EU-INDIA
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The Relevance of the Energy Efficiency First Principle in an Indian Context

THEMATIC TRACK SUMMARY

Venue: Jacaranda I

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World Sustainable Development Summit (2023), The Relevance of the Energy Efficiency First Principle in an Indian Context, Thematic Track Summary (Rapporteur: Saurabh Mahasen Gandle), New Delhi: The Energy and Resources Institute.

Actionable Messages

Message 1: The two key sectors for India's net zero commitment are: industry decarbonization and energy independence.

Message 2: Electric vehicles (EVs) are a breakthrough in terms of energy efficiency (EE). The case for EVs is yet to be made in India or globally. Within India, the space to achieve energy efficiency is immense. However, cooling is the biggest challenge.

Message 3: As far as cooling is concerned, district cooling and thermal storage could be the ways forward in EE.

Message 4: The issue is CO_2 emissions for the future, not energy efficiency. An instrument to avoid CO_2 emissions is the market. It is important to put a price to it to come up with CO_2 emissions trading.

Message 5: In addition to RE development and generation, EE hosts the potential to power the country's ability to meet its NDCs and projected rise in energy demand. Financing EE infra, as part of the economic growth strategy, would help ease bottlenecks and enhance competitiveness through reduced operating costs.

Message 6: Targeted financing through FIs or new investment structures like InVITs would further pave the way for cost-effective, easily scalable technologies in the energy sector.

Narrative

The thematic track session titled, "The Relevance of the Energy Efficiency First Principle in an Indian Context" was conducted as part of the World Sustainable Development Summit (WSDS) - the annual flagship initiative of The Energy and Resources Institute (TERI). The session aimed to assess several EU initiatives, which could be potential sectors for integrating the Energy Efficiency First Principle in the Indian context in terms of: a) Electricity markets, energy supply, and distribution, b) Energy demand (industry and services), c) Buildings and transport, including infrastructure, and d) Financial sector.

The moderators for the session were **Mr Edwin Koekkoek, First Counsellor, Energy and Climate Action, EU Delegation to India** and **Mr Ajay Shankar, Distinguished Fellow, TERI.**

Discussions on various topics unfolded, which included: what would be the benefit of applying the idea behind the energy efficiency first principle in the Indian context, what lessons would EU experiences provide regarding the energy efficiency directive (which has an economy-wide quantified goal on energy efficiency), what are the barriers and challenges for integrating the energy efficiency first principle in the policy and legal framework, how to incentivize the execution of this principle, how to conceptualize a comprehensive impact assessment covering socio-economic and environmental benefits of energy efficiency policies, and what are the priority sectors India should focus on in the short and long term.

Mr Chirag Gurjar, Associate Director – Clean Energy and Climate, Management Consulting, PwC India, presented the report on the Energy Efficiency First Principle. The presentation started with a brief overview of the European Green Deal before elaborating on the Energy Efficiency First Principle. The EU's first principle aims at the removal of existing market and regulatory barriers to energy efficiency to ensure that the demand-side resources can compete on an equal footing with the supply-side ones. The overview for conducting the study includes a variety of components: 1) To understand what Energy Efficiency First Principle is, 2) To understand the requirement of a regulatory framework to review the policy approach adopted by EU members state, 3) To assess the potential sector for the integration of the Energy Efficiency First Principle in India, and 4) To explore the possible strategy of integrating the Energy Efficiency First Principle in the identified sector.

The report followed the 7-step approach focusing on methods of integrating the Energy Efficiency First Principle in various sectors across the EU member states within the regulatory and available policy framework. Sectors included the buildings, power, district heating, and end-use energy efficiency, among others.

In case of the building sector, the main legislation is the energy performance of the building directive. Within this, there are several provisions. For example, the minimum energy performance standard calculates the energy performance of the buildings. At the same time, it aligns with the climate goals under the Paris Agreement. However, there could be differences in implementation across different EU states. The study further looked at sectors and sub-sectors in India, such as power, transportation, buildings, residential buildings, industry, and others. It also identified programs/schemes regarding energy efficiency.

