



GREEN ENERGY EXPORT DAY 2023



GREEN ENERGY EXPORT DAY 2023 – PROGRAMME

SALEN

13+15

19

17

HOUSE OF GREEN



08.30 MARKET PLACE OPENS

08.30 WORKSHOP #0

WIND ENERGY
EGP KOREA/JAPAN

10.00 OPENING: DANISH ENERGY EXPORTS - OUR PROMISE TO THE GLOBAL CLIMATE AND DANISH ECONOMY

10.45 MARKET PLACE – COFFEE

11.15 WORKSHOP #1

WIND ENERGY
GLOBAL MARKET OUTLOOK

DISTRICT HEATING
NETHERLANDS

ENERGY EFFICIENCY
USA (+ASIA BRIEF)

GREEN HYDROGEN
DANISH EXPORT CASE

DENMARK-INDIA
GREEN PARTNERSHIP

12.15 MARKET PLACE - LUNCH

13.00 WORKSHOP #2

WIND ENERGY
SCALING UP FOR EXPORTS

DISTRICT HEATING
GERMANY

ENERGY EFFICIENCY
EUROPE

GREEN HYDROGEN
USA

BIOENERGY
EUROPE (DE+PL)

14.00 MARKET PLACE – COFFEE

14.30 WORKSHOP #3

WIND ENERGY
MARKET MATURITY

REBUILD UKRAINE
BUSINESS / FINANCE

ENERGY EFFICIENCY
GERMANY

GREEN HYDROGEN
EUROPE

BIOENERGY
USA

15.30 AMBASSADOR'S ROUNDTABLE: SEIZE THE OPPORTUNITY

16.00 RECEPTION AT TOP TERRACE





GREEN ENERGY
EXPORT DAY 2023

WORKSHOP: Denmark-India Green Partnership

Tuesday 29 August at 11.15-12.10

WELCOME



WORKSHOP: **Danmark-India** Green Partnership

PROGRAMME

Indo-Danish Energy Partnership

- **Lars Martin Jensen**, Country Manager India, Danish Energy Agency

New Business Alliances in Wind and Green Fuels

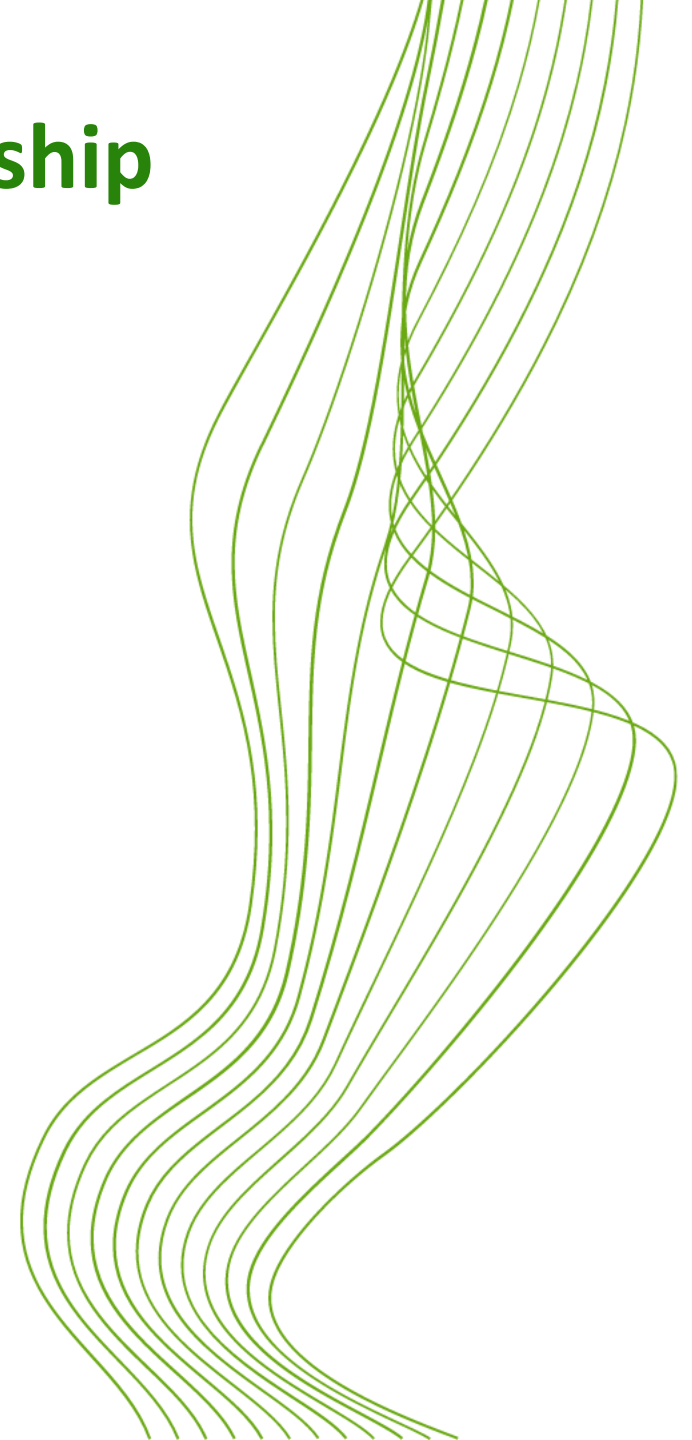
- **Peter Bertrand**, Energy Counsellor, Danish Embassy in New Delhi

Our Engagement in India's Green Energy Transition

- **Peter Pallishøj**, CEO, BAETTR

- **Uffe Hansen**, CEO, M&J Recycling

Moderator: **Hans Peter Slente**, Senior Advisor, DI Energy



WORKSHOP: **Danmark-India** Green Partnership

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Indo-Danish Energy Partnership

Investment framework for offshore wind

Centre of Excellence for Offshore Wind and Renewable Energy

Joint initiative by: Danish Ministry of Climate, Energy and Utilities

News | Contact | Library

About Spatial planning Financial framework and tender Grid and supply chain Standards and testing Search

Centre of Excellence for Offshore Wind and Renewable Energy

30 GW offshore wind

[Read more about](#)

The Centre of Excellence

Areas of the Centre of Excellence

Spatial Planning

Spatial planning is one of the first activities to be undertaken in the process of building up a pipeline of offshore wind projects.

News
COE launch conceptual plan for 15 Indian offshore wind parks

News
MNRE release draft offshore wind tender documents

News
Launch in Spatial Planning

Revision: 01
Date: 17th Aug, 2023

Strategy for Establishment of Offshore Wind Energy Projects

1.0 Background:

Government of India notified National Offshore Wind Energy Policy-2015 on 6 October 2015 for the development of offshore wind power in the country. The policy provides framework for offshore wind power development up to a seaward distance of 200 nautical miles from the baseline, i.e. up to the country's Exclusive Economic Zone (EEZ). As per policy, Ministry of New & Renewable Energy (MNRE) is the Nodal Ministry, and the National Institute of Wind Energy (NIWE) is the Nodal Agency for the development of Offshore Wind Energy in India.

