

ENERGY

RENEWABLES ADVISORY :

# Fast Feeder Vessels FFVs for Offshore Wind Farm Construction

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27 April 2017

# Conventional Installation Cycle & Fast Feeder Vessel Cycle

# CONVENTIONAL INSTALLATION CYCLE

TIME = MONEY

IRS 1 Crore/day @ ~25 hr/day = IRS 4 Lakh/ hr  
@~4,000 sec/hr ~ = IRS 1/sec

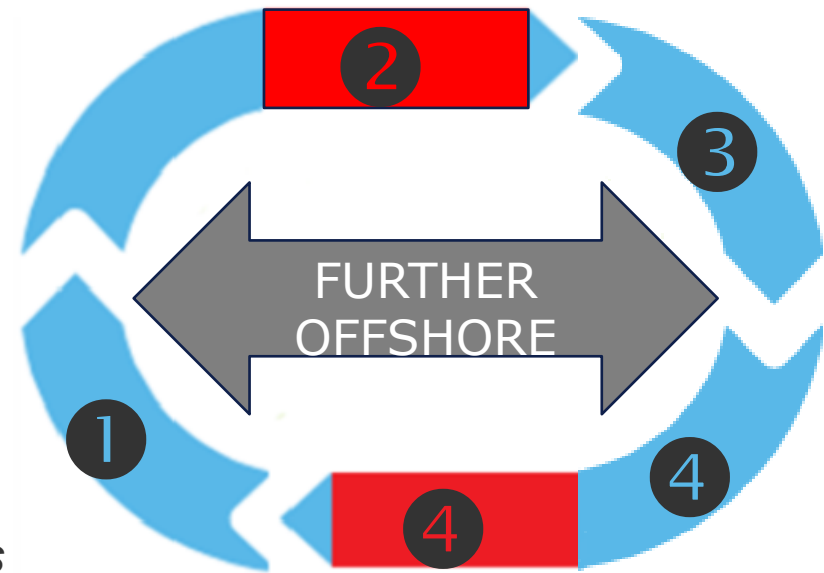
## Installation Cycle Times / Costs

- 1) Loading in Port
- 2) Port to Wind Farm Voyage
- 3) Install Component
- 4) Wind Farm to Port Voyage

What vessel specifications will reduce the additional voyage costs, as we go further offshore ?

**FASTER VESSELS** - REDUCED VOYAGE TIMES

**GREATER CAPACITY** - REDUCED UNIT COSTS



**ASSUMPTION :**  
INSTALLATION VESSEL TRANSPORTS  
COMPONENTS FROM PORT TO WIND FARM

# FAST FEEDER VESSEL INSTALLATION CYCLE - Challenge the Assumption

- ~~1) Loading in Port~~
- ~~2) Port to Wind Farm Voyage~~
- 3) Install Component + FFV delivery costs
- ~~4) Wind Farm to Port Voyage~~

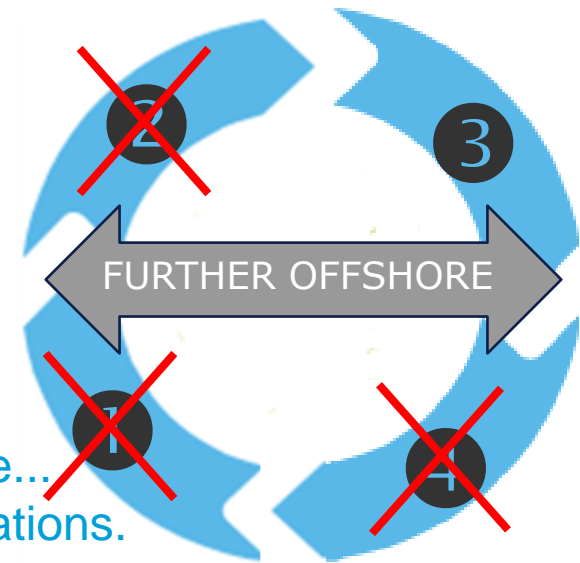
## What if ....

Components are delivered offshore, by FFV onto the deck of the installation vessel ?

## Is offshore delivery possible?

Offshore vessel-to-vessel component transfers are...  
Technically possible, but challenging marine operations.

