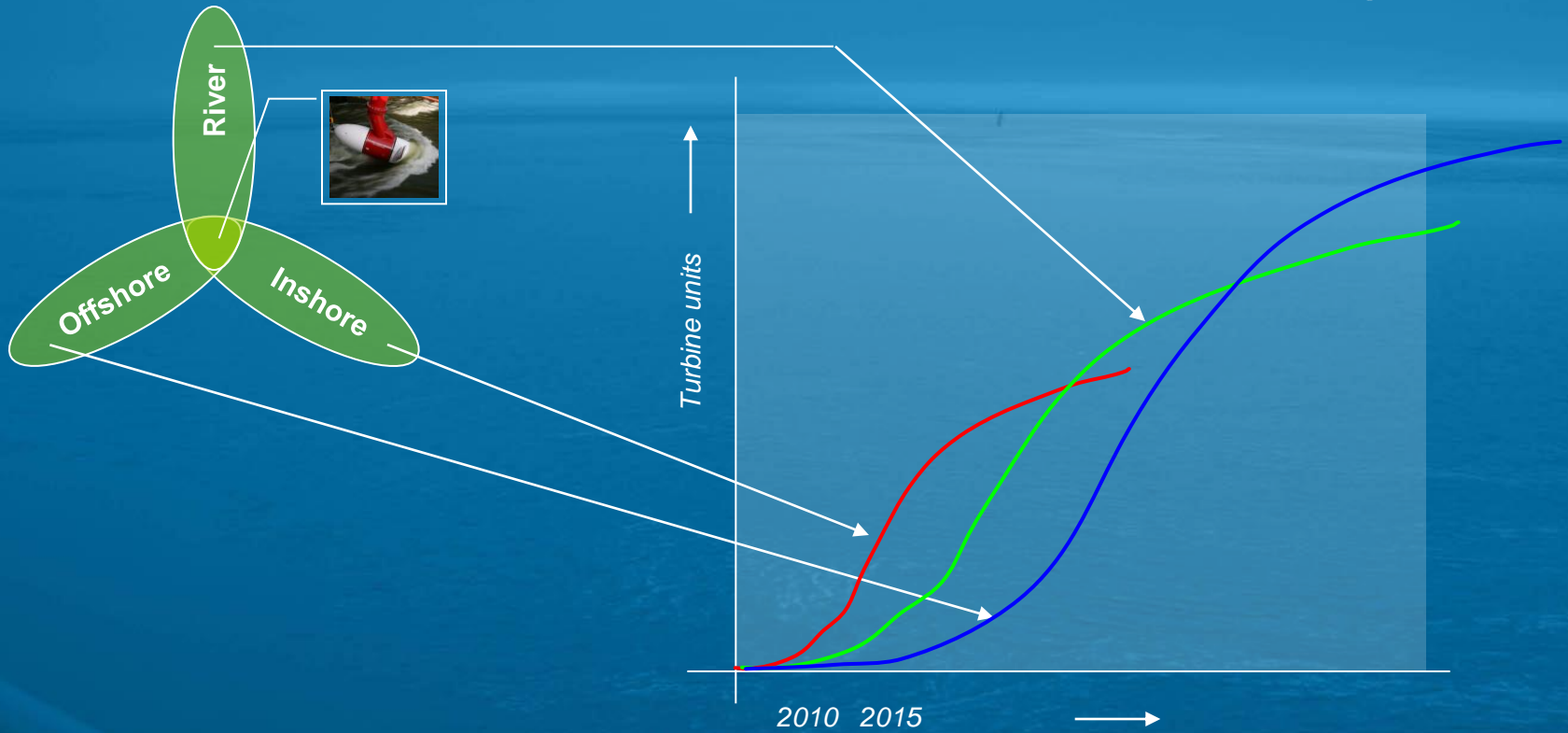
- r&d for turbine technology
- turbine product engineering
- project support engineering
- service & support organisation