Preliminary studies carried out by NIWE across the coastline of India indicate good potential both off the Southern tip of the country and the West coast for offshore wind farm development in India. The offshore wind potential was assessed by the FOWIND (Facilitating Offshore Wind in India) consortium with NIWE as a knowledge partner. Based on a multi-criteria approach involving assessment of various parameters such as wind resource, bathymetry etc., eight zones each off the coast of Gujarat and Tamil Nadu were identified as potential offshore wind energy zones. The identified eight zones off the coast of Tamil Nadu & Gujarat and their locations are shown in Figure 1 and Figure 2 respectively.

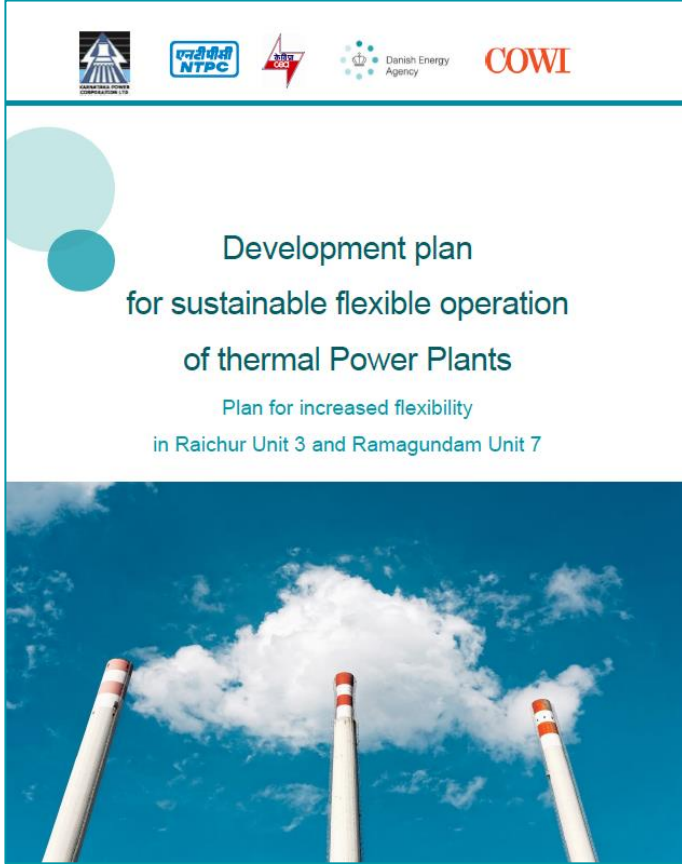
Keeping in view the requirement of the holistic development of offshore wind farms in the country and to fast-track the process, the following three models are proposed: -

Model-A (VGF Model)	This approach will be followed for demarcated offshore wind zones for which MNRE/NIWE has carried out or proposed to carry out detailed studies/surveys. Presently, part of identified Zone B3 (365 Sq.km) equivalent to 0.5 GW off the coast of Gujarat and 0.5 GW equivalent site off TN coast will be considered in phase-I of this model. MNRE through its implementing agencies will come up with bid for procurement of offshore wind power capacity under this model. Necessary central financial assistance in the form of Viability Gap Funding (VGF) would be available to achieve a predetermined power tariff.
Model-B (Non-VGF but with exclusivity over seabed during development)	This approach will be followed for sites identified by NIWE. Proposed offshore wind sites demarcated within identified zones would be allocated for a fixed period on a lease basis through single-stage two envelope bidding. Project development shall be carried out by the prospective developer in these sites without any Central Financial Assistance (CFA). The power generated from such projects shall be either used for captive consumption under open access over seabed or sold to any entity through a bilateral power purchase agreement or the mechanism of sold to any entity through a bilateral power purchase agreement or

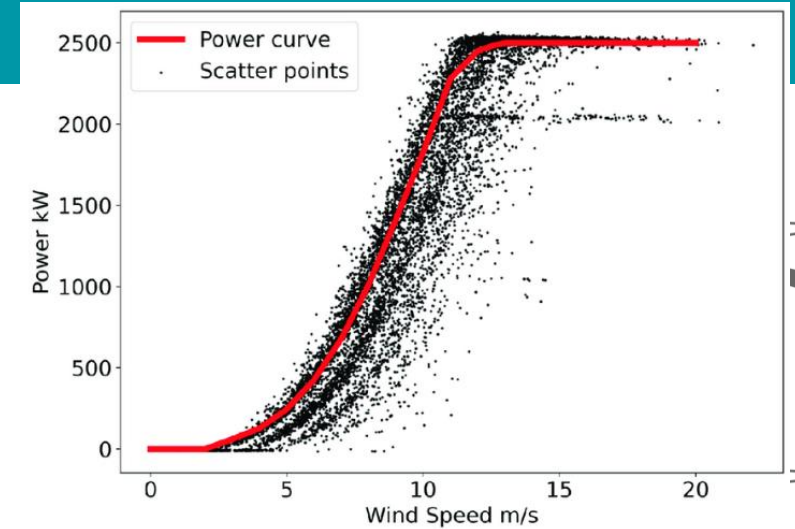
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Integration of renewable electricity

- Electricity markets
- Thermal flexibility
- Forecasting renewables
- Grid codes
- Transmission planning