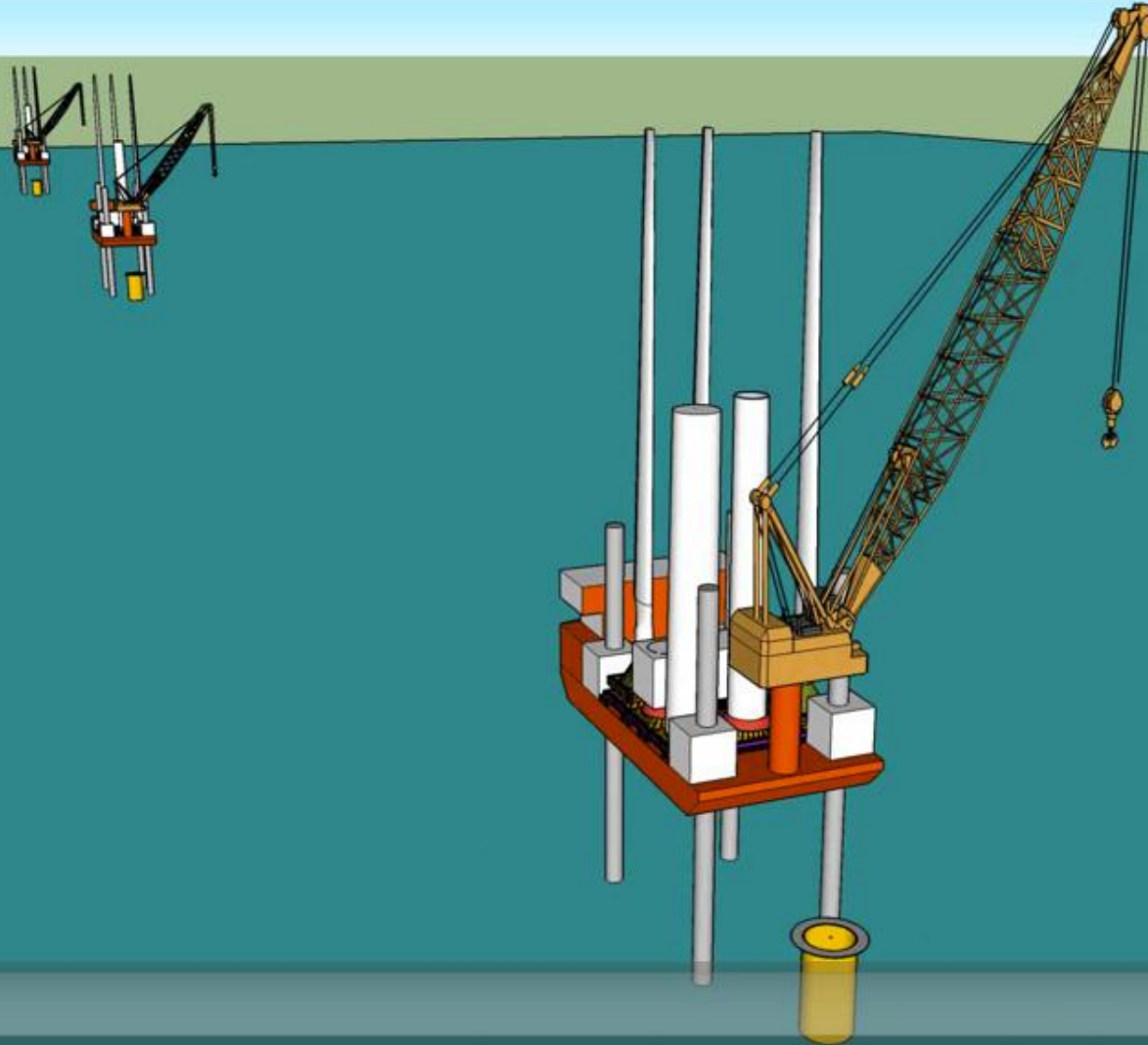
The main installation vessel transports components from port to wind farm



