



Panel Discussion on ‘An Economy-wide Quantified Goal on Energy Efficiency in India’

19 July 2023
04:45 P.M. - 06:00 P.M. (IST)
The Grand Hyatt, Goa

About the Event

It becomes important to deliberate on the merits and methods of energy efficiency goals and targets in India. While renewable energy takes up a chunk of the public narrative space for clean energy transitions, there exists an imperative need to create a similar understanding on energy efficiency, especially through an economy-wide energy efficiency goal, for example in MTOE terms. This panel discussion deliberated on the need, international practices, methods and issues of having an economy-wide quantified energy efficiency target for India, as a part of the country’s clean energy and climate target. This can also contribute to India’s NDC targets to meet the goals set in the Paris Agreement.

Keywords

energy efficiency, SDG 7, climate action, goal setting, energy trilemma

EVENT REPORT



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Background

The energy sector accounts for [three-quarters of global emissions](#) and transforming the energy sector becomes critical in realizing the goals set under the Paris Agreement. Apart from economic returns, energy efficiency delivers environmental benefits through GHG emission reduction.

[International Energy Agency \(IEA\)](#) estimates that GHG emissions in 2017 were 12% lower due to energy efficiency measures since 2000 than in the absence of such interventions (IEA, 2023). According to another [IEA study](#), globally, initiatives aligned with Lifestyle for Environment (LiFE) can lead to 20% emission reduction which includes measures related to energy efficiency (IEA, 2023).

Several countries have realized the importance of energy efficiency and have included energy efficiency as an important component in their climate/decarbonization plan, including the European Union. [EU](#) adopted an increased and binding energy efficiency target of 9% in 2030 compared to the projections of the 2020 Reference Scenario. In 2022, the Commission increased the energy efficiency target from 9% to 13% compared to the 2023 reference scenario.

With an aspiration to become a USD 5 trillion economy by the middle of this decade, India is one of the fastest developing countries and has its unique challenges of ensuring economic growth, proving energy security to its vast population and ensuring energy transition. Energy costs form almost a quarter of India's industry annual operating cost. While rising energy prices are rising, there is a need to reduce and control energy prices along with climate mitigation as a co-benefit. This calls for investing in energy, making energy usage more efficient by adopting energy-efficient technologies. Meeting these goals requires a transformation of existing India's energy systems. According to a [study by TERI](#), it is estimated that energy efficiency measures can result in energy savings of 338 Mtoe (5-12per cent) over the period 2021–2041 as compared to the reference scenario.

[National Mission for Enhanced Energy Efficiency \(NMEEE\)](#) is one of the eight missions under the National Action Plan on Climate Change (NAPCC). Initiatives under NMEEE include Perform Achieve and Trade Scheme (PAT); Market Transformation for Energy Efficiency (MTEE); Energy Efficiency Financing Platform (EEFP); and Framework for Energy Efficient Economic Development (FEEED). While sectoral initiatives (for instance in industry, buildings, transport, agricultures) exist under NMEEE which is implemented by BEE and EESL, aggregate macro-economic quantified and time-bound targets are presently not in place. SDG 7.3 is on energy efficiency which sets a target of doubling the global rate of improvement in energy efficiency by 2030. In India's [national indicator framework](#) on SDGs, the indicator is "energy intensity measured in terms of primary energy and GDP, (in mega joules per rupee)". Energy intensity as an indicator has been [critiqued](#) since energy intensities of sectors are influenced by changes in the structure of the economy.

Presently India's [four quantified climate targets](#) which consider a timeframe of 2030, under the updated NDCs include the following: Reduce emissions intensity of its GDP by 45 percent by 2030, from 2005 level; Achieve 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, with the help of transfer of technology and international finance; Create additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030; Reaching net-zero by 2070. India has a



quantified emissions intensity goal as well as a quantified renewable energy goal but does not have one specific to energy efficiency.

With the above background, it becomes important to deliberate on the merits and methods of energy efficiency goals and targets in India. While renewable energy takes up a chunk of the public narrative space for clean energy transitions, there exists an imperative need to create a similar understanding on energy efficiency, especially through an economy-wide energy efficiency goal, for example in MTOE terms.