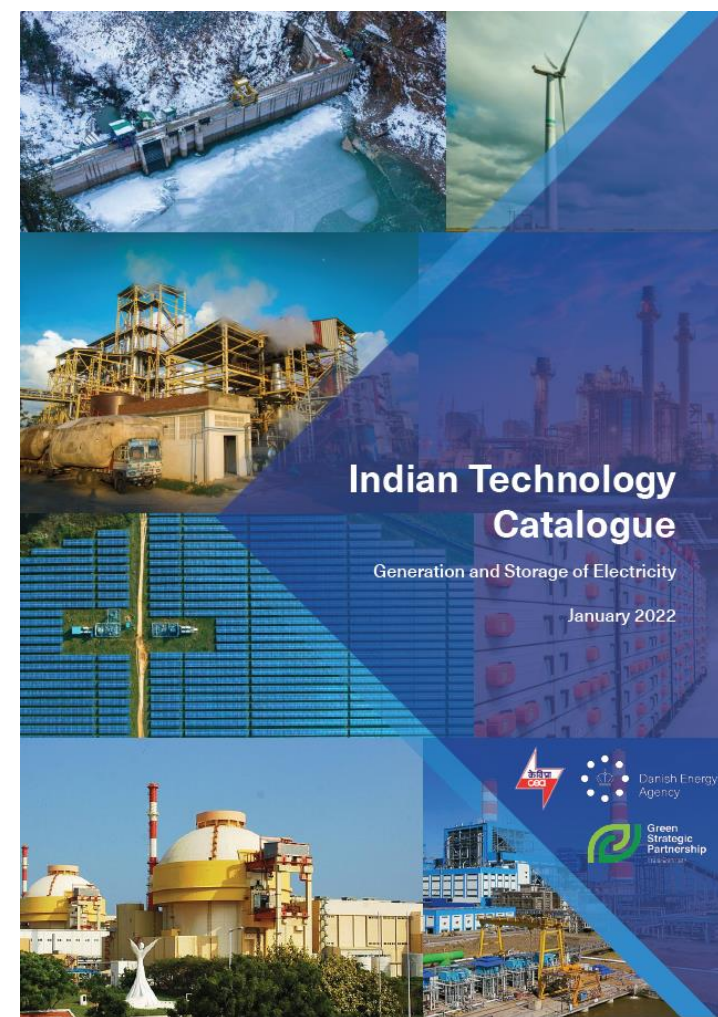
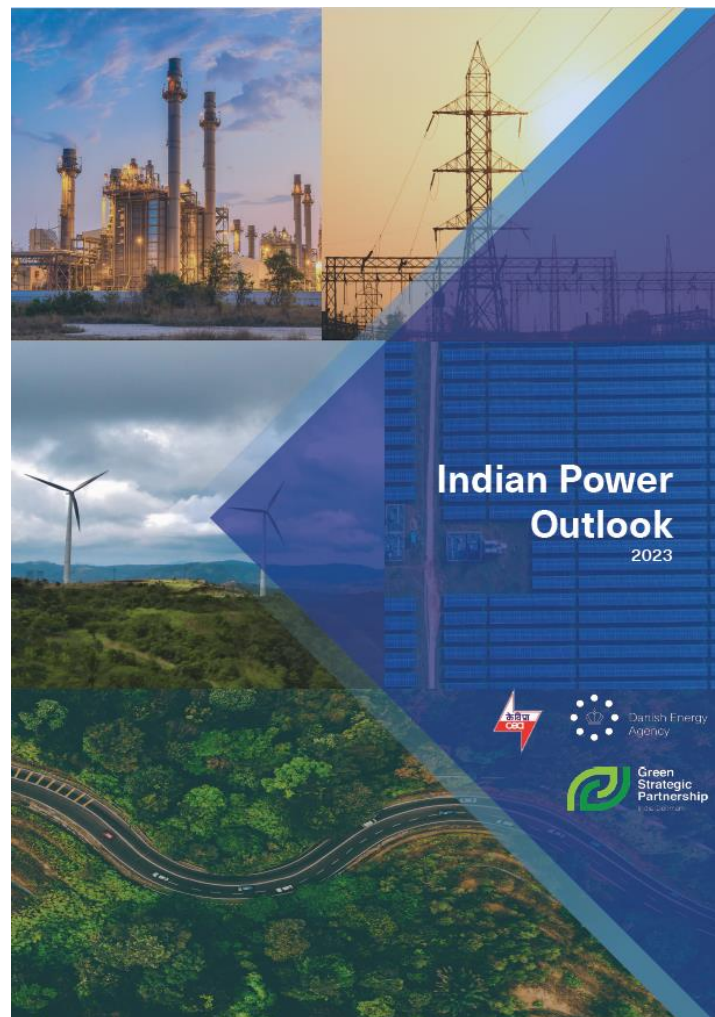


The image shows the cover of a report. At the top, there are logos for the Government of Karnataka, NTPC, a power symbol, the Danish Energy Agency, and COWI. The main title is 'Development plan for sustainable flexible operation of thermal Power Plants'. Below the title, it says 'Plan for increased flexibility in Raichur Unit 3 and Ramagundam Unit 7'. The bottom half of the cover features a photograph of three industrial smokestacks against a blue sky with white clouds.



Energy system planning and modelling

- India Power Outlook
- Technology Catalogue
- Green Hydrogen





Thank you

Lars Martin Jensen

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WORKSHOP: **Danmark-India** Green Partnership

PROGRAMME

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**MINISTRY OF FOREIGN AFFAIRS
OF DENMARK**
The Trade Council

Green Export Day 2023

Business alliances in wind & green fuels

August 29 2023

Peter Bertrand, Energy Counsellor

Royal Danish Embassy, New Delhi

PETBER@UM.DK

on behalf of

Eske Bo Rosenberg, Consul General – Head of Trade & Innovation

Consulate General of Denmark, Bangalore

ESKROS@UM.DK



INDIA

HQ

MGT



Ambassador
Freddy Svane



Consul General
Head of Trade & Innovation
Eske Bo Rosenberg



Minister Counsellor
Head of the Trade Council
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Kannik-Marquardsen



State Secretary for Trade & Global
Sustainability
Lina Gandløse Hansen

ENERGY team

The Trade Council Bangalore



Head of Energy
Suresh
Subramaniam



Energy Advisor
Mohan Kumar

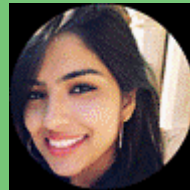


Trade Officer
Naveen Reddy

Gov – to – Gov New Delhi



Energy
Counsellor
Peter Bertrand



Strategic Sector
Officer
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Clean Tech
Advisor
Joseph Kurian



Clean Tech
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The Trade Council Denmark



Head of Global
Energy Team
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Head of Global
Energy Team
Martin Jørgensen

Green energy in india



MINISTRY OF FOREIGN AFFAIRS
OF DENMARK
The Trade Council

Outlook

- World's **3rd** biggest energy consumer by 2030
- Today, 57% of electricity demand covered by fossil fuels
- Carbon intensity to be reduced with 45% by 2030 and carbon neutrality by 2070
- **1.3 million** new green jobs

Wind

- World's **4th** largest installed wind capacity (42 GW)
- Goal of **140 GW** by 2030 with 30 GW being offshore wind
- Strong partnerships, level of knowledge and supply chain
- Massive concentration of commercially exploitable wind

Bio Energy

- 32% of primary energy use of biomass
- **+70%** of population depend on bio energy
- Potential 29 GW in non-utilized biomass
- Target of **5.000** BioCNG projects by 2024 to meet ~32% of current demand

