

# ENVIRONMENTAL AND SOCIAL CONSIDERATIONS FOR THE WIND POWER SECTOR IN VIETNAM

OVERVIEW OF RISKS, GAPS AND SOLUTIONS



*Creating Markets, Creating Opportunities*

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*Creating Markets, Creating Opportunities*

# THE BUSINESS CASE

## IS THE RIGHT THINK TO DO!

- **73% of delays in 190 mega-projects worldwide linked to environmental and social issues leading to millions of dollars in losses** (*ERM, 2010*)
- **Community opposition and poorly managed land acquisition are major sources of risks of project delays and cost-overruns** (EU, 1998 & *Bauhaus-Universität Weimar, 2009*)
- **US\$3- 5 billion mining project will suffer costs of ~US\$20 million per week of lost production** (David & Franks, 2014)



# International E&S Standards: Convergence & Harmonization since 1980s



 **EQUATOR PRINCIPLES**  $\approx$  **70% of Project Finance in Developing Countries**



# IFC E&S Performance Standards

## PERFORMANCE STANDARDS

 <p><b>1</b> Risk Management</p> 	 <p><b>2</b> Labor</p> 	 <p><b>3</b> Resource Efficiency</p> 	 <p><b>4</b> Community</p> 
 <p><b>5</b> Land Resettlement</p> 	 <p><b>6</b> Biodiversity</p> 	 <p><b>7</b> Indigenous People</p> 	 <p><b>8</b> Cultural Heritage</p> 

# Understanding IFC's Environmental and Social Due Diligence Process



## IFC and client agree to work together

### Review and Agree on Next Steps

The client receives copies of:

- IFC's Performance Standards,
- Relevant World Bank Group Environmental, Health and Safety (EHS) Guidelines, and
- Other supporting documents.

The IFC Environmental and Social (E&S) team:

- Asks the client to provide key information regarding assets and management of E&S risks and impacts.
- Assesses the project against the Performance Standards and EHS Guidelines.
- May meet with company, government, and local stakeholders to discuss E&S aspects of the project.
- Generates an E&S Review Summary (ESRS) and an E&S Action Plan (ESAP). The ESRS and ESAP are reviewed and approved by the client.

### Publicly disclose the project and consult with local community

IFC discloses its ESRS along with relevant sponsor E&S documentation on the IFC website. The client discloses project E&S assessment information locally. Projects will engage and consult with Affected Communities to ensure their awareness of the project, and provide for an ongoing constructive relationship.

For projects with potential significant adverse impacts on Affected Communities and projects involving Indigenous Peoples, IFC will make a determination of the level of community support for the project.

### Finalize the investment agreement

Once the World Bank Group Board of Directors approves the project:

- The investment agreement is mutually agreed and finalized.
- The final agreement reflects the terms of the ESAP plus any other E&S commitments.
- Funds are disbursed once the client meets disbursement conditions.

### Ongoing monitoring and disclosure

Monitoring occurs on two levels:

- Site visits from IFC staff.
- Submission of the client's Annual Monitoring Report on progress in meeting the E&S terms of the investment agreement.

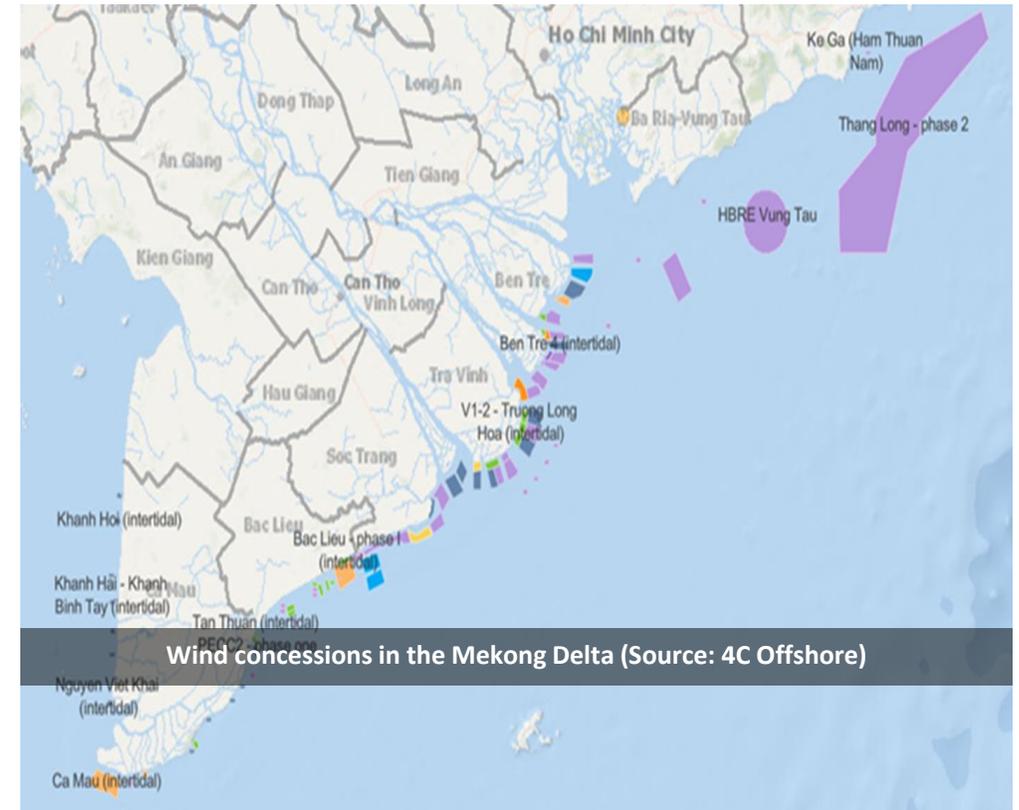
Engagement between the client and Affected Communities should be ongoing. IFC will disclose the client's progress against the ESAP.