For the residential building sector, some of the areas of intervention include reducing end-user demand, using decentralized renewable energy production and storage, and optimizing energy efficiency.

Some possible strategies the report looked at comprise – making finance available for the renovation program that could be implemented in residential buildings, increasing energy efficiency of the residential end-use, reinforcing EE technologies in buildings, for example, circularity, and developing some of the standards that include relevant technologies. There are schemes such as Eco Niwas Samhita (ENS) and star-rated appliances which encourage the use of energy efficiency in appliances for residents. The Indian cooling demand is going to increase a lot, so there is a requirement of an India Cooling Action Plan (ICAP) too.

The conclusion of the study identified the specific policy targets within a particular policy to set key performance indicators (KPIs), and the barriers to the EE first principle.

Mr Edwin Koekkoek, First Counsellor, Energy and Climate Action, EU Delegation to India spoke about how the European Green Deal looks at the sector in a holistic way and tries to ensure that greenhouse gases (GHGs) are reduced and become climate neutral by 2050. The deal also addresses the biodiversity crisis, including air, water, and soil pollution. The first focus is to reduce energy demand and increase savings. This has become more important and relevant because of the Russia-Ukraine crisis resulting in a power crisis. They had to accelerate the green energy transition and came up with a new proposal called Re-Power EU which focuses on energy savings. While taking account of the security of supply and market integration, this principle should also ensure that only the energy *really* needed is produced, investments in stranded assets are avoided, and demand for energy is reduced and managed in a cost-effective way. This will ensure energy security, climate neutrality and the goals of Paris Agreement. This overlaps with India's energy independence by 2047 and net zero target by 2070.

Mr Ajay Shankar, Director, Distinguished Fellow, TERI pointed out that India embraced energy efficiency (EE) as a goal early on and achieved success. The thing that struck him was information asymmetry or lack of information. Therefore, there is market failure because if energy efficiency made good economics, the consumers in the marketplace were not making the right decisions, or they did not factor in the life cycle per unit consumption cost, and thus traded against slightly higher capital cost. From the policy side, a case policy should nudge a forward movement. He added that soon, the Indian EV makers won't be dependent on subsidy. EVs are a breakthrough in terms of energy efficiency, he concluded.

Mr Arijit Sengupta, Director, Bureau of Energy Efficiency cited India as the 3rd largest energy-consuming country in the world, and even though the energy consumption is increasing, the energy intensity is decreasing at a steady rate of 2-3%. The success of energy efficiency lies in the Energy Conservation Act. 2001, he added, while highlighting the success of India in the realm of appliance labelling scheme. He further gave an example of the new norms on energy efficiency for inverter ACs, issued by the Bureau of Energy Efficiency in 2015 and made mandatory in 2018, leading to the fast adoption of inverter ACs.

In 2021/22, 70% of sales were for inverter ACs. Though the prices are higher than a normal AC, the behavioural shift is enormous. Also, the Perform, Achieve, and Trade (PAT) Scheme has saved 21 Mtoe (2021/22). The savings are more than the energy consumption of a country like Sri Lanka. Along with the Unnat Jyoti by Affordable LEDs for All (UJALA) Scheme, there has been electricity savings of 240 billion

units every year and 270 MT of $C0_2$ emissions. Speaking about India's Glasgow commitment, he emphasized the importance of two pillars, i.e. industry decarbonisation and energy independence. He concluded by saying that for sustainable renewable energy and storage, the promotion and implementation of EE must be prioritized.

Namita Vikas, Founder, auctusESG LLP, on being asked about the challenge infrastructure and investment trusts face while integrating ESG into the decision-making, spoke on four immediate challenges. From a systemic lens, the lack of an agreed definition of green and ESG in many markets makes it difficult to integrate parameters into credit decision-making or garner investment interest. She also spoke on standardization, clarity from regulators, and monitoring accurate disclosure being the key to propelling actions within the region, especially developing markets.

Ms Namita continued by discussing Invit's struggle with ESG and that the climate-related risk perception in the project is not limited to energy efficiency. The lack of reliable data prevents accurate assessment and analysis of ESG factors and opportunities. Data authenticity, quality, timelines, and granularity of data impede prompt detection of vulnerabilities, such as roads, bridges, and utilities. Mandatory disclosure provides limited information on ESG risks and opportunities. Voluntary disclosure is often unverified and non-standardized. The annual cycle of ESG disclosure and regular financial statements do not seem to match.