This panel discussion deliberated on the need, international practices, methods and issues of having an economy-wide quantified energy efficiency target for India, as a part of the country's clean energy and climate target. This can also contribute to India's NDC targets to meet the goals set in the Paris Agreement.

The 14th CEM and the 8th Mission Innovation meeting coincided with the G20 Energy Transition Ministerial Meeting. This gathering brought together representatives from governments, international organizations, clean energy financiers, industry leaders, non-governmental organizations, young professionals, and tech innovators. The host for this year's event was the Government of India.

Actionable Messages

Message 1: There is a need to address the data challenge. Discussions need to begin on the development of a statistical system that considers self-generation and consumption in the equation. Possible approaches include using sample tests, self-reporting mechanisms, or smart meters that can accurately measure energy consumption and generation at the household level.

Message 2: By creating energy-efficient buildings that incorporate renewable energy and promote net-zero energy consumption, we can offer a recognizable and visible solution. This approach not only addresses mitigation and energy efficiency but also contributes to carbon mitigation.

Message 3: There is still significant untapped potential for energy efficiency, and there is a need to harness this potential by encouraging energy-saving practices, setting ambitious targets, and creating a sustainable future.

Message 4: The labelling programme, like the star rating system for appliances, makes it easy for consumers to recognize and choose more energy-efficient options. LED bulbs, for instance, with higher star ratings, are visibly more efficient than incandescent bulbs. This labelling visibility has been highly effective in promoting energy-efficient choices.

Making Words Count

“ It is through BEE’s efforts that now energy efficiency is also a criterion, along with cost, for purchasing an electrical appliance.

Dr Vibha Dhawan, Director General, TERI

“ Many countries have realized the importance of energy efficiency. Some countries have even gone to the extent of internationalizing it, which means it is not just a national goal; it is an international goal to which they stand committed to demonstrate their adherence to that kind of goal now.

Mr RR Rashmi, Distinguished Fellow, TERI

“ Combining renewables, batteries, and energy efficiency, along with making renewable energy panels more visible in building structures offers a comprehensive approach to sustainable development, addressing various aspects of environmental conservation and energy consumption.

Dr Ajay Mathur, Director General, International Solar Alliance

“ There is still significant untapped potential for energy efficiency, and we are committed to harnessing this potential by encouraging energy-saving practices, setting ambitious targets, and creating a sustainable future for the European Union and beyond.

Ms Paula Pinho, Director, Directorate General for Energy, European Commission

“ India is now leading one of the bigger changes on the climate change front. Now, emerging economies are playing a bigger role in leadership in climate change negotiations.

Ms Seema Paul, Program Director, Sequoia Climate Foundation

“ In India’s quest for a new era of progress, empowering itself with enhanced energy data collection and dissemination marks a significant milestone. The Energy Data Management Unit endeavour will illuminate the true impact of energy efficiency policies, fostering a deeper comprehension, and facilitating the formulation of effective energy policies for a sustainable future.

Mr Arijit Sengupta, Director, Bureau of Energy Efficiency

“ The best practice for data and modelling to attain the multipurpose goal of an economy-wide energy efficiency target and an energy-efficient life for the people of India would need a strong impetus towards data-driven governance.

Brian Dean, Head Energy, SEforALL

“ Energy consumption data supported by sectoral contribution to GDP and emissions must be factored in to set an economy-wide energy-efficiency target.

Mr Souvik Bhattacharjya, Associate Director, TERI

“ Energy efficiency targets serve a three-way function of compelling action both from the public and from the private sector, tracking the progress of policy initiatives and increasing financing in areas of Clean Energy technology.

Ms Cornelia Schenk, Energy Efficiency Policy Analyst, International Energy Agency

“ Regulations plus policy, supported by modelling, all have to go hand-in-hand for ensuring maximum energy efficiency and devising an economy-wide energy efficiency goal for India.

Ms Tripti Deshpande, Senior Programme Manager, Shakti Sustainable Energy Foundation

“ Interventions for energy efficiency do require financial impetus. However, there is a lot of work that needs to be done to make investment opportunities lucrative for the private sector.