During monitoring, IFC and the client may identify opportunity for project enhancement through IFC Advisory Services.

IFC's Compliance Advisor/Ombudsman (CAO) may also provide additional oversight. The CAO is an independent office that impartially responds to E&S concerns of Affected Communities, and aims to enhance IFC accountability and outcomes.

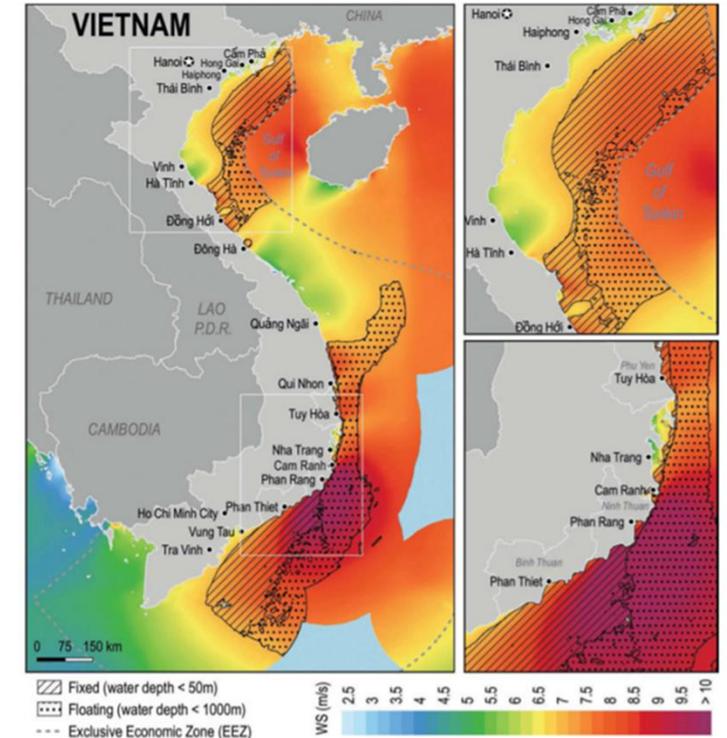
# Background

- Wind power expansion in coastal Vietnam, including the Mekong Delta has been increasing to respond to the need for renewable energy
- Wind resources in the Mekong Delta for nearshore wind and offshore wind along the mid and north coasts has seen rapid wind farm development
- Such development pose risks to biodiversity and social aspects



## Background

- Biodiversity as well as social impacts unless properly assessed and managed in line with international standards (e.g., IFC Performance Standards), affects project bankability
- There are currently key gaps with the local requirements with IFC PS5 and PS6 that considers involuntary resettlement and land acquisition, biodiversity, ecosystem services and the use of natural resources
- Considering the IFC PSs early in the project design stage is key since avoidance through proper site selection is one of the key measures – once a project is built, it is challenging to address the risks
- IFC PS6 risks in coastal Vietnam for the renewable energy sector is a challenge, especially in relation to both marine and bird life
- For social risks, it should consider commercial fishing grounds, aquaculture, landscape and seascape, land acquisition, and potential impacts on ethnic minorities