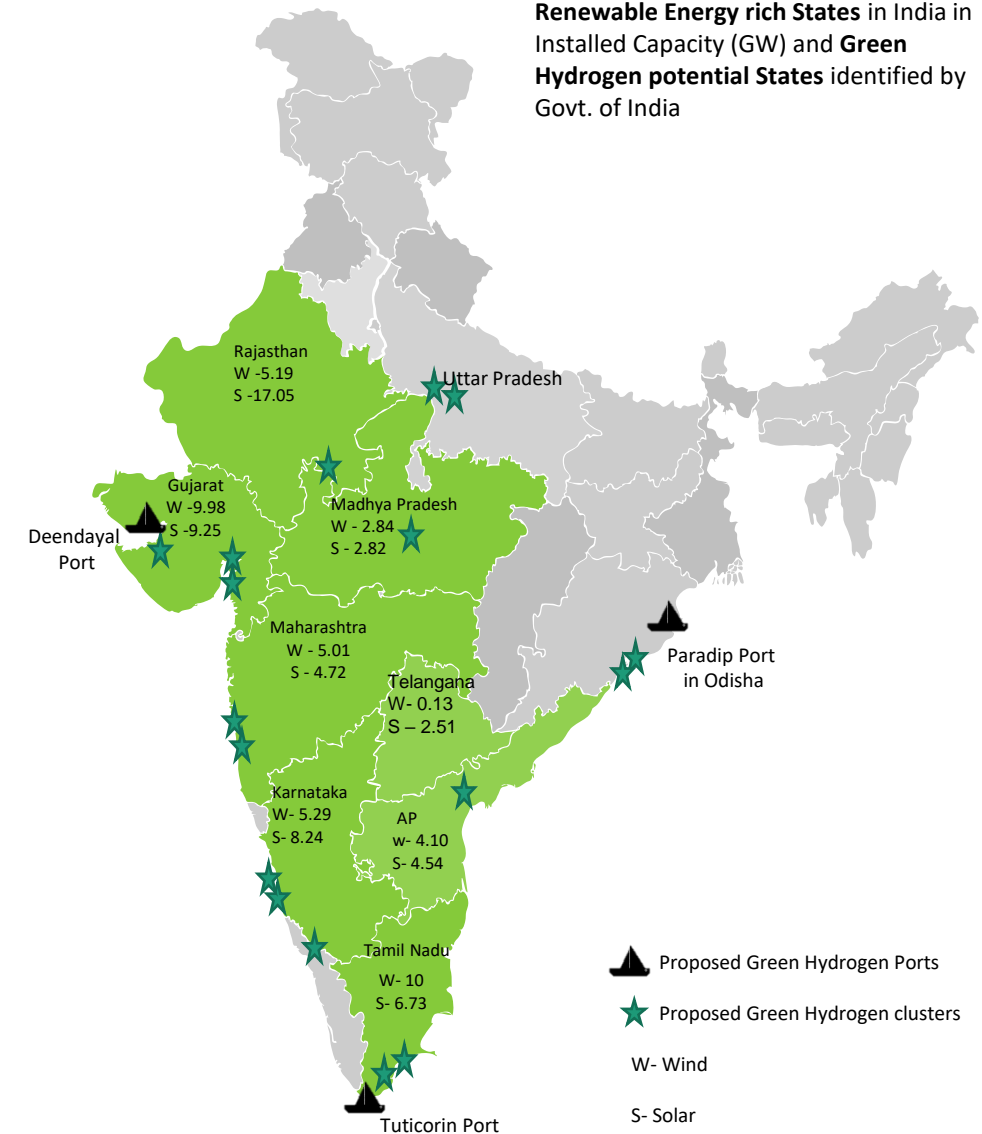
Green Hydrogen

- Vast solar and wind resources
- 16.5 billion DKK to make India world's biggest green hydrogen **export hub**
- Goal of **15-20 GW** installed capacity by 2030
- Demand for **innovation** in production technologies
- Several synergies with DK Hydrogen Ecosystem

India

- Economic **growth** and rising per capita energy
- Green Open access, FDI up to 100% in RE sector and no prior government approval required.
- Less expensive labour market, emerging manufacturing hub, abundant natural resources
- Largest Renewable Energy (RE) **expansion program** in the world

Renewable Energy rich States in India in Installed Capacity (GW) and Green Hydrogen potential States identified by Govt. of India



Wind Alliance india (Wai)



MINISTRY OF FOREIGN AFFAIRS
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The Trade Council

India's wind potential

Total wind target

140 GW

By 2030

Overall Offshore potential

70+ GW

Overall Onshore potential

~1 Tw

Overall assessment by NIWE shows total wind energy potential at 302 GW at 100 metre and 695,5 GW at 120 metre hub height

Strategic focus

Green Field onshore in Karnataka & Tamil Nadu

- Karnataka - **~7 GW** installed
- Tamil Nadu - **10 GW** installed

Offshore in Tamil Nadu & Gujarat

- MNRE to float bid for **0,5 GW** off the coast of Gujarat and Tamil Nadu soon
- Bid for **4 GW** capacity off Tamil Nadu is tentatively planned to be floated on 1st December 2023

NOTICE - Proposal to carry out study/survey of offshore sites in Tamil Nadu with 4 GW capacity out now with tentative date of issue of bids on the 1st December 2023

Repowering in Tamil Nadu

- Old and ineffective wind turbines placed in **wind rich Class 1 sites**
- Potential repowering opportunity of **834 MW** in Tamil Nadu

Potential alliance between Danish and Indian stakeholders

Offshore

- Capacity building within the Indian authorities regarding spatial planning, screening process and site identification
- Annual bids of offshore projects by Tamil Nadu and Gujarat of **4 GW** to be released until 2026. Hereafter bids will increase to **5 GW** until 2030.

Onshore

- **Dialogue** between stakeholders on value chain aspects of overall wind energy in India
- Onshore tender in Brownfield of **10 GW** to be released annually starting in 2023.
- WAI will address challenges in wind market and pave way for Danish companies to **expand** in APAC region



Value & Exclusive benefits

Access

- Influence on **decisions** through the Steering Committee,
- **close dialogues** with central stakeholders
- Invitations for **targeted missions and delegation visits** to respective states

Insights

- Regulatory, market and project developments through exclusive **periodic updates**
- Access to exclusive **briefing updates and webinars** with key stakeholders
- Upcoming conferences, seminars or events via the **WAI Calendar**

Action

- Continuous **promotion** of WAI's interests, technologies and services
- Biyearly exclusive **matchmaking sessions** with Indian stakeholders
- Yearly **"Indo-Danish Wind Day"** hosted by the Ambassador of Denmark to India

Cost

39.600 DKK per Company
@ 880 DKK per hour
= **45 Hours**

SME Discount of 50% potentially applicable.

Conditions

- Additional outlays and activity costs extra
- Travel, accommodation, etc. Not included

Achievements to date

- Danish Energy Agency and Danish Academia assisted the Indian National Institute for Wind Energy in the development of a wind component test centre
- Ministry of New and Renewable Energy and the Danish Energy Agency published conceptual plan with a pipeline **identifying** 15 offshore wind locations in India
- India Denmark Energy Partnership (INDEP) including Centre of Excellence for Offshore Wind and Integrated Renewable Power

Structure

WAI

Steering committee

SECRETARIAT

ADVISORY BOARD



2023-24 Activity calendar

1/9: Kick-Off

August

- 29: Green Export Day (CPH)

September

- Steering Committee
- 12: Webinar "G20 Outcomes & India Market Outlook" + Wind India Network
- Husum Wind 2023

October

- 3-6: Windergy 2023 (Chennai)
- Danish Wind Day with Ambassador (Chennai)
- 17: Wind India Network

November

- Webinar "Projections for 2024"
- Advisory Board Meeting
- 28: Wind India Network

December

- Steering Committee Meeting

January

- Vibrant Gujarat 2024 (IN)

February

March

- Wind Europe 2024 (Bilbao)
- Steering Committee Meeting

Q3 23

Q4 23

Q1 24

Green Fuels alliance india (GFAI)



MINISTRY OF FOREIGN AFFAIRS
OF DENMARK
The Trade Council

Vision & mission

- Taking advantage of **unique position**, fostering collaboration between businesses, government bodies, and research institutions
- Aiming to foster a dynamic ecosystem that drives the **growth** and **adoption** of green fuels production in India.

