GREEN ENERGY
EXPORT DAY 2025

GREEN ENERGY
EXPORT DAY 2025

WORKSHOP
KOREA AND JAPAN
– Energy Governance Partnership

AGENDA

JAPAN UPDATE
- Jacob Navarro Rasmussen, Energy Counsellor, Embassy of Denmark in Japan

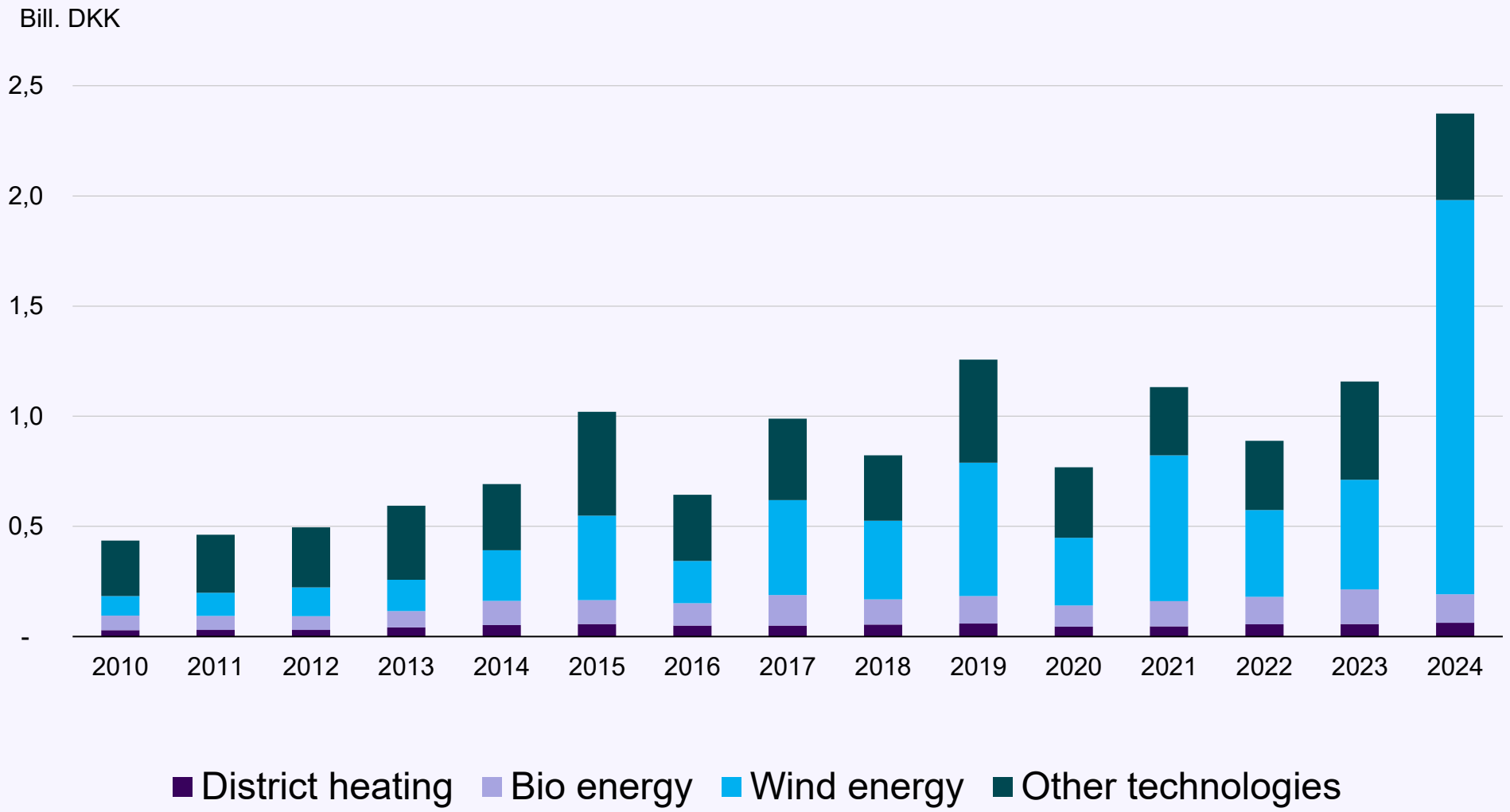
KOREA UPDATE
- Jesper Knudsen, Energy Counsellor, Embassy of Denmark in Korea
- Minseun Park, Energy Advisor, Embassy of Denmarkn in Korea

Discussion: Opportunities in Korea and Japan

Moderator
- William Lim, Japan Programme Leader, Danish Energy Agency

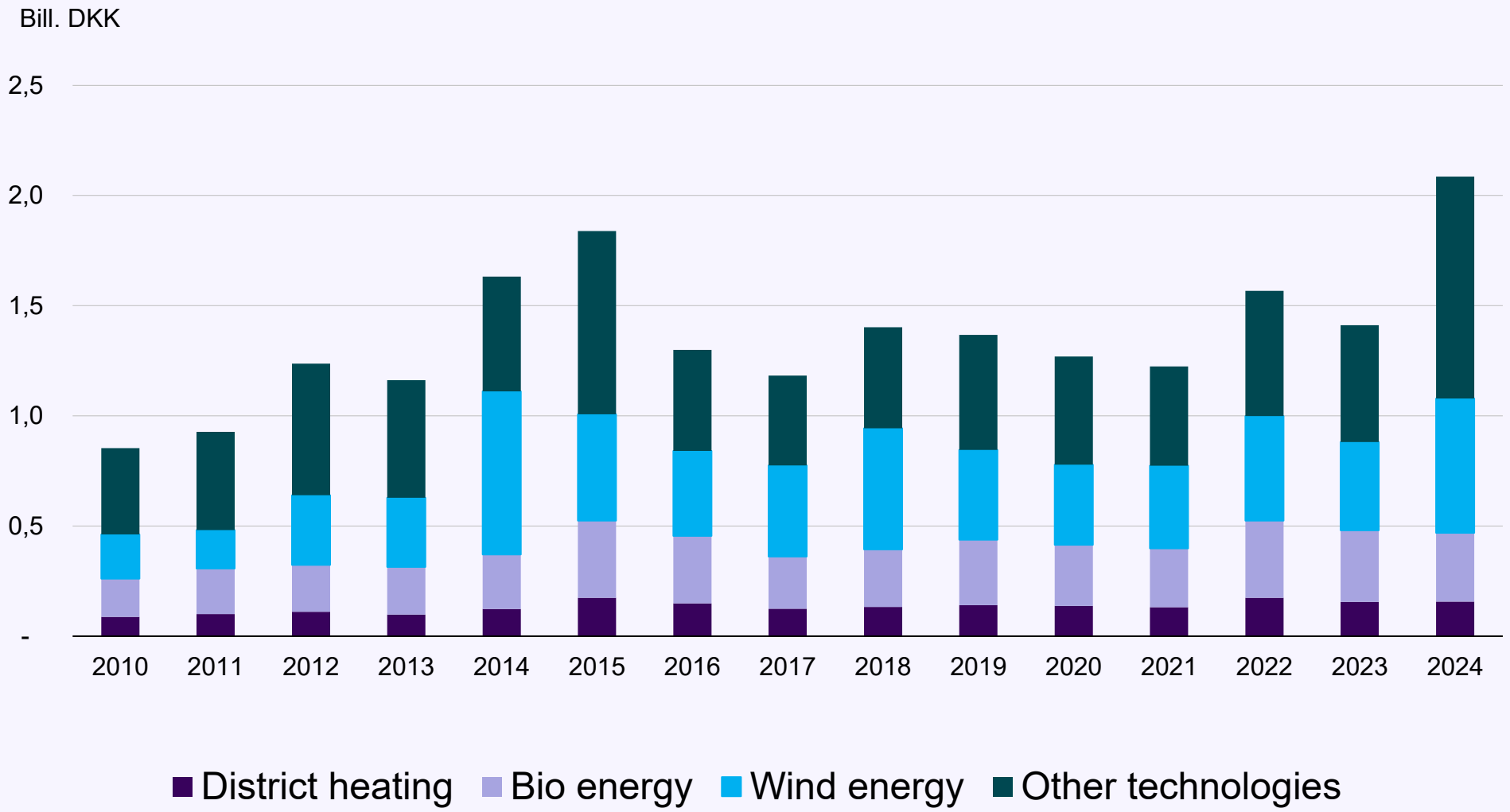
Danish Energy Agency
MINISTRY OF FOREIGN AFFAIRS OF DENMARK
STATE OF GREEN
GREEN POWER DENMARK
DBDH
SYNERGI
DANSK ERHVERV
DI Energi