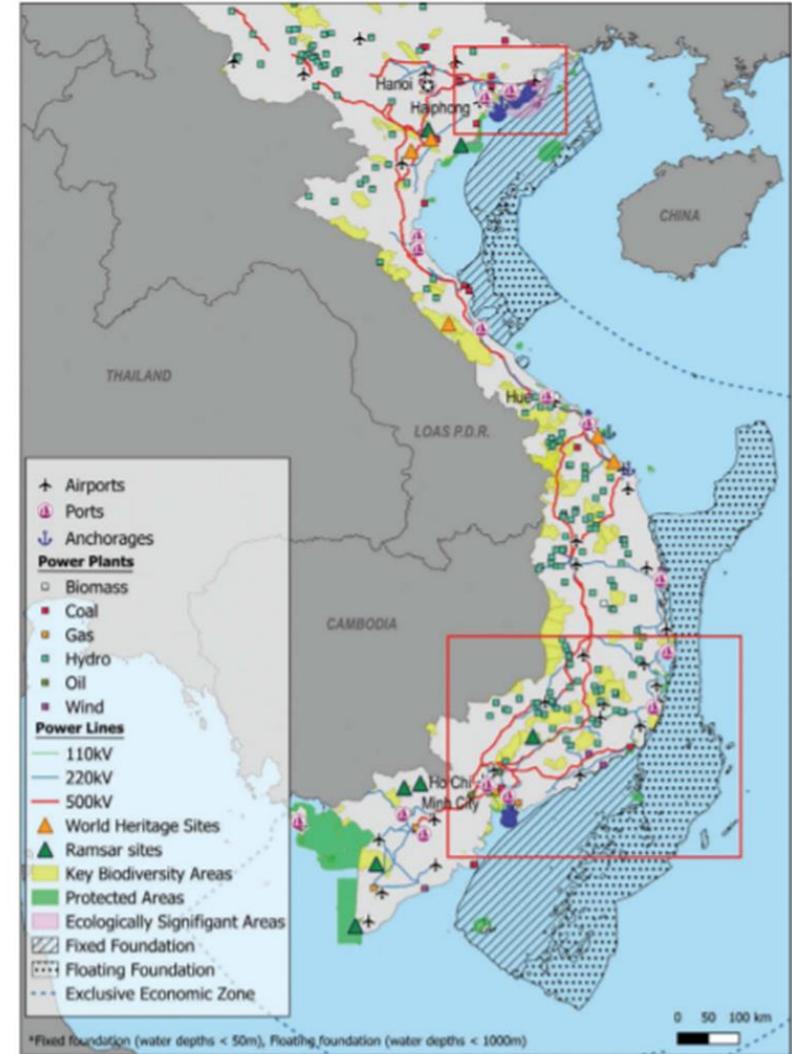


Source: ESMAP. 2021. Going Global: Expanding Offshore Wind to Emerging Markets (Vol. 50): Technical Potential for Offshore Wind in Vietnam—Map (English). Washington, DC: World Bank Group. <http://documents.worldbank.org/curated/en/340451572465613444/Technical-Potential-for-Offshore-Wind-in-Vietnam-Map>

## Vietnam Wind Resources (Source: World Bank 2021)

# Biodiversity Risks

- Risks to biodiversity values from the wind power sector in Vietnam are centered around potential impacts to:
  - Migratory shorebirds, in coastal mudflat habitats in the Mekong Delta
  - Other birds consisting mainly of waterbirds and soaring birds, however resident forest dwelling birds may also pose risks. Offshore projects may also pose risks to seabirds
  - Whales and dolphins in coastal estuarine habitats in the Mekong Delta
  - Bats consisting of approximately 70 species, including species of large fruit bats
  - Undersea habitats (for nearshore and offshore windfarms) consisting of rays, sharks and fishes
  - Nearshore habitats, including mangroves, coral reefs and seagrasses



Source: BVG Associates.  
Note: See Section 20 on Spatial Mapping for further information.

# Risks to species from windfarms

- Construction:

- Pile driving causing underwater noise impacting sea life, especially the hearing of whales and dolphins
- Loss of land and sea habitat from the project footprint
- Impacts on water quality from vessels and turbine footing construction
- Risk of collision with whales and dolphins from vessels

- Operation:

- Risk of collision for birds and bats with turbines and transmission lines
- Risk of collision with whales and dolphins from vessels
- Likely improvement in localized fish habitats and populations around the windfarm

# Species at Risk

## Nordmann's Greenshank

- Species breeds in Siberia and winters in Vietnam on its way to Australasia before returning
- Global population <1200 individuals
- Species winters in coastal Vietnam, Thailand, Malaysia, Myanmar and India

