



Indian Energy Transition with Danish engagement

India and Denmark are both committed to green transition with ambitious national targets. With the Green Strategic Partnership, a close and comprehensive cooperation with enormous potential is established to combat climate change. As Prime Minister Modi has stated: ‘Denmark has the skills, and India has the scale’.

Ambitious green goals as the 3rd biggest emitter

India is the world’s largest democracy and will soon be the world’s most populous country. Ranking as the third biggest CO₂ emitter, the Indian government has set ambitious goals for development and integration of renewable energy. By 2030, India strives to reach 450 GW. In comparison, Denmark has 10 GW at present.

Green Strategic Partnership - combining skills and scale

With the *Green Strategic Partnership*, Denmark and India have agreed to strengthen the Indo-Danish relations. A unique partnership is taking shape with synergies of great value combining Denmark’s world leading expertise and experience within green transition with the impressive scale, ambition and competence of India.

India ranks 18 among export markets for Danish energy technology with growth ahead

Danish exports of energy technology to India constitutes 1 % of total Danish exports of energy technology – making India the 18th export market for Danish energy technologies in 2021, climbing up from 22nd in 2020. Within the framework of the Green Strategic Partnership, the green trade between Denmark and India is expected to flourish.

Significant Danish investment in production capacity in India

The commercial relations between the two countries are well-founded. More than 120 companies with Danish origin are already established in India, employing more than 200.000 people. Large companies such as Grundfos, Danfoss, Siemens Gamesa Renewable Energy, Vestas, LM Wind Power and FLSmidth have set up manufacturing and development centers in India over the years and continue expanding. More companies, including SMEs are following.

India: World's 3rd largest energy consumer

Strong Indo-Danish relations

India is the world's third largest consumer of energy and because most of the consumption is based on fossil energy sources, the country is also the world's third largest CO₂ emitter. By 2030, India is expected to have doubled its carbon emissions. The Danish government has an ambition to reduce CO₂ emissions with 70 % by 2030 and aims to take international leadership in this regard. By partnering, India and Denmark will demonstrate that delivering on ambitious climate and sustainable energy goals is possible.

Green Strategic Partnership

In September 2020, prime ministers Mette Frederiksen and Narendra Modi agreed to establish an Indo-Danish Green Strategic Partnership. The partnership is a mutually beneficial arrangement to advance political co-operation and economic relations aiming at green growth and job creation. It addresses global challenges and opportunities with focus on implementation of the Paris Agreement and the UN Sustainable Development Goals. Concrete cooperation takes place in areas such as energy, climate change, environment, water, circular economy, and sustainable urban development.

Political cooperation and economic relations fostering green growth

Comprehensive energy cooperation

The cooperation on renewable energy was initiated in 2017 with a *Strategic Sector Cooperation*. In 2020, the collaboration was expanded with the *India-Denmark Energy Partnership (INDEP)*.

Technical knowledge sharing in three areas

INDEP is a 5-year program that constitutes a key element in the government-to-government cooperation on energy. It is based on technical knowledge sharing within three main areas:

- 1) Offshore wind power deployment
- 2) Power sector analysis and medium and long-term energy planning
- 3) Integration of increasing levels of renewable energy

Supporting India's green energy transition and ambition of reaching 450 GW of renewable energy capacity, the two countries have an active technical cooperation in the field of energy. Denmark shares the international experience within planning and regulation, expertise in using modelling tools to identify least-cost potentials, and knowledge of optimized and flexible power systems. This is of direct value to the development of India's energy systems and provides opportunities for further commercial collaboration in green energy.

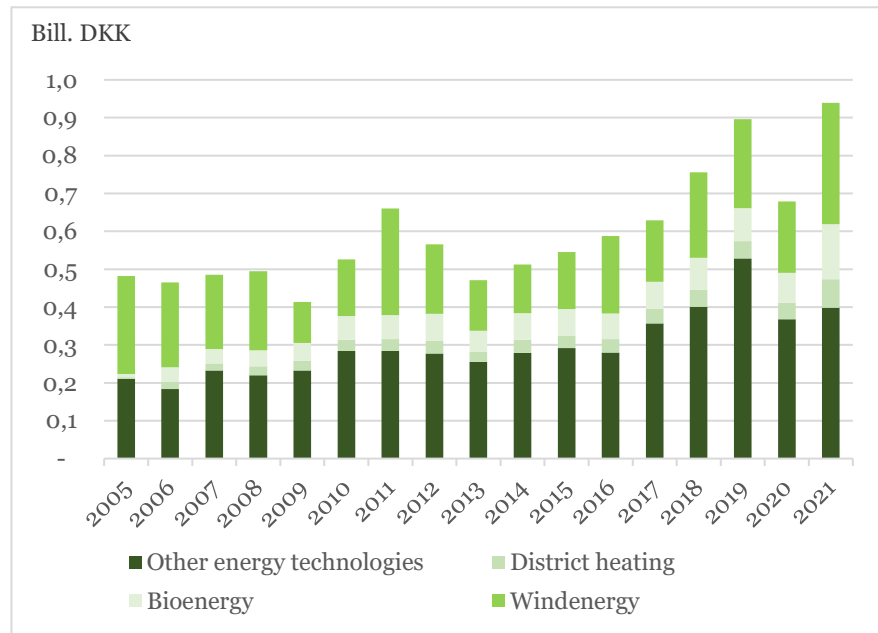
Exports of energy technology soared to 940 mill. DKK in 2021

Exports of energy technology

Danish exports of energy technology to India have risen from below 500 mill. DKK (67 mill. EUR) annually with an upwards trend since 2013. Since then, a notable increase has been recorded, peaking in 2021 at 940 mill. DKK (126 mill. EUR). The record-high exports of energy technologies in 2021 emerged as a rebound from 2020 with exports of energy technologies dropping due to Covid-19.