Danish exports of energy technology to Japan



Source: Danish Exports of Energy Technology and Services 2024. DI Energy, Danish Energy Agency, Green Power Denmark, Danish Chamber of Commerce, Danish District Heating Association.

Danish exports of energy technology to South Korea



Source: Danish Exports of Energy Technology and Services 2024. DI Energy, Danish Energy Agency, Green Power Denmark, Danish Chamber of Commerce, Danish District Heating Association.

GREEN ENERGY
EXPORT DAY 2025

WORKSHOP
KOREA AND JAPAN
– Energy Governance Partnership

AGENDA

JAPAN UPDATE
- **Jacob Navarro Rasmussen, Energy Counsellor, Embassy of Denmark in Japan**

KOREA UPDATE
- Jesper Knudsen, Energy Counsellor, Embassy of Denmark in Korea
- Minseun Park, Energy Advisor, Embassy of Denmarkn in Korea

Discussion: Opportunities in Korea and Japan

Moderator
- William Lim, Japan Programme Leader, Danish Energy Agency

Danish Energy Agency
MINISTRY OF FOREIGN AFFAIRS OF DENMARK
STATE OF GREEN
GREEN POWER DENMARK
DBDH
SYNERGI
DANSK ERHVERV
DI Energi

MINISTRY OF FOREIGN AFFAIRS
OF DENMARK

Japan

Energy governance partnership

Jacob N. Rasmussen, Minister Counsellor & Energy Advisor – 27 August 2025

japan

A strategic opportunity for Danish green energy

Japan is the world's 4th largest economy

Imports 87% of its energy supply

one of the world's most import-dependent economies

85% fossil fuel share in primary energy

huge decarbonization potential

~470 million Usd/day

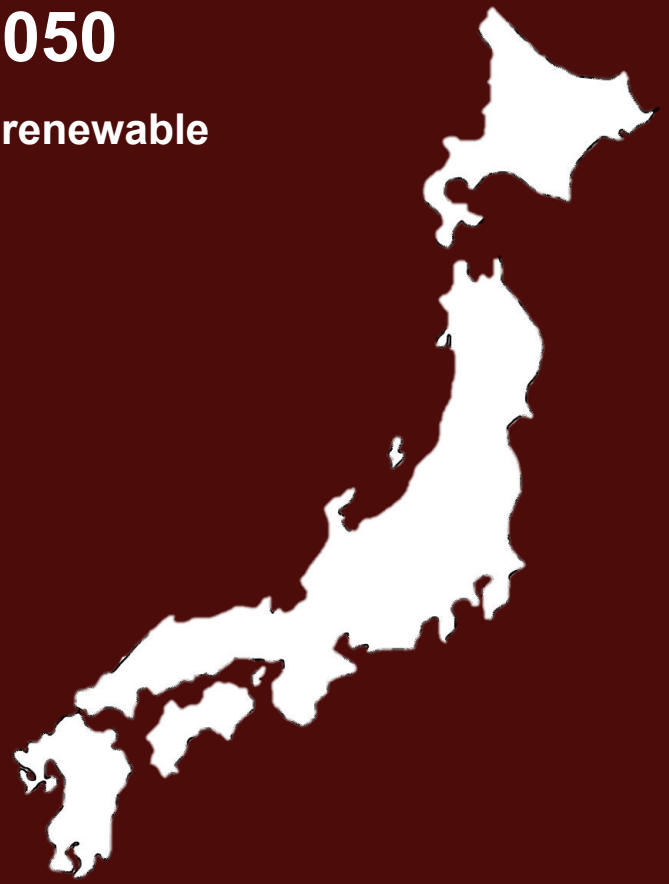
spent on fossil fuel imports

G7 country & close US ally

Stable market with strong global partnerships

Net-zero by 2050

backed by ambitious renewable policies
& TARGETS



Egp: collaborations & agendas

Strategic, agenda-driven collaboration

- Broad engagement with national & local stakeholders
- Leveraging: MoCs, seminars, workshops, publications
- Focus areas: offshore wind, hydrogen, electricity systems & markets

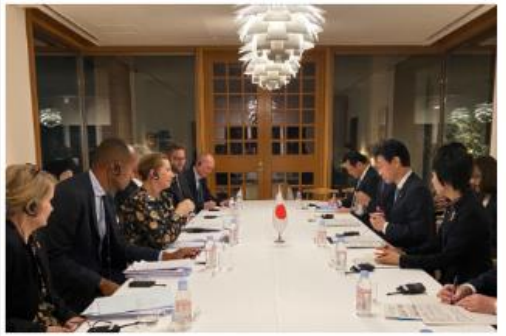
partners, levers & agendas

	partners and levers				
Main Partners	METI	ANRE	MLIT	Utility companies	Cabinet Office
	MoFA	MoE	Institutes	Prefectures	Municipalities
Main levers	Information Exchange			Workshops	
	Seminars			Publications	
	Main agendas				
Offshore wind	Tender Schemes			Maritime Spatial Planning	
	Supply Chain			Environmental Impact Assessments	
integration Of renewable	Electricity Systems		Electricity Markets		Green Hydrogen

Memorandum of Cooperation with METI Ministry of Economy, Trade and Industry

MoC on offshore wind and integration of renewables

MoC on hydrogen and ammonia
LoI on establishment of floating innovation center

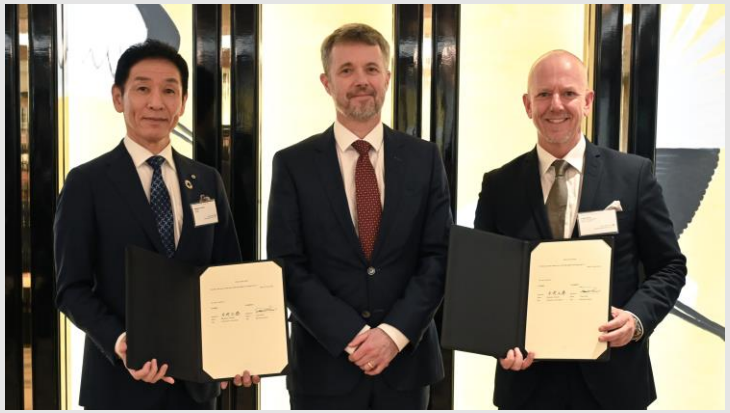


Recent egp collaborations

Denmark and Japan deepened energy collaboration during royal visit

FLOWRA

- **DI Energi** and Japan's **FLOWRA** signed a Letter of Intent.
- FLOWRA unites leading Japanese energy actors to advance floating offshore wind.
- It places Denmark in FLOWRA's international network alongside Norway, the UK, and the Netherlands.
- By end of 2025, the parties aim to define a collaboration framework for joint technology development projects.