Dr Shailly Kedia, Associate Director and Senior Fellow, TERI

“ India NDC has a clearly defined supply-side target; therefore, to strengthen demand-side management, India must have an economy-wide quantified and time-bound energy-efficiency target.

Dr Vatsala Sharma, Associate Fellow, TERI

Proceedings

Welcome Address

Dr Vibha Dhawan, Director General, TERI

Dr Vibha Dhawan commenced the session with a warm welcome to all the attendees. She expressed her enthusiasm about the distinguished group of panellists and speakers present at the event. Dr Dhawan then focused on the ongoing momentum of change in India towards developing a green economy. She emphasized that India is setting an example for the world, demonstrating that development can occur while ensuring environmental sustainability.

Dr Dhawan lauded the remarkable efforts of Mission LiFE, which aims to encourage every global citizen to contribute to climate mitigation. This initiative plays a crucial role in addressing the challenges posed by climate change.



Moving on, she congratulated the Bureau of Energy Efficiency for its innovative initiative of promoting energy efficiency awareness among people. Thanks to their endeavours, she said that energy efficiency has become a significant criterion, alongside cost, when purchasing electrical appliances.

Dr Dhawan also highlighted the remarkable contributions of TERI in promoting energy efficiency adoption within industries. The TERI Industrial Efficiency programme has successfully trained energy auditors who play a vital role in reducing energy costs and minimizing energy wastage. Additionally, TERI's encouragement of water audits helps in the efficient management of water resources.

Discussing energy access in India, she acknowledged that the country's emissions are substantial. However, per capita emissions are relatively low, primarily due to the lack of energy access for many Indians, which often goes unaccounted for. She emphasized that energy access is a basic right, especially for India's young and aspirational population. While India's energy demand is expected to rise, the goal is to meet this demand by adopting green and clean energy combined with energy-efficient practices.

In conclusion, Dr Vibha Dhawan conveyed her hope that the collective efforts of various initiatives and organizations will lead India towards a more sustainable and greener future.

The working paper ‘An Economy-Wide Quantified Goal on Energy Efficiency in India’ was also launched during the event.



Framing Presentation

Dr Vatsala Sharma, Associate Fellow, TERI

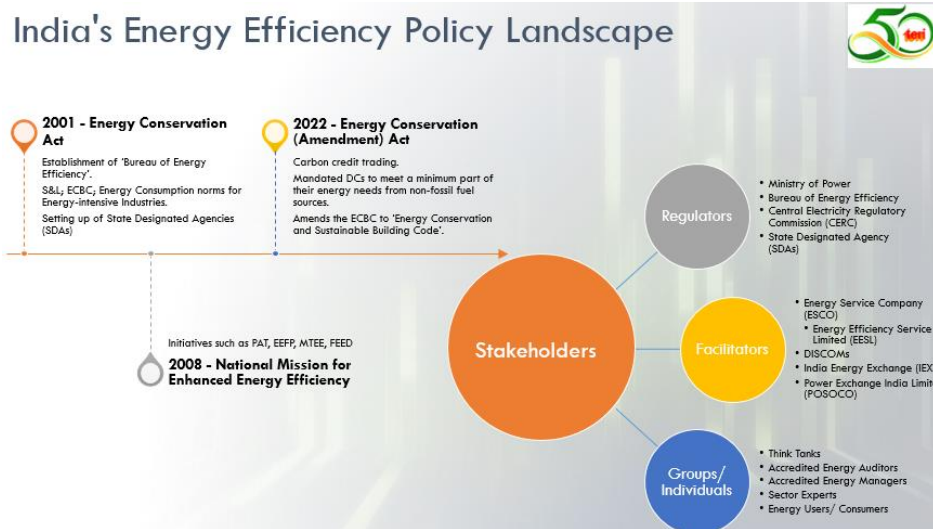
Dr Vatsala Sharma gave a brief about the working paper on having an economy-wide energy-efficiency goal for India. She started the presentation by giving a context that the Paris Agreement calls for nations to stabilize global temperature rise to 1.5–2 degrees Celsius. She highlighted that energy is an integral requirement for a country’s socio-economic and industrial development; however, conventional energy sources present the challenge of high GHG emissions, which makes it imperative to introduce both demand- and supply-side interventions for faster decarbonization.