The pandemic hit investments in India’s energy sector, which fell by an estimated 15 % in 2020 according to IEA, exacerbating financial strains across the board, in particular among India’s electricity distribution companies.

Figure 1: Danish Energy Technology Exports to India



Note: Other energy technologies denotes technologies for energy production, energy storage, energy savings and various components.
 Source: Eurostat and calculations by The Danish Energy Industries Federation.

Energy saving products are the biggest export article

Green energy: 63 %

Exports to India are mainly driven by energy saving products and various energy technology components, which account for a total export of 823 mill. DKK (111 mill. EUR). Danish energy technology exports to the India reached a 63 % share of green technologies in 2021.

Table 2: The largest product groups in Danish energy technology exports to India in 2021

Rank	Product	Mill. DKK
1	Energy saving products	462
2	Various components	361
3	Technology for energy production	61
4	Distribution of energy	53
5	Energy storage	4

Source: Eurostat and calculations by The Danish Energy Industries Federation.

India’s energy sector

India is a major force in the global energy economy. As the world’s third largest consumer of energy with most of the consumption based on fossil energy sources, India is also the world’s third largest

Low per capita energy use

CO₂ emitter despite a low per capita energy use, which is well under half the global average.

Fossil energy meets the energy demand

India’s energy use has doubled since 2000 and in 2020, most of the demand is still being met by coal and oil, accounting for 55 and 28 % of total energy consumption, respectively. As the largest single fuel in the energy mix, coal has underpinned the expansion of electricity generation and industry. Low-carbon energy sources account for merely 10 %.

Growing population with growing wealth will increase energy consumption significantly

In the coming decades, India’s energy consumption and CO₂ emissions are projected to increase significantly. Millions of Indian households are set to buy new appliances, air conditioning units and vehicles. India will soon become the world’s most populous country, adding the equivalent of a city the size of Los Angeles to its urban population each year. And with continued industrialization, India will need to add a power system the size of the European Union to what it has now, to meet growth in electricity demand over the next twenty years.

World’s largest market for renewable energy expected to triple by 2040

The IEA estimates that India will be one of the world’s largest markets for renewable energy in the coming years as electricity consumption is expected to triple by 2040. This corresponds to more than EU’s total electricity consumption today. Moreover, India ranks as the third most attractive country for investing in and deployment of renewable energy according to EY¹. India’s thriving renewable energy market conditions are mainly due to policy decisions, investments, and technology improvements.

Investment in renewable energy sector

Despite the negative consequences of the pandemic on investments in the Indian energy sector, which fell by an estimated 15 % in 2020, approximately 100 billion USD are expected to be invested in the renewable energy sector in 2022.

India invests to become a global green hydrogen hub

In August 2021, Prime Minister Modi announced a “*National Hydrogen Mission*” with the vision to make India a global hub for green hydrogen production and exports. Thus, India plans to manufacture 5 million tons of green hydrogen per annum by 2030. At COP26 in Glasgow, India announced its commitment to take cumulative non-fossil fuel generation capacity to 500 GW.

To realize the ambitions, India will set up separate manufacturing zones, waive inter-state power transmission charges for 25 years and provide priority connectivity to electric grids to green hydrogen and ammonia producers in a bid to incentivize production.

¹ EY’s Renewable Energy Country Attractiveness Index (RECAI) 2021

The 5 million tons production target is half of that of the EU, which plans to produce 10 million tons of hydrogen from renewable energy by 2030.

DI India: Mumbai, Chennai and nation-wide

New office in Chennai with focus on wind industry

Own Man in India (OMII)

Trade delegations focusing on energy

Networks in pursuit of business opportunities in the wind industry

DI assists companies

Since 2008, the Confederation of Danish Industry (DI) has had an office in Mumbai assisting Danish companies in their pursuit of market opportunities in India. DI India assists companies in exploring the market opportunities, finding partners, setting up the local organization and establishing Indian subsidiaries as well as taking care of day-to-day business administration related to i.e. recruitment, compliance, and financial management. In view of growing interest, the presence is now extended with a new office in Chennai, an important production hub attracting still more Danish investment, at present of interest to several sub-suppliers to the wind industry.

In addition, DI India offers the ‘*Own man in India*’ employment setup, which gives companies the opportunity to have their own people present locally - employed via DI India. For many, this can be a flexible and cost-efficient method of entering the Indian market and obtaining local presence in the market.

DI undertakes a range of export promotion activities aiming at India’s investment in energy and green transition in general. The activities include trade delegations – both to India and from India to Denmark – highlighting business opportunities and bringing Danish companies to the attention of Indian decision makers in business and policy circles.

At present, DI organizes two networks with focus on wind power in India. One focusing mainly on market opportunities and seeking – together with partners from the Indian Danish Chamber of Commerce, the Danish embassy in New Delhi and the Danish Energy Agency, to build a bridge between the official Danish energy partnership and local market opportunities. The other network focuses mainly on sub-suppliers to the wind industry and their strategic and practical approach to setting up production in India.

Would you like to learn more?

If your company is interested in hearing more about the opportunities for doing business in India, you can contact the head of DI India's office, Bente Toftkær, at bet@di.dk. You can also find inspiration and relevant cases featuring Danish companies in India on DI's website www.di.dk/Indien.