Key themes: Offshore wind, hydrogen and RE initiatives

Outcome:

- 5 Memoranda of Understanding signed
- 1 declaration signed with Tokyo, Hokkaido and Fukushima
- Danish companies got exposure to high-level regulators

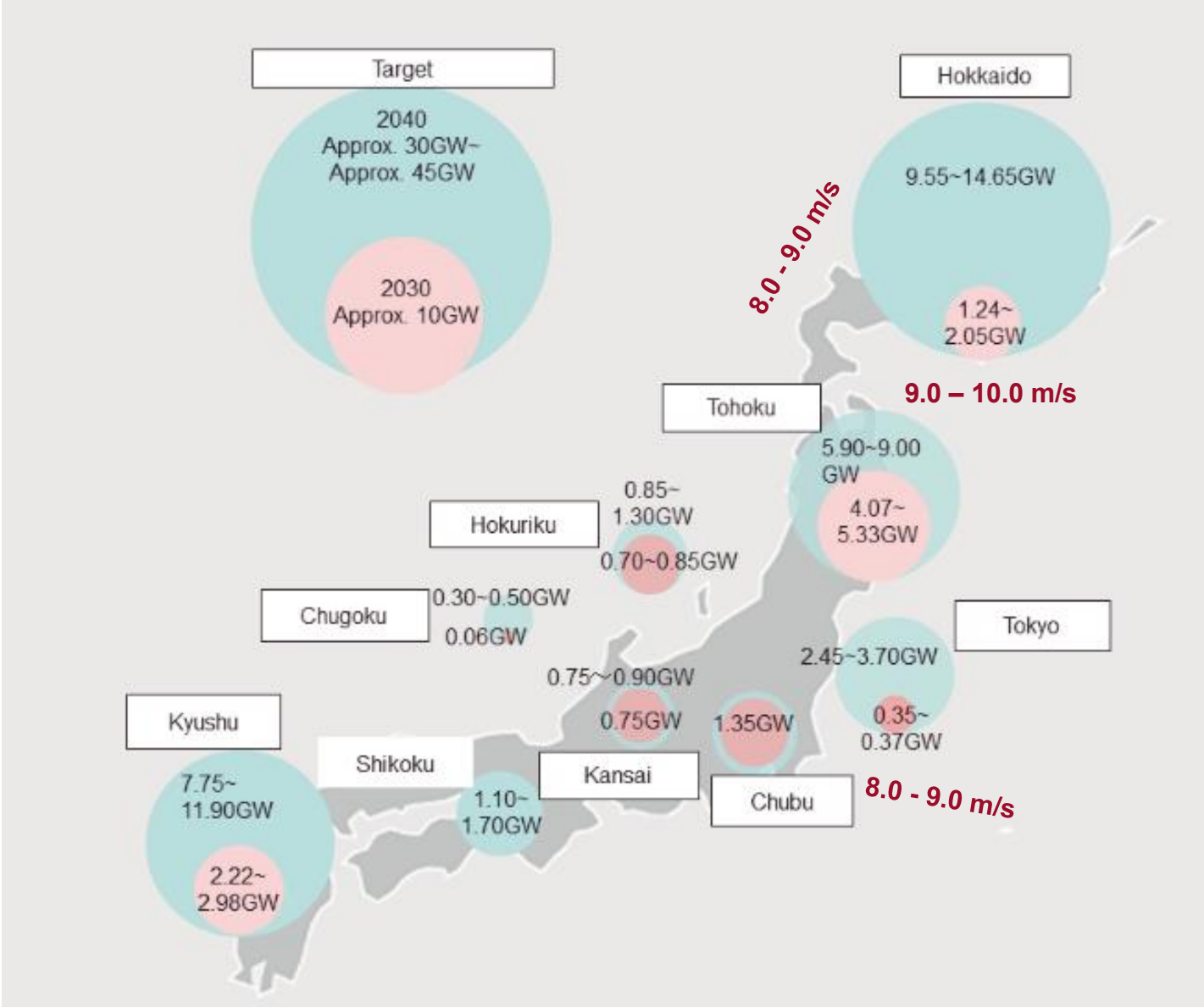
Japan's energy plan: targets

10 GW

Offshore wind
By 2030

30-45 GW

Offshore wind
By 2040



Japan's energy plan: progress

The government of Japan **approved the Seventh Strategic Energy Plan** on February 18 2025:

- **Expansion of renewable energy:** New renewable energy target of **40-50%** by FY2040
- **Wind power projected to account for 4-8%** of the total energy mix

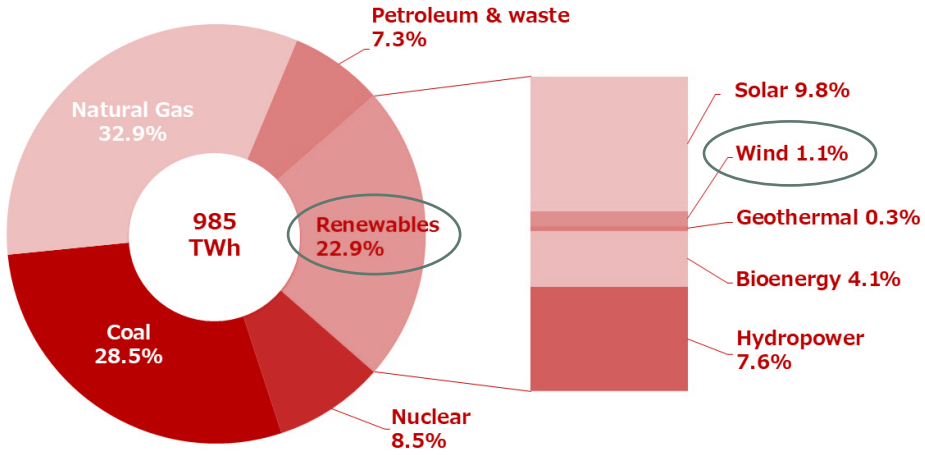
In 2024, Japan had **6.08 GW installed** wind power capacity

- **253.4 MW** of installed capacity is offshore wind

Ministry of Economy, Trade and Industry (METI) has recognized that "the stable supply of decarbonized energy is crucial to national strength"

Electricity generation mix, fy2023

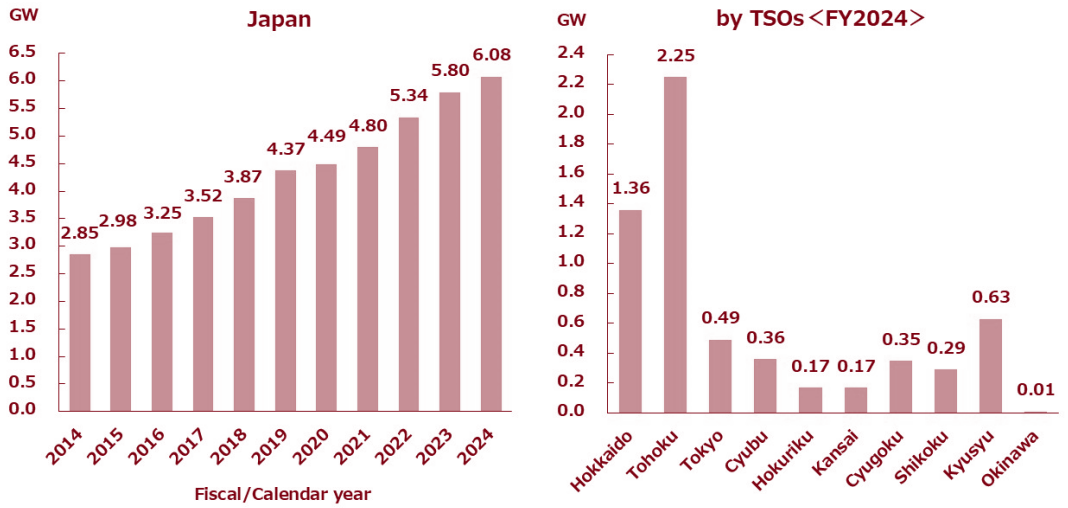
Updated: 4 December 2024



Source: METI/ANRE "Total Energy Statistics"

cumulative Installed Wind Capacity and by Distribution Area (GW)