Production

- system integrator
- factory & facilities
- single turbine unit sales

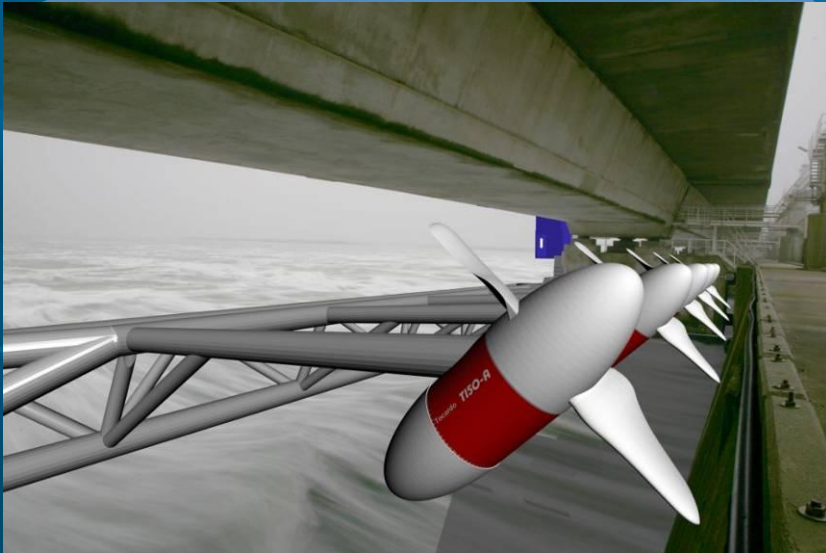
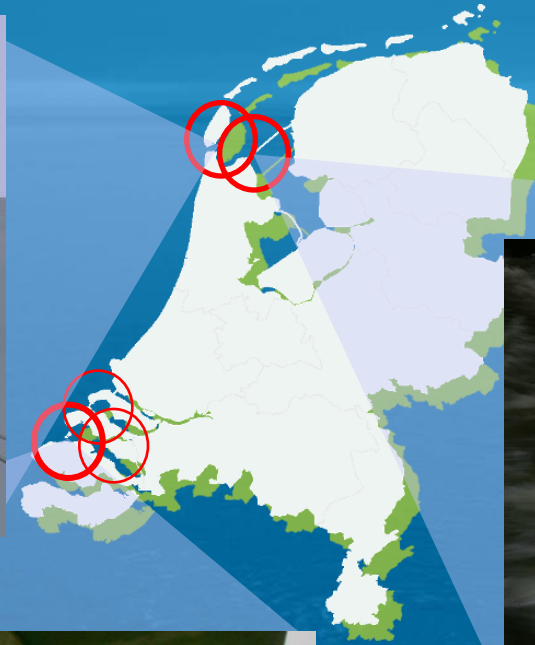
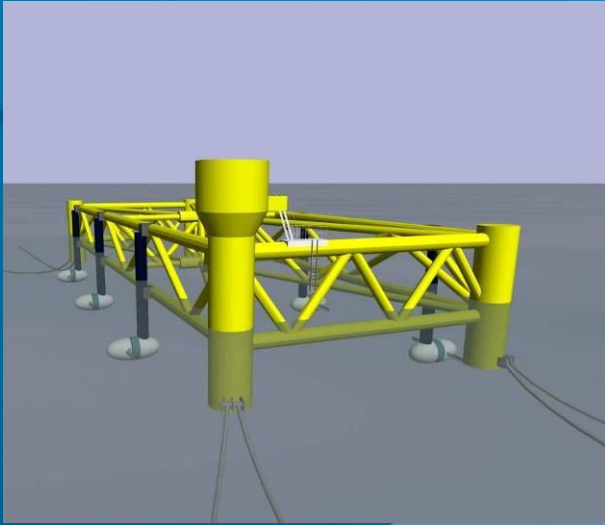


Fill pipeline



- Core technology: identical for three market segments
- River & Inshore: early revenue through turbine sales
- Result: enter full scale offshore with proven technology and lowest TCE
- Commercially available: T50, T150, T500, projected TCE (river): € 0,045

Projects in The Netherlands

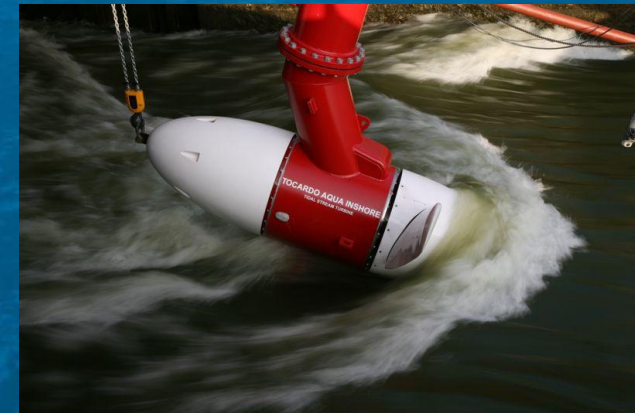




“Afsluitdijk” Sea Defense



- One T50 (potential for 3)
- 2.8 m blade, 45 kW rated
- 4 m. water depth
- Operational since 2008
- Environmental Impact Assessment