## Great Knot

- Species breeds in Siberia and winters in Vietnam on its way to Australasia before returning
- Global population ~ <300,000 (global reduction in population of 70% in three generations)
- Species winters in coastal Vietnam, Thailand, Malaysia, Myanmar and India



# Species at Risk

## Spoonbilled Sandpiper

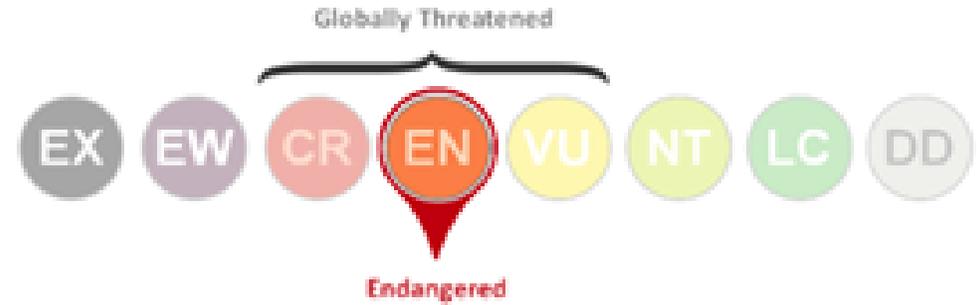
- Species breeds in Siberia and winters in Vietnam on its way to Australasia before returning
- Global population <400 individuals
- Species winters in coastal Vietnam, Thailand, Malaysia, Myanmar and India

## Christmas Island Frigate Bird

- Species breeds on Christmas Island in the Indian Ocean and forages at sea
- Global population <3700 individuals
- Species forages at sea in Southeast Asia, including the East Sea



# Species at Risk



## Irrawaddy Dolphin

- Species is found in estuaries throughout eastern South Asia and Southeast Asia (including the Mekong Delta)
- Population is ~4500
- No data is available on the population in the Mekong Delta



# Biodiversity surveys needed



Birds: up to 2 years of data on migratory shorebirds, and seabirds



Bats: at least 2 seasons (1 year) of survey for coastal bats



Whales/dolphins: offshore transect surveys over 2 seasons (1 year)



Fishes: Sampling over 2 seasons (1 year)



Surveys to be completed by competent professionals



# Mitigations available

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Mitigations available to reduce risks to biodiversity:

- Avoid important areas such as Key Biodiversity Areas and other important habitats for threatened species (e.g., mudflats used by threatened shorebirds)
- Use technologies such as shut-down on demand; higher cut in speeds; and blade feathering to reduce risks to flying birds and bats. Can be combined with radar technologies that detect birds to further reduce risks
- Manage pile driving to reduce risks to hearing damage for whales and dolphins; use Marine Mammal Observers for vessel movements; sediment management (such as sediment curtains)
- Adaptive management plans to alter the mitigation regime based on detected risks (can decrease commitments based on long term monitoring)

# Risks to projects from biodiversity

- Projects, particularly in the Mekong Delta carry risks due to:
  - Low understanding of the application of key mitigations (turbine technology; mortality monitoring and adaptive management)
  - Lack of biological data for species, particularly migratory shorebirds, seabirds, cetaceans, fishes and their habitats
  - Rapid Project timelines and low margins reducing the scope of biological survey during pre-feasibility and Environmental and Social Impact Assessment (ESIA)
  - Commitment and costs associated with mitigation application, monitoring and reporting
  - Understanding of cumulative impacts

# Social Considerations

Potential social risks and impacts from the wind power sector in Vietnam are centered around:

- Commercial fishing grounds: Displacement of fishing grounds by wind energy developers puts additional pressure on stocks and local livelihoods. Restricted access for commercial fishing practices, and the installation of foundations and cables can temporarily increase suspended sediments in the water, causing adverse impacts on commercial fisheries.
- Aquaculture: potential conflicts
- Visual impacts (landscape and seascape) and public attitudes towards wind power