Updated: 4 August 2025



Source : By REI, from TSOs websites "renewable connection and application status"

Japan's energy plan:
Status on the offshore Wind pipeline

	Areas	Auction Round
Promotion Zone	Goto, Nagasaki Prefecture, 17MW (floating)	R1
	Noshiro, Mitane, and Oga, Akita Prefecture, 494MW	
	Yurihonjo, Akita Prefecture, 845MW	
	Choshi, Chiba Prefecture, 403MW	
	Happo/Noshiro, Akita Prefecture, 375MW	R2
	Oga, Katagami, Akita, Akita Prefecture, 315MW	
	Murakami and Tainai, Niigata Prefecture, 684MW	
	Enoshima, Saikai, Nagasaki Prefecture, 420MW	
	Aomori Japan Sea (South), Aomori Prefecture, 600MW	R3
	Yuza Town, Yamagata Prefecture, 450MW	
	Hiyama, Hokkaido, 910-1140MW	R4
	Matsumae, Hokkaido, 250-310MW	
Promising Zone	Ishikari, Hokkaido, 910-1140MW	Awating designation
	Ganwu and Minami Shiribeshi, Hokkaido, 560-710MW	
	Shimamaki, Hokkaido, 440-560MW	
	Aomori Japan Sea (North), Aomori Prefecture, 300MW	
	Sakata, Yamagata Prefecture, 500MW	
	Isumi, Chiba Prefecture, 410MW	
	Kujukuri, Chiba Prefecture, 400MW	

Designated on July 30

	Areas
Preparation Zone	Ganwu and Minami Shiribeshi, Hokkaido
	Shimamaki, Hokkaido (floating)
	Mutsu Bay, Aomori Prefecture
	Kuji, Iwate Prefecture (floating)
	Akita City, Akita Prefecture
	East of Toyama Prefecture (floating)
	Awara, Fukui Prefecture
	East of Wakayama Prefecture
	West of Wakayama Prefecture (floating)
	Hibikinada Sea, Fukuoka Prefecture
	Karatsu City, Saga Prefecture
	Tokyo Oshima (floating)
	Tokyo Niijima (floating)
	Tokyo Kouzushima (floating)
	Tokyo Miyake (floating)
	Tokyo Hachijo (floating)

Japan plans to have ~1GW on auction every year for the next 10 years

Round 7+8: Expected to be floating in 2029

Results of offshore auctions round 1, 2 & 3

New auction opportunity: Round 4 expected to be tendered out in Autumn 2025

1 ROUND 1 AREAS

1. Noshiro-Mitane-Oga
- 494MW by 2028

2. Yurihonjo-shi, 845MW by 2030

3. Choshi-shi, 403MW by 2028

Auction winners

Cod: 2028 – 2030
However, no construction has started yet

- All areas won by the same consortium.
- Led by **Mitsubishi Corp. and Chubu Electric Power.**

Turbine supplier
- **GE Turbines**

2 ROUND 2 AREAS

1. Happo-Noshiro, 375MW by 2029

2. Saikai-Enoshima, 420MW by 2029

3. Katagami-Akita, 315MW by 2028

4. Murakami-Tanai, 684MW by 2029

Cod: 2028 – 2029
1. Japan Renewable Energy, Iberdrola Renewables Japan, and Tohoku EPCO
2. Sumitomo Corp. & TEPCO
3. Jera, J-Power, ITCHU Corp., & Tohoku EPCO
4. Mitsui & Co., RWE, & Osaka Gas

Turbine supplier
- **1-3: Vestas Turbines**
- **4: GE Turbines**

3 ROUND 3 AREAS

1. Aomori Japan Sea (south)
- 600MW

2. Yamagata, Yuza
- 450MW

Cod: 2030

1. JERA, Green Power Investment & Tohoku EPCO.
2. Marubeni, Kansai, BP IOTA, Tokyo Gas & Marutaka

Turbine supplier
- **Siemens Gamesa Turbines**

4 ROUND 4

Hokkaido designated as promotion zone on July 30

1. Matsumae-oki, Hokkaido
- 250-310MW

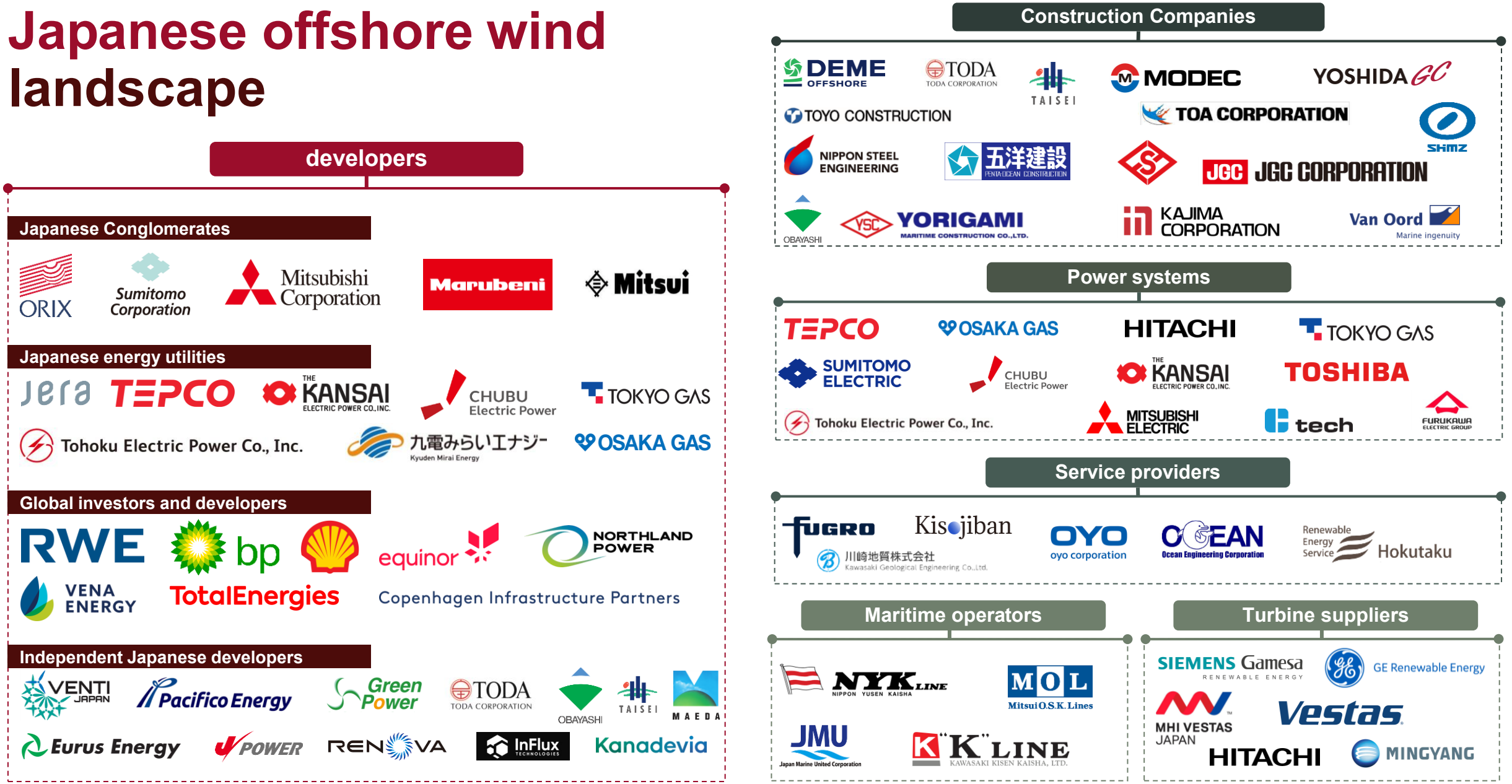
2. Hiyama-oki, Hokkaido
- 910-1140MW

Next auction round

Expected timeline
- **Applications and tender process start in spring 2026**
- **New promising & preparatory zones to be announced after September**