Vision

- To be a **catalyst** for business opportunities, and strategic partnerships between Indian and Danish actors in the field of green fuels including green hydrogen

Mission

- To **accelerate** the development of the green fuels in India through active knowledge sharing, fostering business opportunities, and establishing strategic partnerships between Indian and Danish actors

Strategic focus

Activities of the alliance will be strategically focused on selected states with **unique advantages** for green fuel production, including:

- Renewable rich geographies
- Industrial Clusters & Port infrastructure
- Supportive policies and incentives – State governments
- Investments commitments in green hydrogen

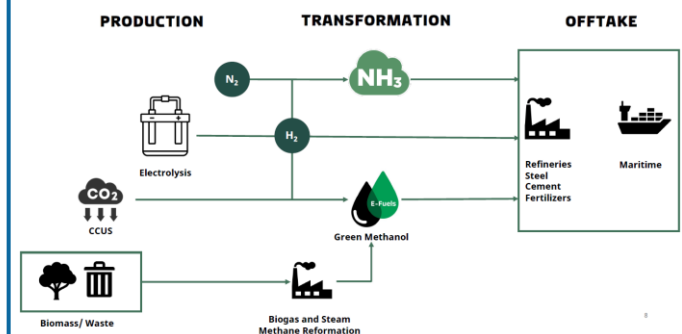


Source: PPAC, NITI Aayog, CEEW

Value chain & Stakeholder engagement

- GFAI core driven by commercial interest with **proactive inclusion** of strategic stakeholders spanning demand, policy, supply, finance and technology.
- Access to additional external stakeholders is on an ad hoc basis
- GFAI secretariat manages interactions between external and internal stakeholders

GFAI Value chain focus



Values & benefits

Steering Committee member

- **Influence** on decisions and direction of the alliance

Knowledge exchange

- Sharing expertise, best practices, and industry research among alliance members

Strategic Partnerships

- **Collaboration** with key stakeholders to drive joint initiative and projects

Market access and visibility

- Enhanced **access** to the Indian market and visibility for alliance members in the green fuels sector

High level networks and market visits

- Delegation visits and conferences as well as annual networking with the Ambassador of Denmark to India

Exclusive policy briefing

- Insights and updates on regulations and changes to ensure informed decision-making

Quarterly newsletters

- Updates on trends, developments, activities and much more

Cost & subsidies

39.600 DKK per Company

@ 880 DKK per hour

= **45 Hours**

SME Discount of 50% potentially applicable.

Conditions

- Additional outlays and activity costs extra
- Travel, accommodation, etc. Not included

Timeline and milestones

The Green Fuels Alliance India operates on a yearly contract basis, allowing for focused collaboration and aligning with the specific objectives and activities of the alliance.



Interested stakeholders

ANNUAL ACTIVITES

- High level annual event organised in conjunction with a relevant conference (with Ambassador)

HALF YEARLY ACTIVITES

- Advisory Board Meeting
- Business Matchmaking Workshop

QUARTERLY ACTIVITES

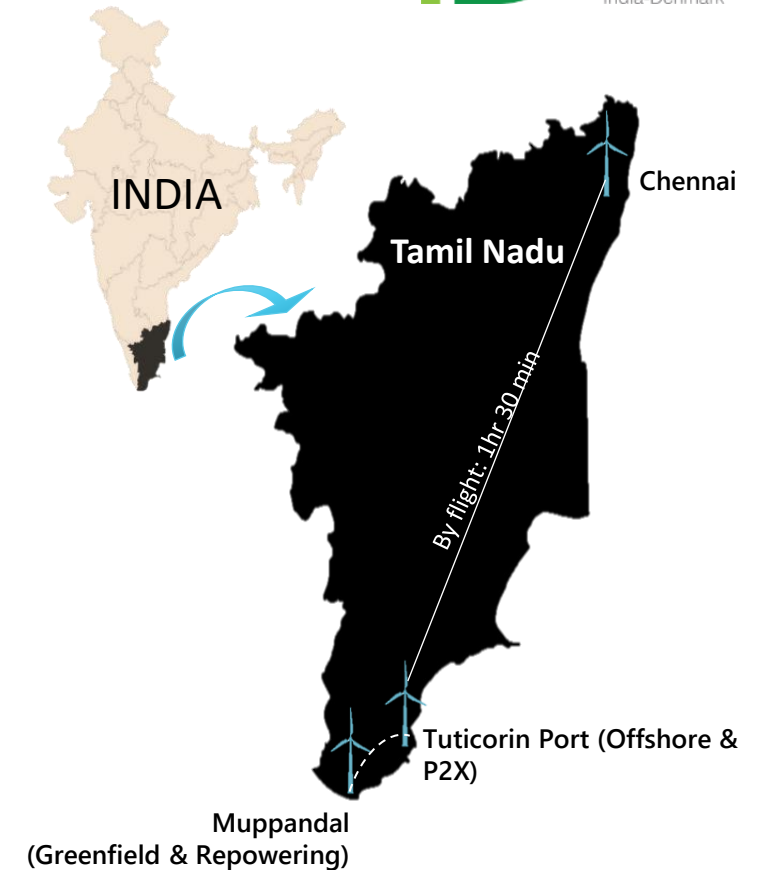
- Knowledge Exchange and Capacity Building
- Newsletters
- Quarterly Progress Review: Steering Committee Meeting

YEAR-ROUND ACTIVITES

- Stakeholder Management
- Conference Participation
- Market and Policy Updates

Windergy 2023 Delegation visit Program Chennai, October 3-6

Tuesday, Oct 3 (WAI Activity)	Site visits	Onshore Greenfield & Repowering track to Muppandal in Kanyakumari		Indo-Danish Green Transition Dinner hosted by Ambassador	
		Offshore & P2X track to Tuticorin Port			
Wednesday, Oct 4	Windergy	Inauguration of Windergy with Chief Guest Ambassador	Closed meeting with Ambassador and Tamil Nadu Government	Tailor-made B2B meetings with preferred partners for WAI Members	
Thursday, Oct 5	Windergy	Denmark Country Partner Session	Onshore & Offshore Wind	Tamilnadu Guidance Roundtable Session	Reception at Danish Pavilion by DWEA & DI India
			P2X		
Friday, Oct 6	Site visits	Visit to IIT Madras Ocean Engineering Dept.	Visit to IIT Madras Research Park Incubation Centre	Internal Wrap Up & Feedback session	
Saturday, Oct 7	Optional	Factory site visits organised by Windergy			



	WAI Company: All Days	Non-WAI Company: All Days	Additional information
Cost of Participation SME discount of 50% potentially applicable.	15 hours @ 880 DKK = 13.200 DKK - Day 1 included in WAI Membership	25 hours @ 880 DKK = 22.000 DKK	- Option to select specific days. - Cost of participation excl. travel, accommodation, outlays. - Dinner cost ca. 800 DKK per person. Max 5 persons per company incl. invited guests.