“Oosterschelde” Sea Defense

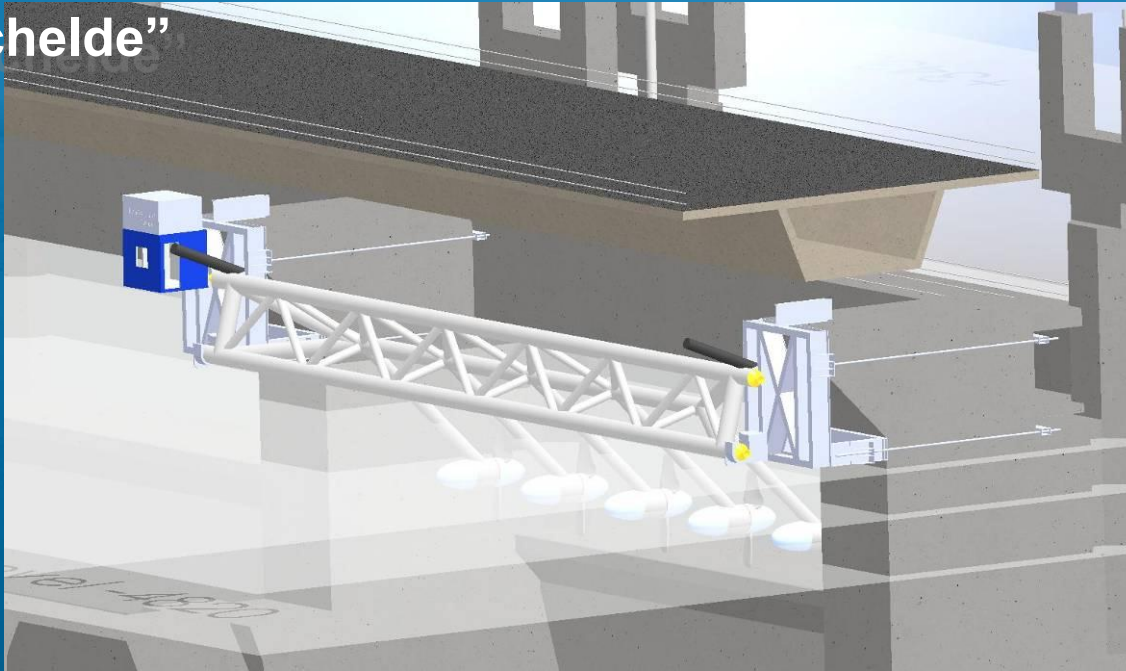


- Total potential 70 MW+
- 1 MW demonstration plant;
6x T150 units
- Environmental Impact Assessment

TURBINE INSHORE

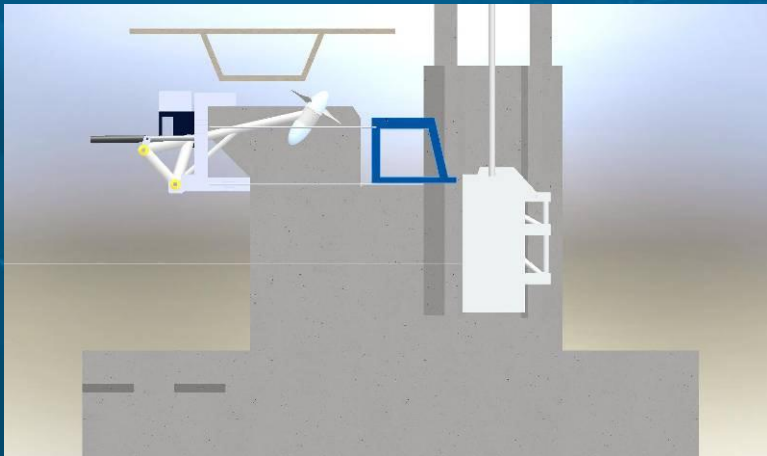


“Oosterschelde”