Market interest
- **Large interest for Hiyama**
- **Less interest for Matsumae**

Japanese offshore wind landscape



Floating offshore wind

Recent market updates

Market triggers

- **120 billion JPY** from Green Innovation Fund (GIF) allocated for advancing floating
- REI: **700GW potential**
- Tokyo goal of **1GW floating offshore wind** South of Tokyo
- **Demonstration projects** in Aichi & Akita. **Harsh Condition** demo tendered before March 2026.
- **Establishment of FLOWRA**
  Floating Offshore Wind Research Alliance
- To lower costs and facilitate mass production and innovation
- Initial **G2G-partner** countries: EU, UK, US, Norway & **Denmark**
- Danish Industry

Market updates

Eez law passed June 2025

- Japan's Exclusive Economic Zone* (EEZ) has been amended
  **The 6th largest worldwide*
- **Increases the potential area** for offshore wind development
- Enables future **scaling of floating wind** in deeper waters

2040 target August 2025

- 15 GW floating wind by 2040
- Foreign players invited to build local supply chains and factories
- Designation & tenders for zones
- Floating wind positioned as key to Japan's 40 GW offshore wind goal

>65% domestic procurement on overall project

国内調達率を最大化した風車モデル導入

40% domestic procurement on turbine (normally <5%)

Invest in Denmark cases

acquisitions

Mitsubishi HC Capital & European Energy

Mitsubishi HC Capital has acquired **20%** of European Energy through a EUR 700 million equity transaction.

MITSUBISHI HC CAPITAL

EUROPEAN ENERGY

Mitsui & co., ltd & kassø midco

Mitsui has invested in the world's largest e-Methanol production facility, Kasso MidCo ApS, which is part of European Energy.

MITSUI&CO.

EUROPEAN ENERGY

investments

Marubeni co. & AquaGreen

Marubeni, alongside others, has invested DKK 60 million in AquaGreen, a leader in biomass treatment technology.

Marubeni AquaGreen

Itochu co. + osaka gas & Everfuel

ITOCHU´and Osaka Gas has invested in Everfuel, one of the world's largest green hydrogen production projects.

ITOCHU Everfuel

Joint ventures

Tg nordic & ewii

Tokyo Gas' new subsidiary TG Nordic´s first investment is a joint venture with the Danish energy group EWII: TOWII Renewables. Target: 1GW by 2030.

TOKYO GAS EWII

Sumitomo co. & Skovgaard Energy

Skovgaard Energy & Sumitomo established a joint venture to expand biogas production facilities in DK.

Sumitomo Corporation

SKOVGAARD ENERGY

Trade council, energy
Upcoming events in Japan

Global Offshore Wind Summit Japan 2025 (gows)

15-17 October
Akita city

services

- **Market analysis**
- **Export promotion**
- **Government & Public Affairs**
- **Innovation**
- **Marketing**
- **Trade policy**
- **Investment promotion**

ROYAL DANISH EMBASSY
Tokyo

Anton Bo Kjølby

Commercial Officer, Energy

E-mail: antkjo@um.dk

ROYAL DANISH EMBASSY
Tokyo

Tine Hasling Rasmussen

Minister Counsellor, Head of Trade

E-mail: tinras@um.dk

Opportunities
for Danish expertise

1. contribute to supply chains for Auction Rounds 1–3

2. round 4: New entry point for developers and suppliers

3. tap into Japan’s push for floating wind and deep-water solutions

MINISTRY OF FOREIGN AFFAIRS
OF DENMARK

Thank you, Questions?

ROYAL DANISH EMBASSY
Tokyo

Jacob N. Rasmussen

Minister Counsellor, Energy

E-mail: jacora@um.dk

Danish Energy Agency

William Lim

Japan Programme Leader

E-mail: wlgnm@ens.dk

Danish Energy Agency

Kanau Takahashi

Advisor, Global Energy Cooperation

E-mail: kntks@ens.dk

GREEN ENERGY
EXPORT DAY 2025

WORKSHOP
KOREA AND JAPAN
– Energy Governance Partnership

AGENDA

JAPAN UPDATE
- Jacob Navarro Rasmussen, Energy Counsellor, Embassy of Denmark in Japan

KOREA UPDATE
- **Jesper Knudsen, Energy Counsellor, Embassy of Denmark in Korea**
- **Minseun Park, Energy Advisor, Embassy of Denmarkn in Korea**

Discussion: Opportunities in Korea and Japan

Moderator
- William Lim, Japan Programme Leader, Danish Energy Agency

Danish Energy Agency
MINISTRY OF FOREIGN AFFAIRS OF DENMARK
STATE OF GREEN
GREEN POWER DENMARK
DBDH
SYNERGI
DANSK ERHVERV
DI Energi

MINISTRY OF FOREIGN AFFAIRS OF DENMARK

Offshore wind in Korea

Green Energy Export Day 2025
Workshop : Korea and Japan – Energy Governance Partnership
August 27, 2025