MINISTRY OF FOREIGN AFFAIRS
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Thank you

For further inquiries, please contact:

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PROGRAMME

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New Business Alliances in Wind and Green Fuels

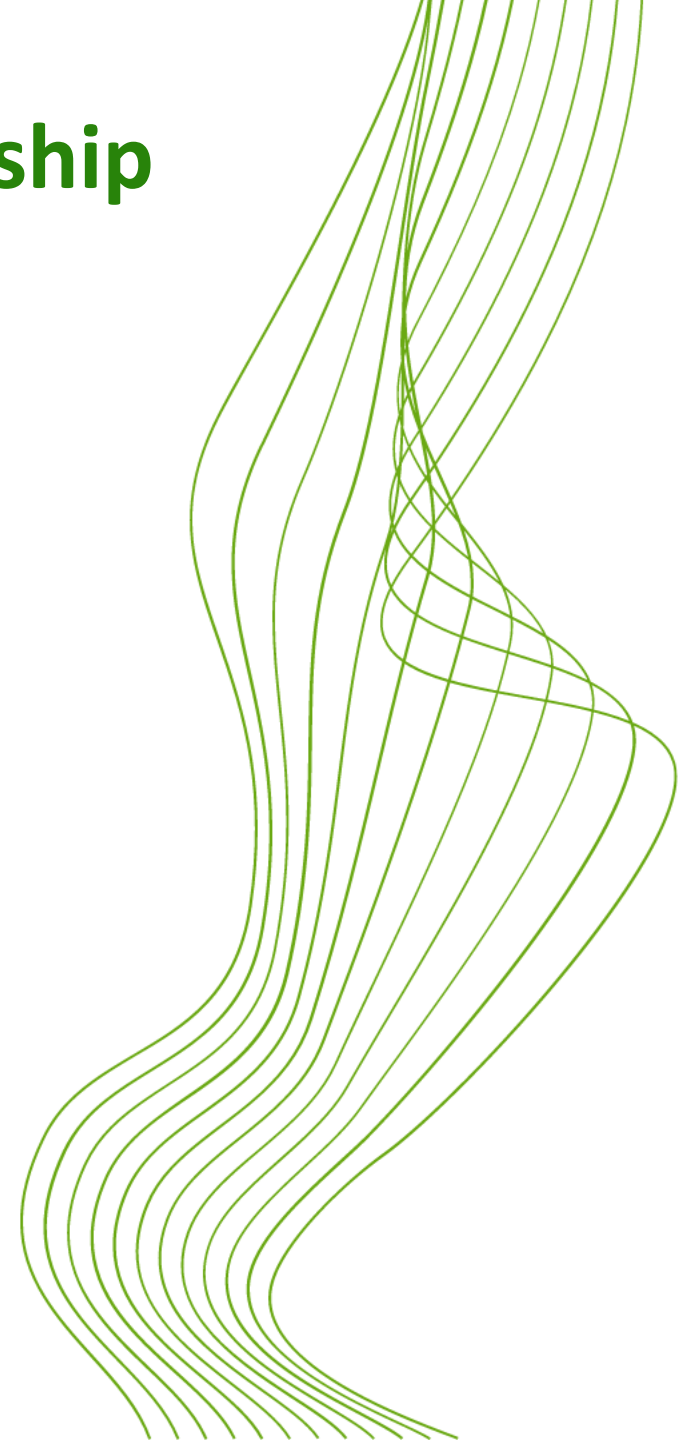
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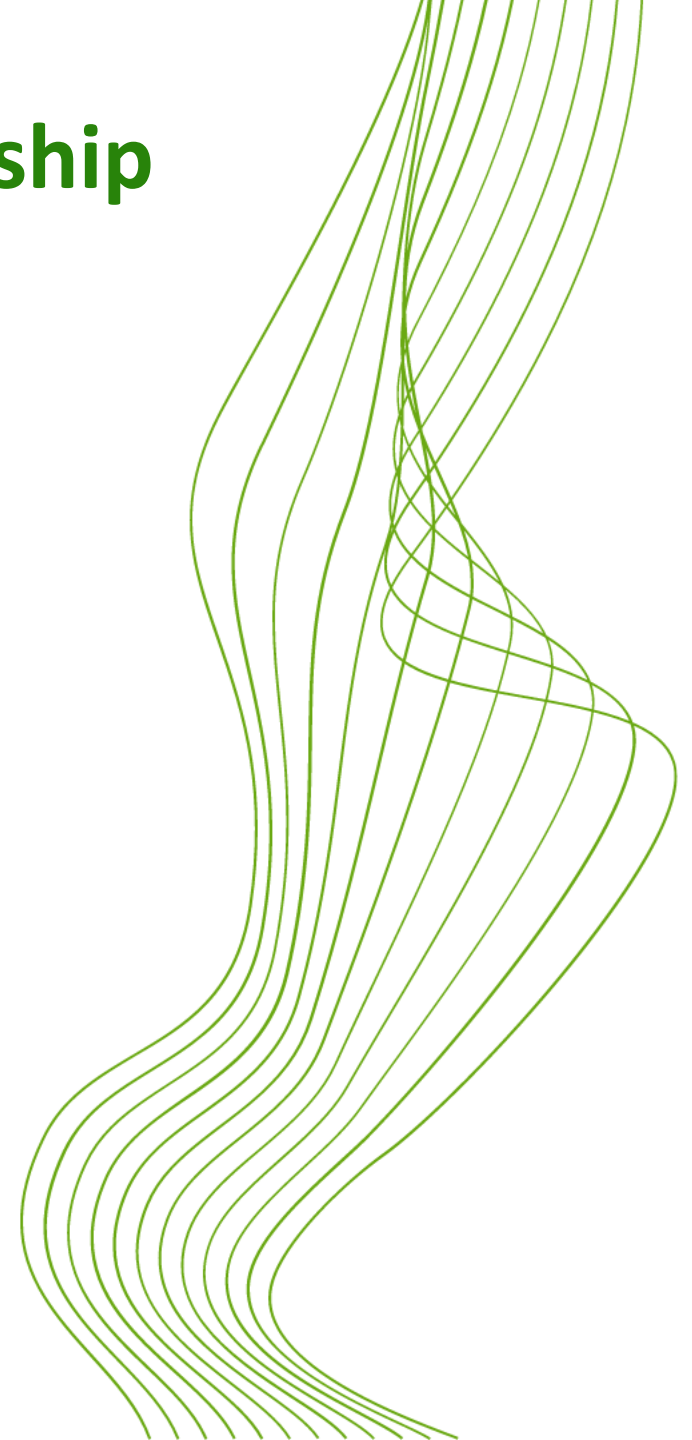
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From Waste to Value

CASE:

