

Joining Forces on Renewable Energy

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Climate change is a global challenge not devoid of technical solutions, rather political ones. Technology, finance and knowledge are key components that exist and enable climate mitigation and adaptation. However, the political impasse to share these acquired material and tacit resources is vivid in the international climate change regime. As a global agreement shows little sign of propelling the world energy system to low-carbon pathways, it is domestic and bilateral initiatives that will pave the way for any success to be met in curtailing greenhouse gas emissions.

As the fourth largest emitter of greenhouse gasses globally, India's renewable energy ambition and large resource pool of wind, solar, biomass and other renewable sources, provides a platform for collaboration on increasing the pace of renewable energy generation. Internationally, India stands for global dialogue based on common but differentiated responsibility that requires financing and technical support from early industrialised countries. Domestically, it has taken a constructive and flexible political position that embraces large market building and incentivising policies that enable investments for diversifying its hydro-carbon dependent energy mix. Its aim is for renewable energy sources to account for 15 percent of its energy mix and to lower its greenhouse gas intensity by 20-25 percent by 2020.

Towards Energy Secure India

Since discontinuing aid-based bilateral partnerships in 2003, India has emerged on an equal standing of mutual interests, and established ties with several nations on various renewable energy and climate change issues stemming from the intent to create an energy secure India. A most recent illustration of such a bilateral agreement is the Memorandum of Understanding (MoU) on Renewable Energy that India signed with the Netherlands earlier this year. This comes at an opportune moment as the new government takes office in New Delhi to tackle myriad challenges that the country is facing in meeting its renewable energy and sustainable development ambitions.

With regards to climate change and energy security, the Netherlands and India in some ways are dealing with similar problems. They are attempting a transition to cleaner energy systems while simultaneously allowing development and service delivery within their densely populated geographies. Climate technology can, therefore, contribute to solidifying bilateral ties between both countries. As such, it will continue a

movement that strengthens economic, technical and cultural initiatives between the two countries. Bilateral trade, for instance, has been steadily increasing (recorded a growth of 17.7 percent in 2012), which is indicative of a positive trend of stronger ties between governments and industry of both nations.

This MoU is unique in that its Joint Working Committee has brought together key members of government, research, university and private sector from both countries from the onset, paving way for a collaborative assessment of 'clean' opportunities to develop and access across borders. This broad representation of leaders cutting across public and private sectors, and civil society, captures the essence of transitioning towards a sustainable energy system as the latter requires concerted efforts from all these stakeholders.

Building a holistic political vision that addresses India's energy future to capitalise on its renewable energy, industry and entrepreneurial resource base to address growth and development needs could be



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the first point of cooperation between India and the Netherlands within this MoU. Moving towards a vision of a clean energy system based on India's development needs and industrial potential is particularly a necessity for India if it is to maintain domestic energy security and provide modern forms of energy to its population. The newly appointed National Democratic Alliance government has already initiated a revamp of the energy sector in India with the creation of a high-level Advisory Group for Integrated Development of Power. As India moves towards establishing an energy mission and vision for its medium-to-long-term future, the Netherlands could support it considerably with capacity, managerial, planning and technical expertise. ECN, the nodal organisation that facilitated such an engagement and agenda setting for the energy agreement in the Netherlands, lies at a unique juxtaposition of technological, policy and market expertise. It provides unbiased negotiated policy responses based on realistic opportunities for growth and stakeholders' ambitions.

The Netherlands has shown great success in tapping into such wide-ranging interest groups within its borders to enable such a domestic transition. Its Energy Accord 2050 exemplifies how capacity can be created and leveraged through a top-down and bottom-up facilitated approach — it was a result of over 8 months of negotiation and discussions held between the government and employers federations, trade unions, environmental institutions, facilitated and managed by independent impact assessments and substantive studies by the Energy Research Centre of the Netherlands (ECN) and others. This agreement has set forth ambitions not just for increasing renewable energy capacity

and energy efficiency improvements, but also targeted increase in jobs, industry competitiveness, better social environmental and financial standing for citizens, and opportunities for entrepreneurial initiatives — all critical and key ambitions for India as well.

Lessons for Both Nations

While the size and scope of challenges in meeting renewable energy ambitions in both countries varies immensely, there are key areas that provide interesting lessons for both nations, particularly when it comes to addressing energy needs in their densely populated urban settings and large agricultural sectors. The Dutch have leading expertise in renewable energy areas such as offshore wind energy, co-combustion of biomass in coal-fired power plants, methods to pre-treat biomass, urban planning and transportation systems and in smart grids. Indian expertise could, in turn, excel in applying these high tech solutions in a cost-effective manner, having put 'jugaad' or frugal innovation on the global map, to cater to its burgeoning but cost-sensitive market force.

One of the largest opportunities for growth and development in India lies within the agricultural sector. Adapting and adopting clean technological energy solutions in a cohesive manner could help bring basic modern services to its agriculture-reliant population living in abject energy poverty today — over 75 percent of its rural population of 0.7 billion lives without access to energy. This lack of energy access underlies development problems of illiteracy, gender divide, poverty, malnourishment, and is reflected in the low ratio of workers to GDP contribution that agriculture makes to the Indian economy. Given India's potential of biomass — over 8,500 MW — it could well be a cornerstone of future and current energy needs for rural India; and could benefit greatly from the Netherlands' experiences and expertise in establishing it as such.

The Netherlands, the second largest exporter of agricultural produce globally, is the frontrunner in efficient and sustainable production systems and processes in the agriculture sector. Given its large agricultural output, it has successfully created biomass based energy solutions (using primary, agro-industrial byproducts, and waste biomass) through innovative linkages with transport, logistics and chemical industries. While it has several large scale biomass combustion installations, its experiences and expertise in enabling and setting up small to medium bioelectricity installations would be of value

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to Indian energy-poor rural areas, offering sustainable solutions to communities where grid lines fail to meet access and affordability requirements.

The Netherlands has successfully exported its planning, technical and implementing expertise to suit contexts internationally. For example, the Energy Research Centre of the Netherlands in partnership with the Government of Qatar is undertaking a holistic solar PV sector building exercise. This includes supporting policy design, setting up an industrial base, building a research centre, adapting and testing technologies to suit desert conditions and providing training and capacity building in Qatar — all with the aim of building an industrial sector with local stakeholders, and not just a project based technical manufacturing or energy generation unit.

India has been right to embrace renewable energy given its ample solar, wind and biomass potential, amongst others. The Netherlands has experienced and acquired many successes in the development of technology itself (50 percent of solar sold globally has 'ECN technology inside'), as well as how government policy can incentivise such renewable energy generation. With the development challenges that India must respond to, this MoU on renewable energy is an opportunity to build a balanced partnership that values interests and tackles challenges lying ahead of both countries, while contributing positively to the global need for climate change mitigation.

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