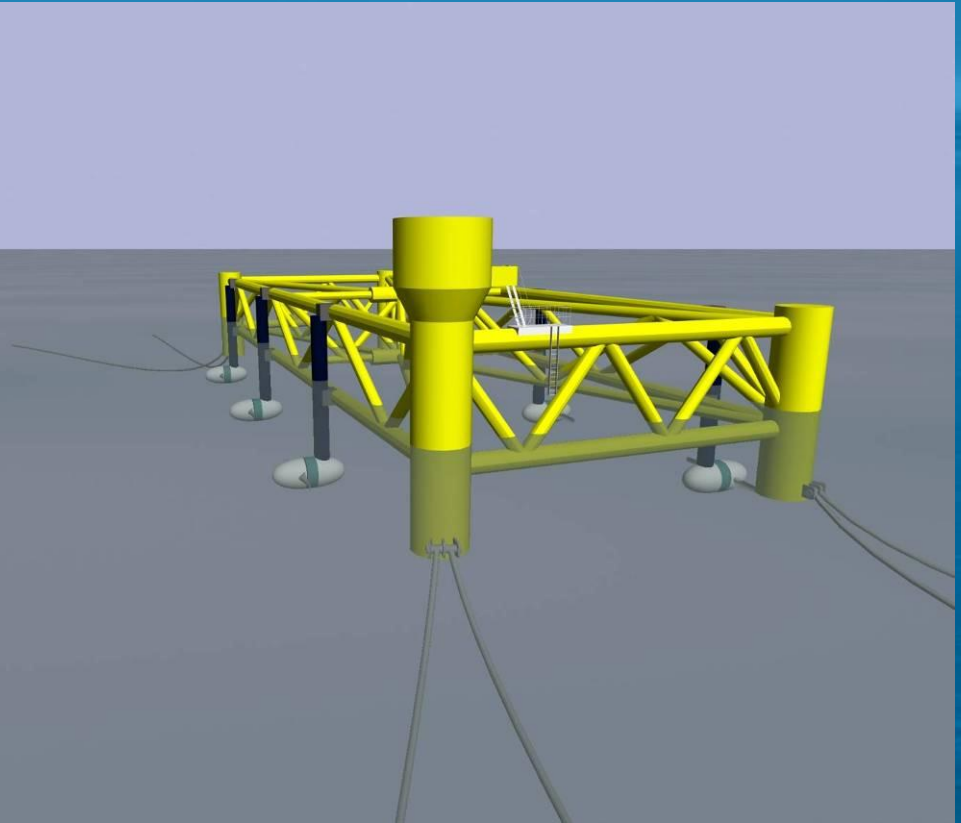
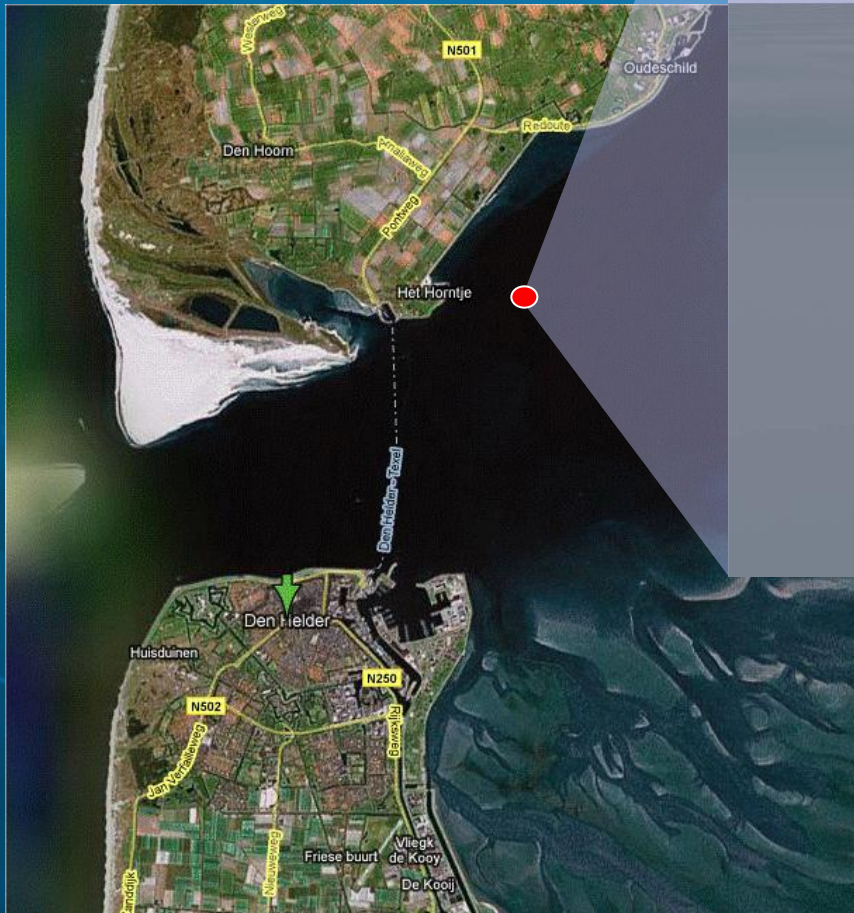


