



ideol *winning solutions
for offshore wind*

**BOUYGUES
TRAVAUX PUBLICS**

Ideol & Bouygues Travaux Publics team up to make floating offshore wind cost-competitive

The huge potential of floating offshore wind

Floating offshore wind enables the development of projects further from the shoreline, on sites benefiting from the best available wind resources, with a strongly reduced visual impact on coastal landscapes, and removing otherwise critical water depth or soil constraints. Floating offshore wind creates huge market opportunities around the world, and especially in France.

Key issue: reducing the costs

At a time when a growing number of countries are defining ambitious roadmaps towards increasing the share of renewables into their energy mix, the question of cost is becoming the key issue for floating offshore wind power. Ideol anticipated this early on, by developing and patenting a technology that is both technically AND economically viable. The combination of Ideol's innovative technology and Bouygues Travaux Publics' expertise in marine infrastructures construction will allow for further cost optimization while guaranteeing quality execution and performance.

Ideol's floating foundation: the winning solution



Unique concept

A patented concept (Damping Pool®) that optimizes the stability of the foundation/wind turbine assembly



Compatibility and compactness

Can be used with all available wind turbines and has extremely compact dimensions versus other floating solutions



High local content

Construction near installation sites which guarantees the creation of 100% local jobs



Reduction of the overall cost of energy

Strong cost-competitiveness and optimized electricity production thanks to open-sea wind

Ideol, a key player in the offshore wind market

Located near Marseille since 2010, Ideol is composed of a highly experienced and multidisciplinary team with extensive expertise in the offshore oil & gas and renewables industries. Ideol's patented technology is at the heart of France's first offshore wind turbine (see back page) and has recently signed its first commercial contract with Hitachi Zosen for the design of both a concrete and a steel version of its floating foundation (installation scheduled by 2017). Ideol's solution is by far the most competitive floating solution on the market, guarantees the highest level of local content and has as such been recognized as a real industry changer.

56 people, essentially engineers

3 full scale demonstrators under development

2015 first commercial contract

Bouygues Travaux Publics, a large track record of innovation to deliver long-lasting marine infrastructure

As a global player in construction and services active in 80 countries, Bouygues Construction designs, builds and operates buildings and structures which improve the quality of people's living and working environment.

Within the group, Bouygues Travaux Publics, as expert of complex civil works, is the partner of choice for designing & building of all types of marine infrastructures: complete harbors, quays, wharfs, breakwaters, offshore platforms....

Our long experience of fabrication and installation of concrete marine infrastructures dates back to the 80's and we have since delivered major projects worldwide, including 445 concrete caissons fabricated and installed.

We provide to our customers the strength of a world leader in construction, with strong financial background and distinctive project management capabilities ensuring that your project is delivered to your satisfaction, on time and on budget.

€1,399 million
Sales in 2014

€2,200 million
Order bookings in 2014

4,400
Employees



Bouygues Travaux Public designs builds and operate marine infrastructures in France and abroad.

Caisson Construction in 4 stages

01 Slab construction



02 Walls erection



03 Watering of caisson



04 Towing and installation



Our joint project: Floatgen, France's first offshore wind turbine



2MW turbine equipped with Ideol's foundation built by Bouygues Travaux Publics on Saint-Nazaire harbour

- **Installation site:** SEM-REV testing site off Le Croisic
- **Water depth:** 33 metres
- **Installation and commissioning:** Summer 2016
- **7 European partners** including École Centrale de Nantes, University of Stuttgart...
- **Project supported** by the European Union (as part of the FP7 programme) and by ADEME (as part of the "Investissements d'Avenir" programme)



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