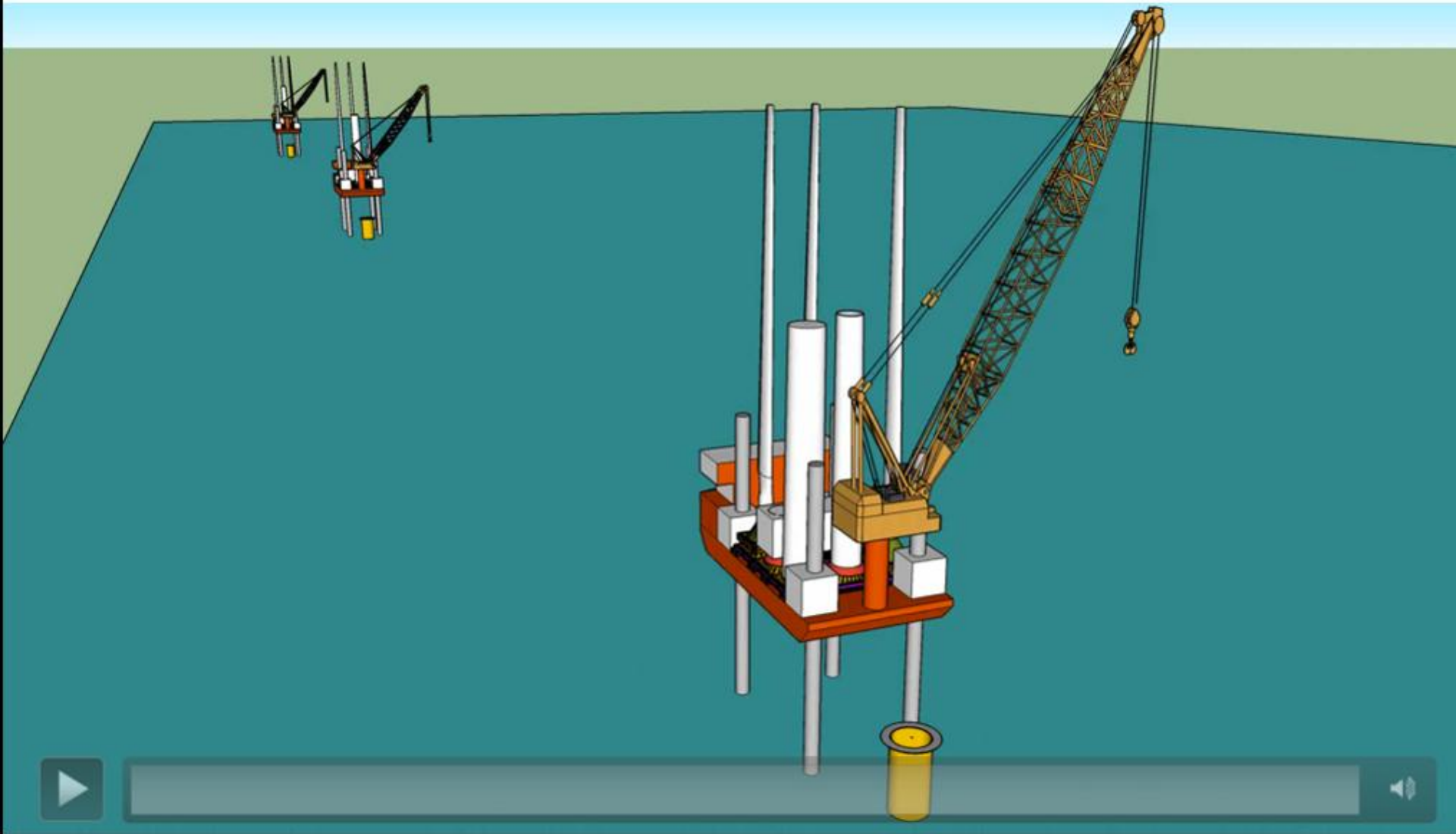
*IS THE COST OF THE FFV INSTALLATION CYCLE  
DELIVERING DIRECT ONTO WTIV VESSEL DECK OFFSHORE  
LESS THAN, THE VOYAGE AND PORT COSTS OF USING  
THE INSTALLATION VESSEL TO TRANSPORT FROM SHORE TO OWP ?*