ESG analysis takes the form of qualitative input used alongside the quantitative model. The lack of algorithms and set formulae to quantify risks makes integration an uphill task. Without a regulatory mandate, it is nobody's priority. ESG integration cost implications for investors are passed onto the borrowers, thereby making the deals either expensive or uncompetitive. Limited technical capacity to capture multifaceted and interdependent challenges linked to ESG, especially in a developing economy, hinders integration risk assessment. She also defined the three lessons from the European Union to incorporate energy efficiency, which include a speedy implementation of local policies for investment funds to operate in a synchronized manner in the sustainable finance landscape, having sustainable finance disclosure regulations to improve transparency related to sustainable investment products and prevent greenwashing. This step can increase the investor's confidence in claims made about sustainability. Also, leveraging financial resources and technical expertise to support infrastructure investment in line with EE 1st principle is crucial, while streamlining processes through public-private financing structures.

Dr Winfried Damm, Head of the Energy Program, GIZ said, the issue is CO_2 emissions for the future, not energy efficiency. The instrument to avoid CO_2 emissions is the market. By putting a price to it, it is essential to come up with CO_2 emissions trading. He cited the example of the European Union emission trading system (EU ETS). Dr Winfried hopes to see India come up with such a scheme. Demand shift will be crucial to reduce energy consumption in the future, he signed off.

Ms Cornelia Schenk, Policy Specialist, IEA revealed the findings of the IEA 2022 report and opportunities energy efficiency holds in India. She highlighted that EE is at the centre of the global agenda fuelled by energy crisis. There has been an increase in mobilizing finance. Energy intensity (EI) improved by 2% and this improvement is four times more than what had been achieved in the last four years. Globally, a lot of awareness-raising and behavioural change campaigns were launched. The stronger advances in digitization and smarter grids are enabling greater use of renewable energy. Talking about the challenges, Ms Cornelia mentioned the energy and supply chain pressure and a rise in prices and high-interest rates can make financing costs higher.

Ms Cornelia also spoke about reducing the need for transportation. She emphasized the need for the shared mobility concept and shifting to an efficient source of energy.

Ms Shabnam Bassi, Deputy CEO-cum-Secretary, GRIHA Council spoke about how government regulations provide a push (top-down approach) while the rating agency provides the necessary pull (bottom-up approach). Once projects get registered under GRIHA, the Council ensures all relevant policies are implemented for the policy to be successful. Later in the life of the project, the compliance standards are looked at, she added. At the design stage, implementing all codes and standards cut down resources by 30-40%. In conclusion, she said that resource-efficient and cost-efficient technologies in designing a project could solve many problems.

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“	As far as cooling is concerned, district cooling and thermal storage could be the way forward. ***Mr Arijit Sengupta*** ***Director, Bureau of Energy Efficiency***
“	There is also a case where policy should nudge a forward movement so that the business case for energy efficiency stands on its own after some time, or there is enough movement down the cost curve. We are beginning to see a bit of that in the EV space. ***Mr Ajay Shankar*** ***Distinguished Fellow, TERI***
“	At the design stage, implementing all codes and standards cut down resources by 30-40%. ***Mr Shabnam Bassi*** ***Deputy CEO-cum-Secretary, GRIHA Council***
“	The building sector can present the best case for the integration of the Energy Efficiency First Principle in the Indian context. ***Mr Chiraj Gajjar*** ***Associate Director, Clean Energy and Climate, Management Consulting, PwC India***
“	India’s energy future depends on buildings and factories that are yet to be built, and vehicles and appliances that are yet to be bought. ***Ms Cornelia Schenk*** ***Policy Specialist, IEA***
“	The best practices to incorporate energy efficiency would not only streamline processes through which public-private financing structures would evolve to support investment but also, unleash the power to deliver demand-side measures. ***Ms Namita Vikas*** ***Founder and MD, auctusESG***