Key:

- Rijkswaterstaat
- Utility
- Strong supplier
- EIA's (Imares)

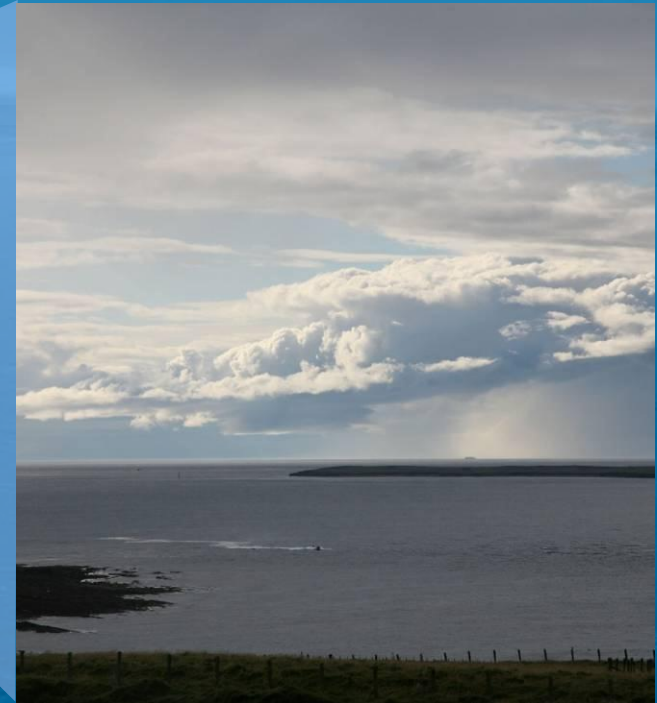


“Marsdiep”, near Texel

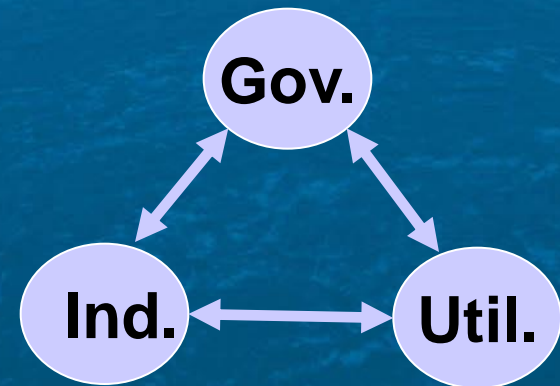


- Array of 6 turbines on floating platform; 6x T150 offshore units (10m blade)
- Partnership with off-shore engineering company
- Environmental Impact Assessment

Pentland Tidal Demonstration Park



- Huge resource
- 10 MW demo park
- Array of 20 turbines (T500)
- Consortium with local parties
- Closing the loop between government, industry, and utilities



Project development roadmap



Roll-out

TOCARDO AQUA INSHORE
TIDAL STREAM TURBINE



The Tocado design: **robust** and **reliable** technology,
based on industry standard components,
aimed to generate cost-effective and reliable tidal energy.

More information?

Tocado B.V. Tidal Energy

De Weel 20, 1736KB Zijdewind
telephone: +31 226 423411

Hans van Breugel, Managing Director (hvb@tocardo.com)
Sander de Block, Commercial Director (sdb@tocardo.com)
Pieter de Haas, Operations Director (pdh@tocardo.com)



AQUA INSHORE
TIDAL STREAM TURBINE