Jesper Knudsen, Energy Counsellor
Minseun Park, Energy Advisor

Embassy of Denmark in Korea

Political landscape in Korea

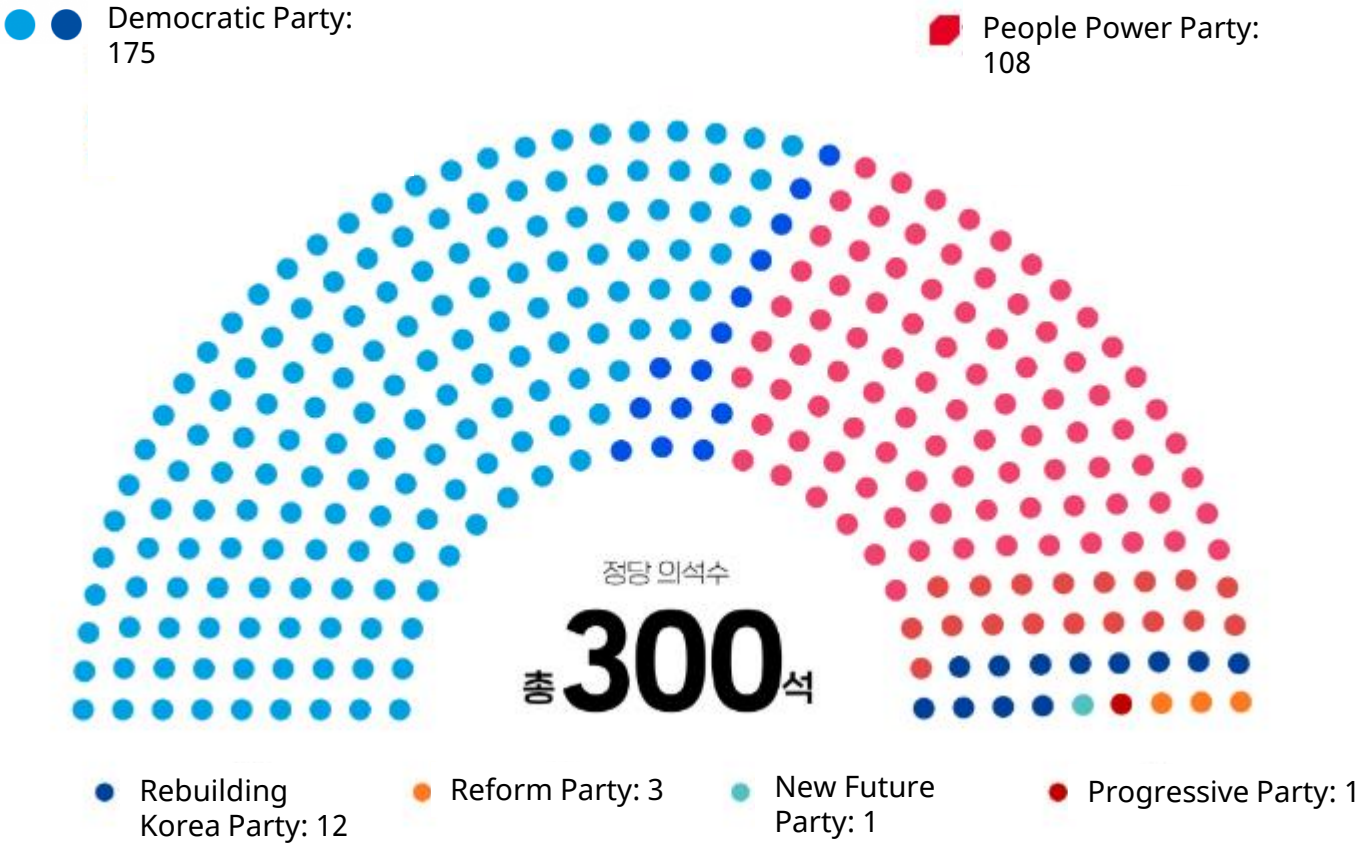
New presidential office
Stronger focus on renewable energy

President Lee, Jae Myung

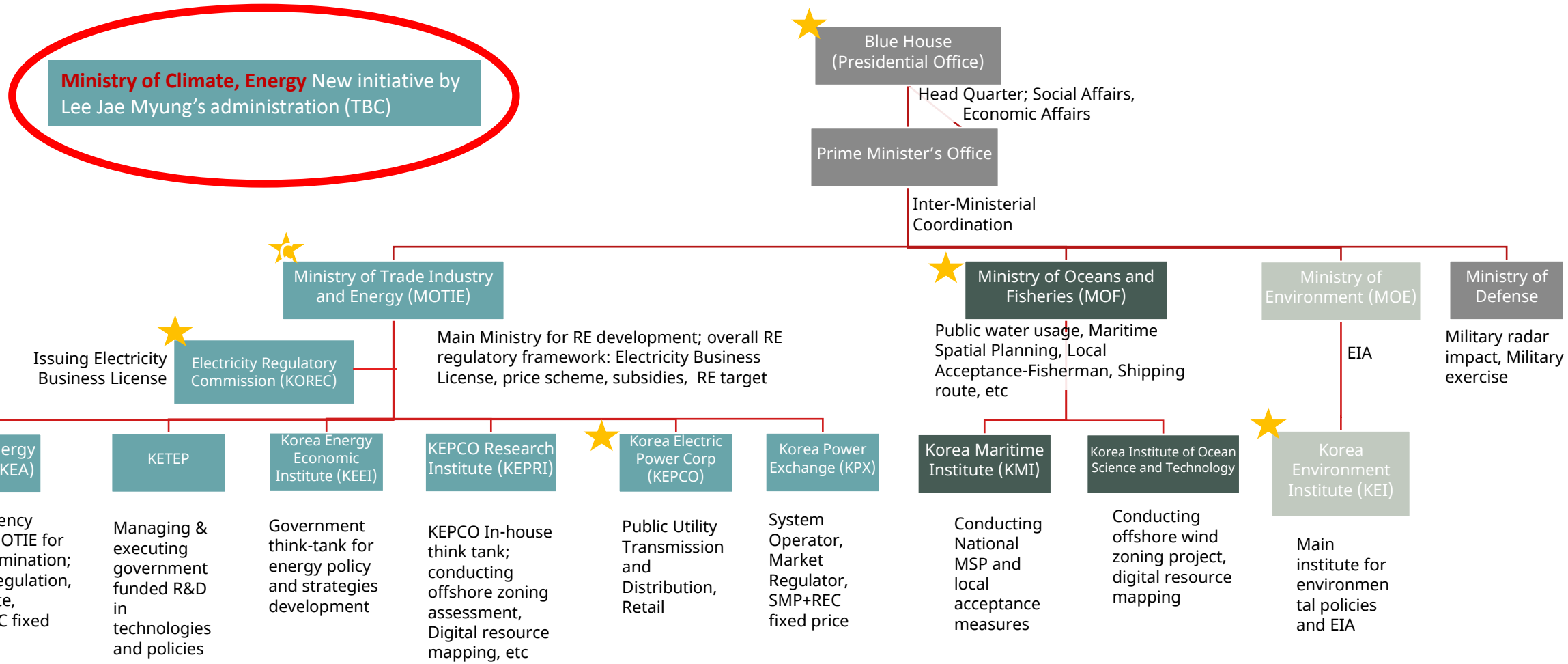
- Elected as the 21st President of Korea, following the impeachment of former President Yoon, Suk Yeol
- Political Party : Democratic Party
- Strong supporter of renewable energy
- Aims to build a pragmatic, market-oriented government that supports and encourages businesses

National Assembly

- Majority by ruling Democratic Party, (58%)
- National Assembly Advancement Act: More than 60% of votes required to pass the new legislation
- Democratic Party and Rebuilding Korea Party: Pro-Renewable energy
- People Power Party: Pro-nuclear energy



Possible new future ministerial changes



National Energy Roadmap

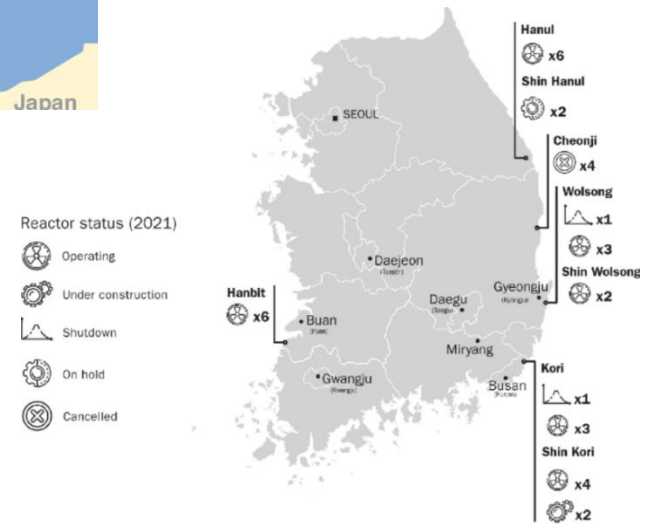
Basic Plan on electricity supply

- In February 2025, Ministry of Trade, Industry and Energy (MOTIE) announced the **11th Basic Plan on Electricity Supply for year 2024-2038.**
- Revised every 2 years for the next 15 years plan.
- Electricity supply target by 2038 : 129.3 GW.
- Renewable energy capacity, including solar and wind, is projected to reach appox. **120 GW by 2038 from current 30 GW,** (wind approx. 29 GW, solar PV 86.5 GW).
- Due to the delay in the 11th Basic Plan, the announcement of the 12th Basic Plan is only about a year away. There are concerns in the industry that the 12th Basic Plan may be delayed or that the 11th Basic Plan may become obsolete.