# Fast Feeder Vessel Innovation Leads to Cost Savings

# Installation of a Turbine from a Twistie Turbine Cassette



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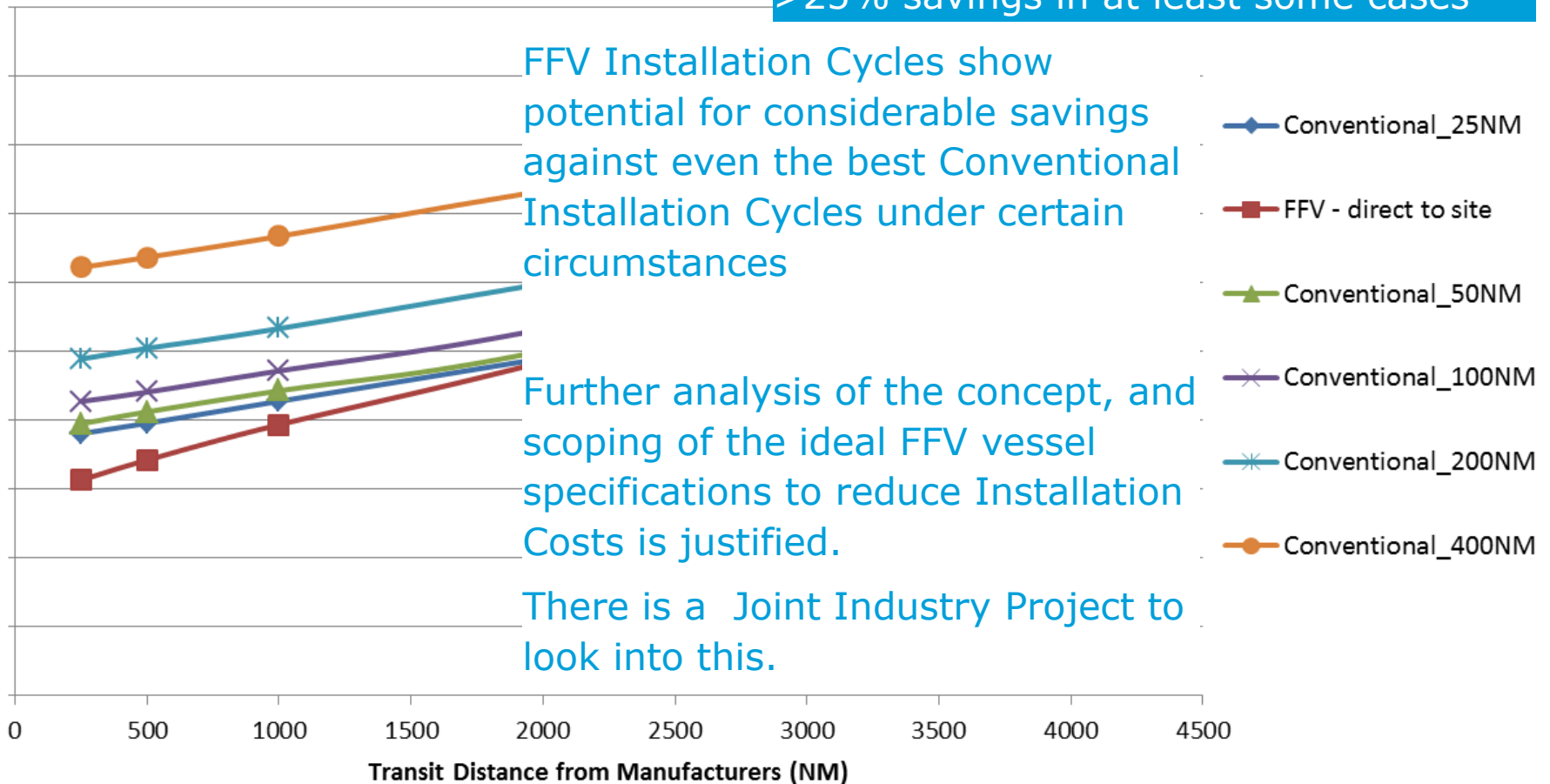


# Findings

## Total project cost for optimum direct FFV installation against conventional installations

R&D Project success Criteria  
 >25% savings in at least some cases

Project cost





Thank you for listening



# Fast Feeder Vessels

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**SAFER, SMARTER, GREENER**