SUSTAINABLE GROWTH IN INDIA WITH
ALTERNATIVE FUELS

*With you
all the way*

N&J
RECYCLING

Megatrends in India



Trend 1
Population growth



Trend 2
Growing middle class & consumption



Trend 3
National sustainability agenda

- Net zero by 2070
- Resources

Impact

Increased waste challenge

Higher energy consumption

More domestic infrastructure & cement production

Generates need for

- Targeted sustainability legislation
- Proven and high-performing green technology



India – the world's second largest cement producer and consumer

- Cement production emits approx. 8% of the world's CO₂
- Today India is the world's second-largest cement producer and consumer
- Expected to grow with over 250 million people over the next 20 years
- It is estimated that app. 70% of the needed infrastructure, is yet to be built

NRDC (Natural Resources Defense Council)

- Cement production in India is expected to grow by 150 percent from 2019-2040
- Carbon emissions from cement production in India will rise by 100 percent
- Need for technological intervention to reduce rising carbon emissions
- India is aiming to reach half its energy requirements from renewables and reduce the economy's carbon intensity by 45 percent

NRDC (Natural Resources Defense Council)

Alternative fuels: a powerful resource with socio-economic benefits



Waste to fuel

M&J's technology can help turn waste into alternative fuels for the cement industry. Alternative fuels can replace 30% of all fossil fuels including coal, without major investments.



Reduce emissions

Diverting waste into alternative fuels reduces CO₂ emissions. It also reduces landfills, methane emissions, and seepage to the ground.



Socio-economic benefit

Alternative fuels can hence serve as a support to a greener and cost-efficient cement production, while driving waste volumes away from hazardous landfills.



Q & A

Thank you for your attention

Uffe Hansen
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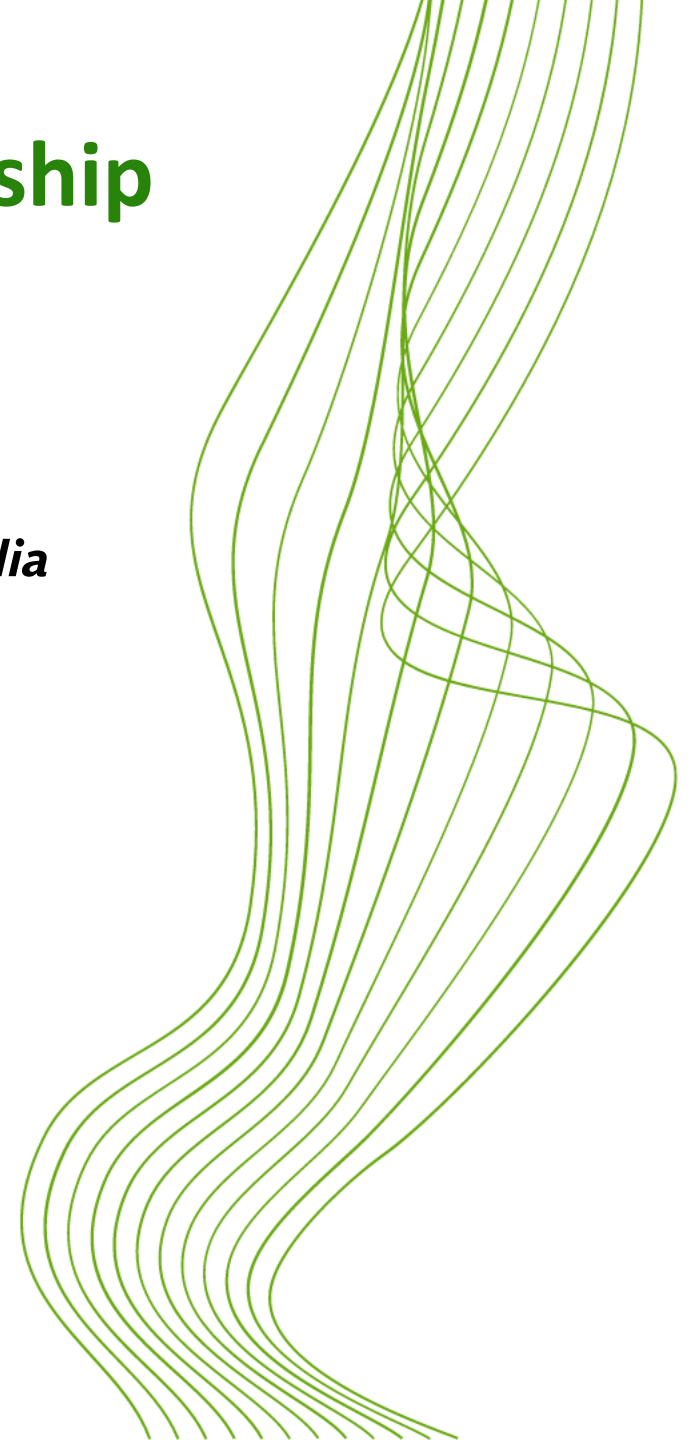
WORKSHOP: **Danmark-India** Green Partnership