Current energy landscape of Korea

Energy supply from:

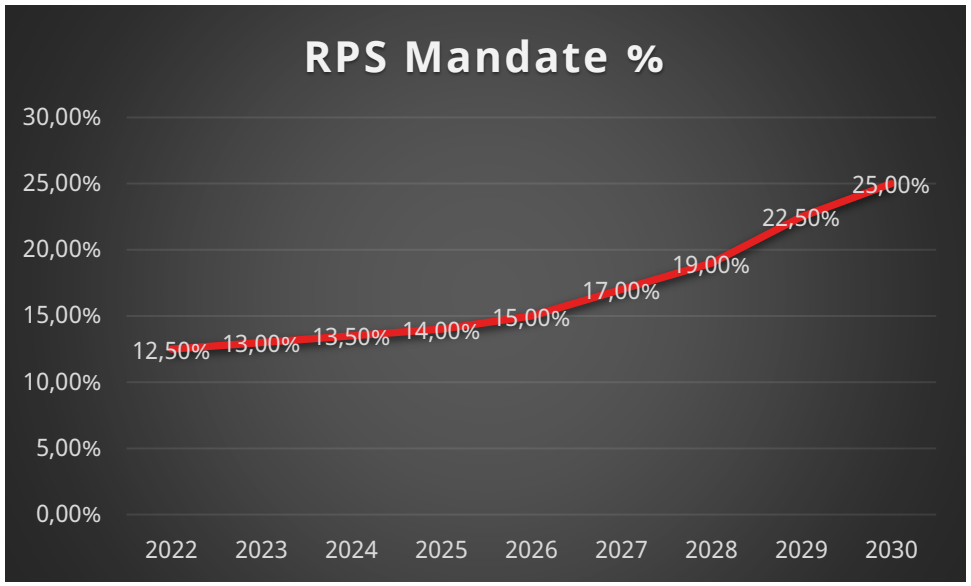
- Approx. 25 **coal** fired power plants, total capacity of **39 GW** (ca. 50-60 capacity utilisation).
- Approx. 26 **gas** fired power plants, total capacity of **45 GW** (ca. 30-40% capacity utilisation).
- 5 **nuclear** sites, 26 operational reactors, total capacity of **26 GW** (ca. 80-90% capacity utilisation).
- **Wind**, total approx 1.8 GW, OSW 0.3 GW.
- **Solar**: approx. 29.5 GW.



Regulatory Landscape: Renewable Portfolio Standard (RPS)

Power producers with generation capacity of 500 MW or more are required to supply power sourced from new and renewable energy (22 companies).

Required Percentages



- Penalty imposed for failure to meet RPS.
- Power producer may purchase **Renewable Energy Certificates** (REC) instead.
- Registered new and renewable power producer receives REC .

※ MWh power produced x weight factor

Offshore wind development in Korea

Offshore: Sites Overview

regional location of offshore wind projects approved with EBL

Incheon City – 2.6 GW — Fixed

ChungCheonNamDo (ChungNam) – 1.1 GW — Fixed

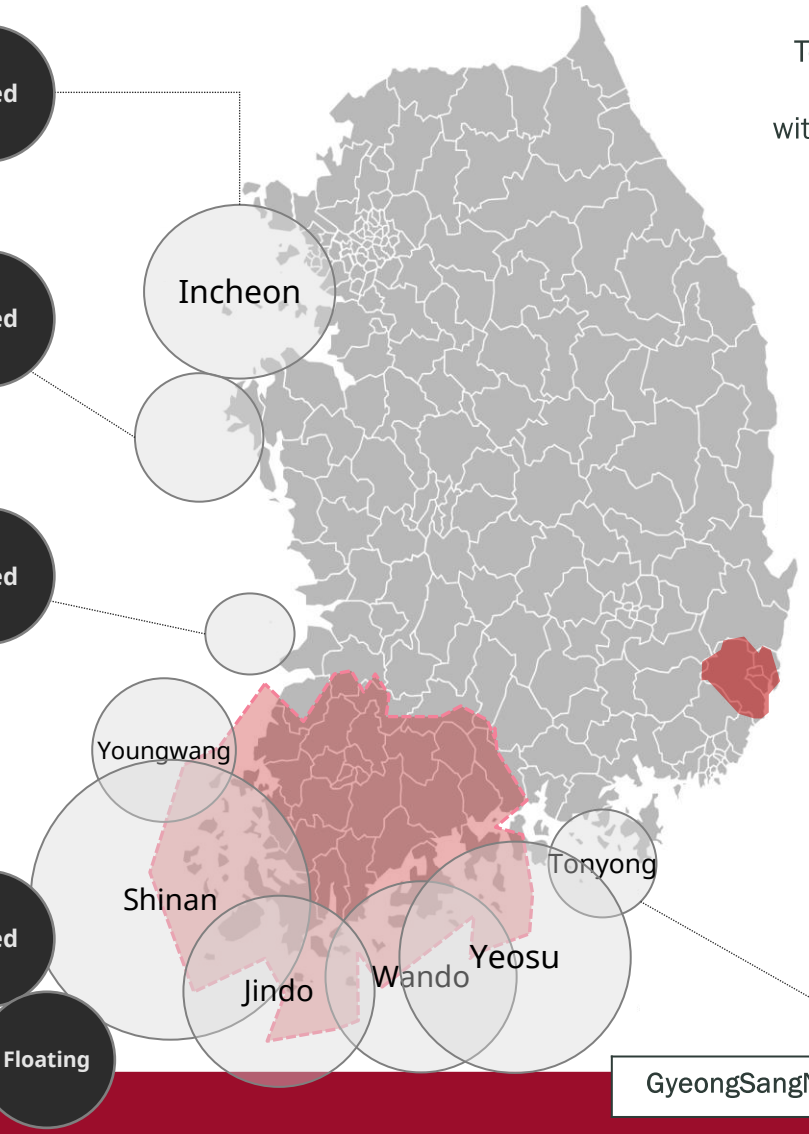
- Taeann Gun : 904 MW
- Dangjin City : 201 MW

JeollaBukDo (JeonBuk) – 0.6 GW — Fixed

- Gunsan City : 99 MW
- Gochang : 69 MW
- Buan : 460 MW

JeollaNamDo (JeonNam) – 15.3 GW — Fixed / Floating

- Youngwang Gun : 1.77 GW
- Shinan Gun : 4.6 GW
- Heanam Gun: 0.34 GW
- Jindo Gun: 2.0 GW
- Wando Gun: 2.1 GW
- Yeosu City: 4.5 GW



To this date, 27(+) GW of offshore projects have been awarded with EBL by Ministry of Trade Industry and Energy

Floating

Ulsan EEZ

Ulsan City - 6.6 GW

Fixed

GyeongSangNamDo (GyeongNam) – 0.7 GW

Osw Competitive Tender Bidding Roadmap

Announced by MOTIE on Aug , 2024

Over the next two years, approximately **7–8 GW of offshore wind power tenders** will be launched, beginning in the second half of 2024

	2024 2H	2025 (1H and/or 2H)	2026 (1H)	Total
Fixed Offshore Wind	1.0-1.5GW	2.0-2.5GW	1.0-1.5GW	4.5-5.0GW
Floating Offshore Wind	0.5-1.0 GW	0.5-1.0 GW	1.0-1.5GW	2.5-3.0 GW
Public Developers Project	To be commenced in 1H 2025			
	1.5-2.0 GW	3.0-3.5 GW	2.0-3.0 GW	7.0-8.0 GW