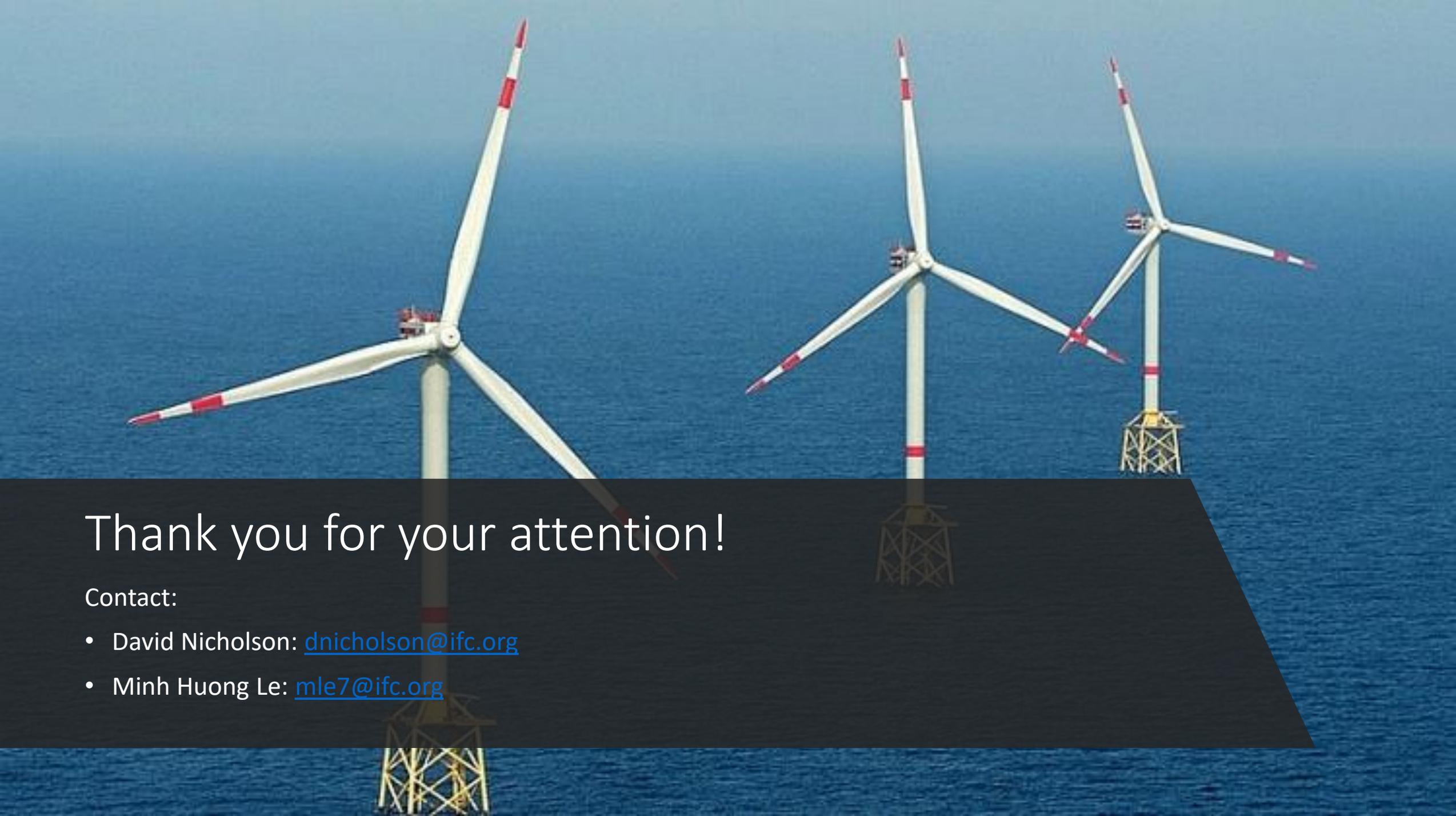
# Social Considerations

- Land acquisition and resettlement impacts with regards to onshore components
- Potential for cultural disruption and impacts on ethnic minority communities
- Livelihood impacts and overall economic benefits (local employment, income diversification, employment opportunities during the construction and O&M of the projects, etc.)
- Noise from wind turbines, shadow flicker, blade throw risks and setback requirements for dwellings particularly for onshore wind farms



## Potential Solutions

- Improve the understanding of cumulative impacts from projects
- Careful site selection is key consideration
- Build capacity on IFC Performance Standards to ready projects
- Continue to engage in World Bank programs related to scaling wind/road maps for sustainable wind development in SE Asia and Vietnam
- Address gaps in species level surveys, particularly for migratory shorebirds, whales and dolphins
- Improve the application of mitigations for projects
- Improve stakeholder consultation, participation and communication
- Benefit-sharing

The background of the slide features three large, white offshore wind turbines with three blades each, set against a clear blue sky and a deep blue ocean. The turbines are positioned in a diagonal line from the foreground to the background. Each turbine has red and white striped markings on the tips of its blades. The foreground turbine is the most prominent, showing its tower and nacelle. The middle and background turbines are smaller due to perspective. A dark, semi-transparent black overlay covers the bottom portion of the image, containing the text.

# Thank you for your attention!

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