Debate: How to build a business case for your green energy exports to India

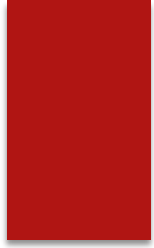
PANEL

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NETWORK ON WIND IN INDIA



INDIAN DANISH
CHAMBER OF
COMMERCE



Energy

Danish Energy Industries Federation

DI INDIA SERVICES

D I INDIA



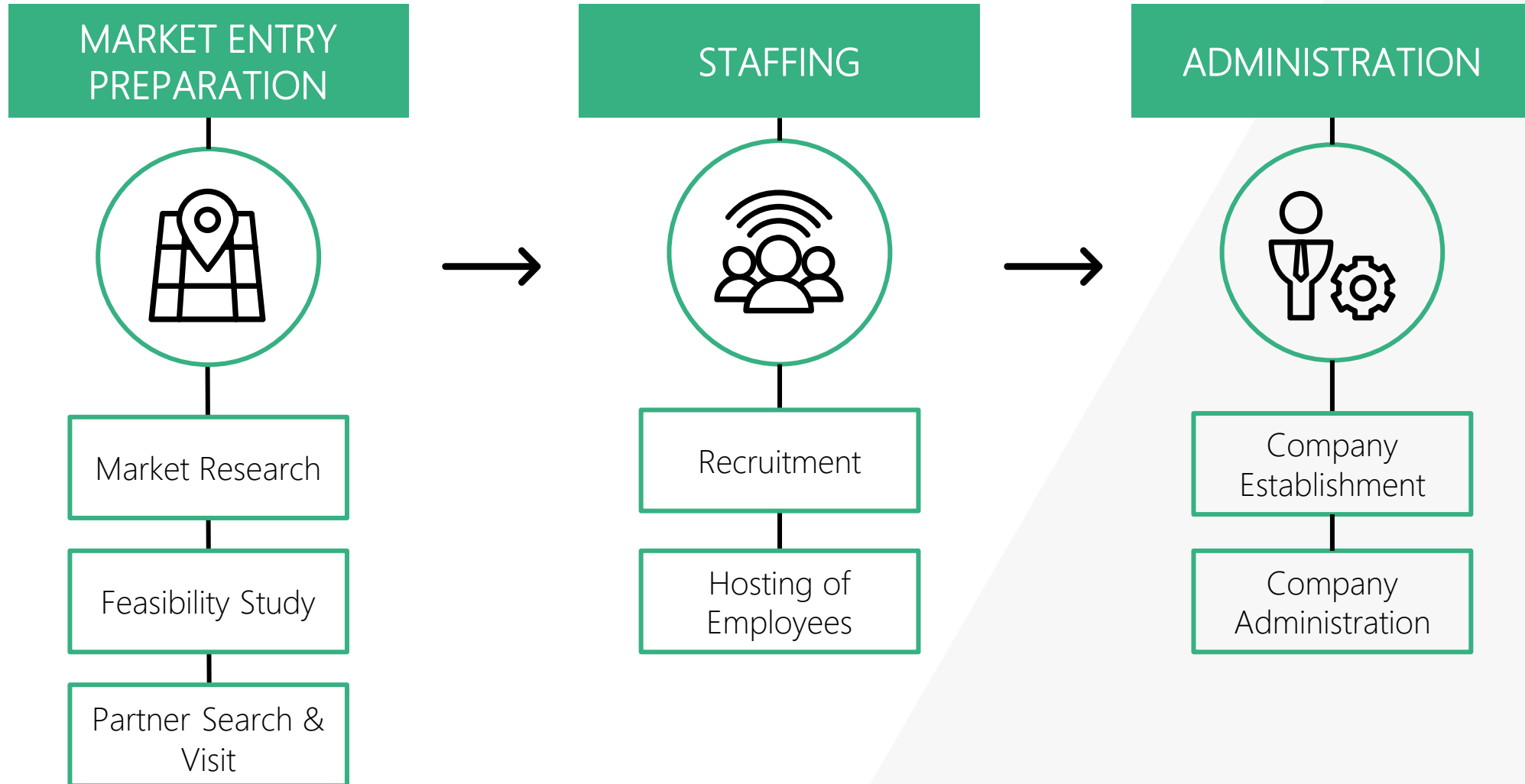
Mumbai
2008

Chennai
2022



SERVICE OVERVIEW

An overview of our services



GENERAL INFORMATION

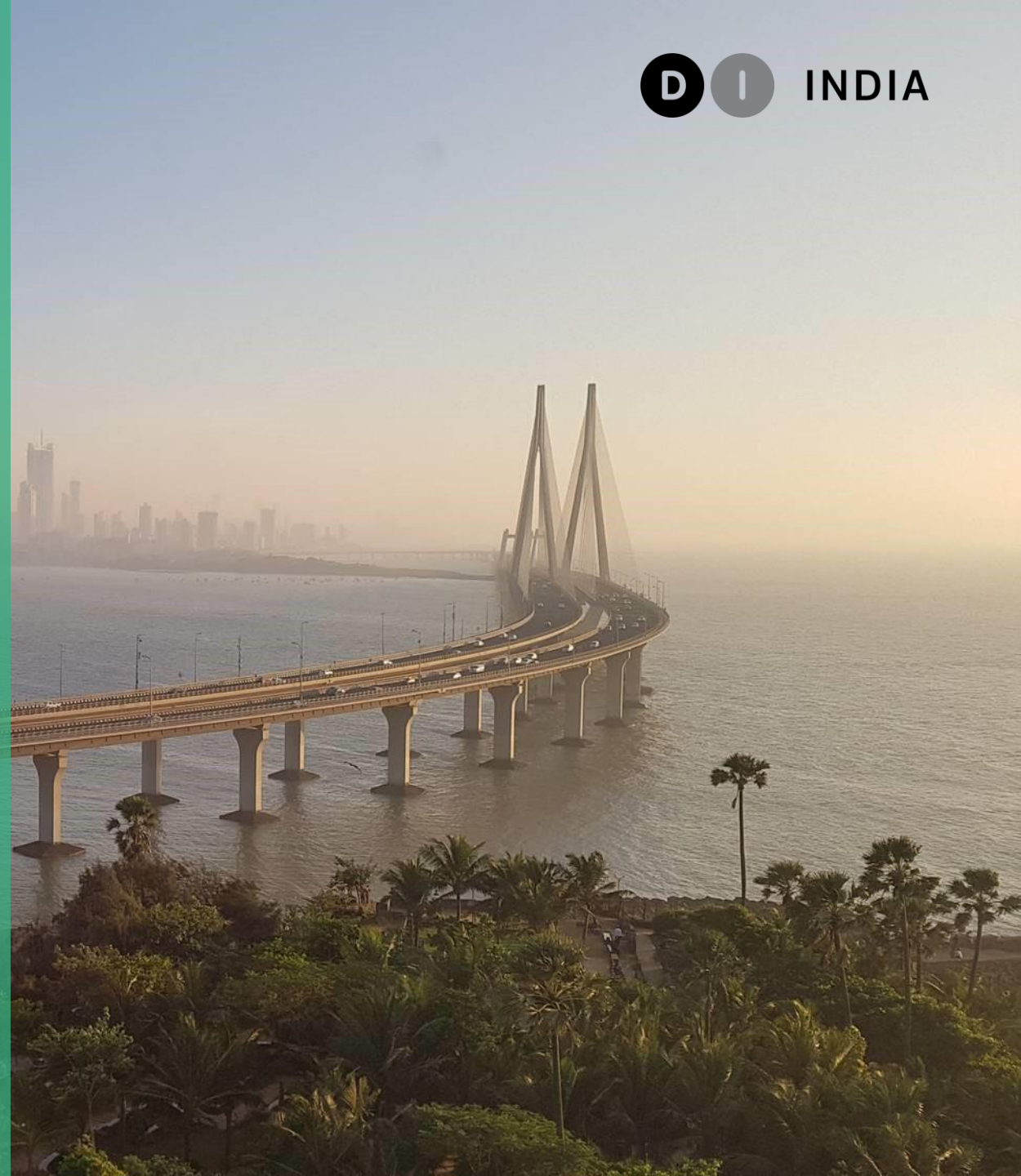
The Indian market offers high potential but also presents challenging complexity. DI India aims at reducing this complexity for Danish companies, so that the road to fulfilling the commercial potential becomes smoother.

With DI India as a partner, you get solutions for your specific commercial requirements in India, as we can assist you in all stages from initial market research to establishing and managing a subsidiary in India.

DI India's team in Mumbai and Chennai consists of employees with substantial experience from Denmark and India and with diverse educational and cultural backgrounds which enables us to execute commercial projects efficiently, transparently and with clear communication in Danish, English, Hindi, Tamil and Marathi.

Contact Information

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GREEN ENERGY
EXPORT DAY 2023

WORKSHOP: Danmark-India Green Partnership

Tuesday 29 August at 11.15-12.10

THANK YOU