Coming up: price auction

Fixed cost (PPA) Auction:

- Auction decides price of electricity fixed for 20 years with capacity
- Qualification: on/offshore wind project completed EIA
- Selection process and criteria:
  - Price 50% (from the lowest up to ceiling price),
  - 50% non-price element (contribution to local supply chain, local acceptance, contribution/burden to grid)
- Auction: once/twice per year
- Introduction of public led projects (development by public owned GENCOs) in 2025: total 500MW

Incentive Type	Incentive Price (KRW/MWh)
(Basic Incentive) Contribution to supply chain and security	3,660
(Additional Incentive) Government R&D demonstration	27,840

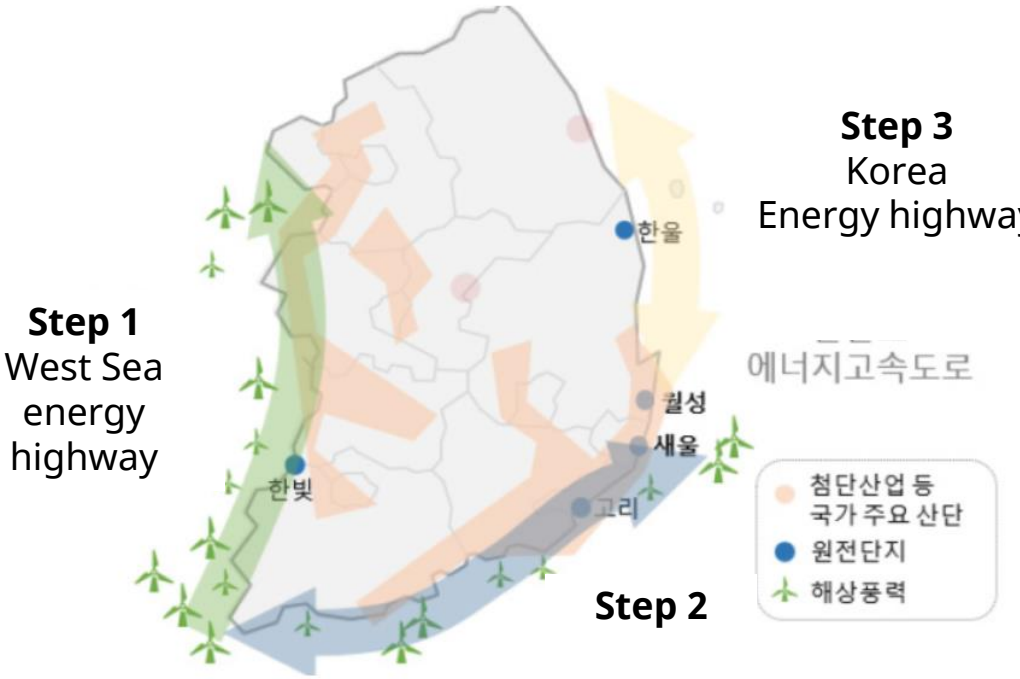
Offshore Project Overview 2023-2024 (Auction)

Auction Year	Project	OEM	Ceiling Price(KRW/MWh)	Capacity	Developer	Status
2023	Jeonnam 1	SGRE	169,500	96MW	CIP + SK E&S	COD 2025
2023	Wando-Guemil	Vestas		600MW	KOEN	Project Pending
2023	Nakwol	GoldWind	167,778	354MW	Myungwoon->B.Grimm Power	Under construction
2023	Shinan-Ui	Vestas	167,778	396MW	Hanwha E&C KOEN, SK	Project Pending
2023	Gochang	Mingyang	167,778	76MW	Dongchun	Project Pending
2024	Anma	SGRE	176,565	528MW	Equis/Korea Wind Energy	PPA contract by Sep 2025
2024	Taean	TBC	176,565	504MW	Vena Energy	PPA contract by Sep 2025
2024	Firefly	SGRE	176,565	750MW	Equinor	PPA contract by Sep 2025

Jeonnam 1, the first commercially operating offshore wind farm, in Shinan-gun, Jeonam

NEW: OSW & grid expansion special act, energy highway

- In Feburary 2025, the special OSE Special Act was approved by the National Assembly
  - Aims to create a “one-stop-shop” permitting model for offshore wind projects
  - Government to lead on selecting sites for future offshore wind farms, moving away from the previous ‘open door’ system
- Grid expansion act also approved
- NEW: Energy Highway announced by new government



Challenges in korea for OSW build out

- Grid constraints
- Complicated permitting process and unclear/changing guidelines; uncertaincy
- Market issues: PPA
- Insufficient Port facilities for offshore wind and lack of installation vessels
- Local acceptance
- Governmental silos (missing collaboration between ministries/agencies)
- Lack of local professionalism in offshore wind development

On the positive side…

- Basis for full supply chain in Korea
- Relatively high political consensus on more renewable energy in the energy mix
- Korea is slowly beginning to see a good business case in renewable energy
- New legislation for future government led OSW tenders
- Presidential committee to oversee the OSW development
- More focus on local acceptance and including marked & local dialogue from the beginning of project development
- The Korean OSW build out is currently moving slowly, but it *is* however moving forward, gaining momentum

Korea-Denmark energy partnership

Korea-Denmark energy governance partnership

- **2018:** MOTIE and the Danish Ministry of Climate, Energy and Utilities signed an **MoU to strengthen the collaboration** between the two countries within energy.
- **2019:** KEA and the Danish Energy Agency signed an **Implementing Arrangement**, focusing on offshore wind. Renewed in 2024.
- **Partners: MOTIE, KEA**, **KEPCO**, Research Institutes, Provinces, Cities etc.
- **Topics:** Offshore Wind, Energy Efficiency, Power-to-X, Transmission systems, Electricity Systems, Electricity Markets
- **Activities:** Knowledge exchange, publications, seminars and workshops: expert-to-expert

Activities in 2025

Energy governance partnership programme

Danish Energy Agency

EMBASSY OF DENMARK
Seoul

Danish Energy Agency:

Katrine Lumbye, EGP Korea Team Lead
Email: kamlb@ens.dk

Emma Mosfeldt Kryger, EGP Korea, OSW programme lead
Advisor, email: emmk@ens.dk

Jakob Louis Pedersen, EGP Korea, OSW
Chief advisor, email: jblpn@ens.dk

Frederikke Mouritsen, EGP Korea OSW
Advisor, Email: fdkmm@ens.dk

Claus Andreasson, EGP Korea, Energy Efficiency
Chief Advisor, email: clndr@ens.dk

Embassy of Denmark in Korea:

Jesper Knudsen, Energy Counsellor/Sector Advisor
Email: jesknu@um.dk

Minseun Park, Energy Advisor
Email: minpar@um.dk

Danish Trade Council in Korea:
Joachim Arup Fischer, Head of Trade
Email: joacfi@um.dk

Thank you!

GREEN ENERGY
EXPORT DAY 2025

WORKSHOP
KOREA AND JAPAN
– Energy Governance Partnership

AGENDA

JAPAN UPDATE
- Jacob Navarro Rasmussen, Energy Counsellor, Embassy of Denmark in Japan

KOREA UPDATE
- Jesper Knudsen, Energy Counsellor, Embassy of Denmark in Korea
- Minseun Park, Energy Advisor, Embassy of Denmarkn in Korea

Discussion: Opportunities in Korea and Japan

Moderator
- William Lim, Japan Programme Leader, Danish Energy Agency

Danish Energy Agency
MINISTRY OF FOREIGN AFFAIRS OF DENMARK
STATE OF GREEN
GREEN POWER DENMARK
DBDH
SYNERGI
DANSK ERHVERV
DI Energi

THANK YOU