Dr Sharma further added that on the energy supply side, India has robust targets for increasing the share of renewable energy and, reducing emission intensity and building a narrative towards clean energy transition, while energy efficiency, often referred to as the ‘first fuel’, is a primal example of energy demand-side interventions. She highlighted the significance of this event to

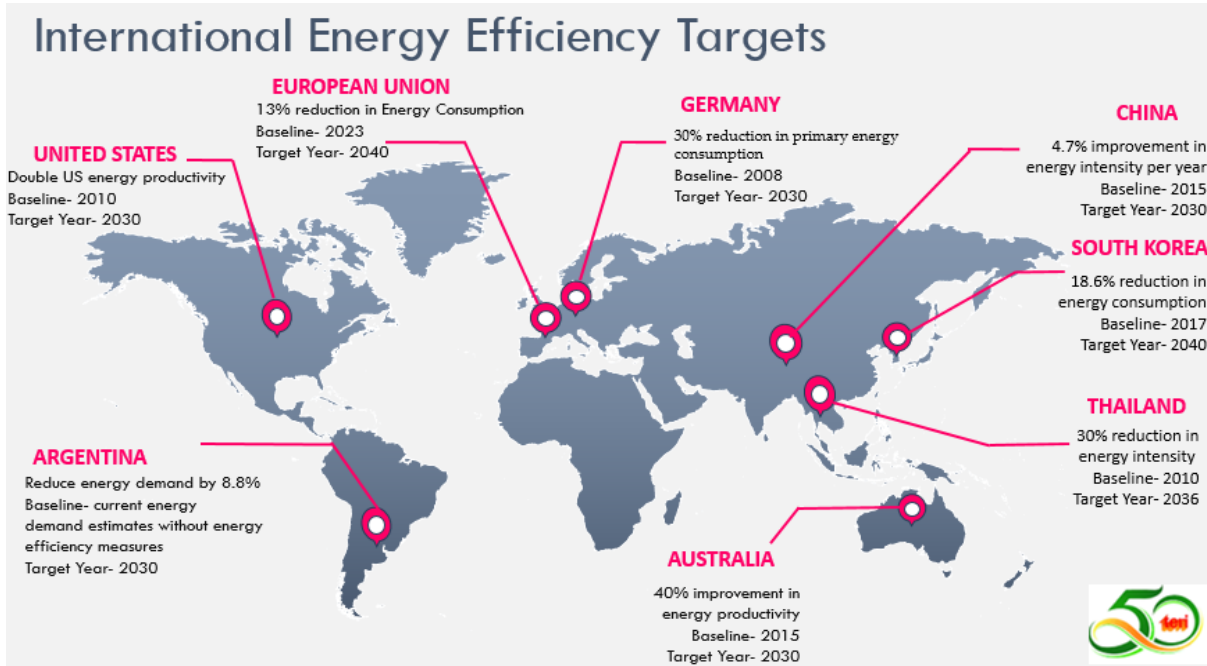
foster discussions around an imperative to create a similar understanding of energy efficiency, especially through an economy-wide energy-efficiency goal for India.

Talking about the energy efficiency regulations in the country, she informed that India has a well-defined and progressive energy efficiency landscape governed by the Energy Conservation Act introduced in 2001. The Act provides a framework for promoting the efficient use of energy and energy conservation in the country. It also played a key role in setting up the Bureau of Energy Efficiency as the statutory body at the central level to implement energy efficiency measures while collaborating with various stakeholders. She apprised that in 2008, India launched the National Mission for Enhanced Energy Efficiency (NMEEE) to strengthen the adoption of energy-efficient technologies. A recent amendment in the Energy Conservation Bill has widened the scope of energy efficiency by authorizing BEE to build a carbon credit trading mechanism while also mandating designated consumers (DC) to meet a minimum share of their energy needs from non-fossil fuel sources.



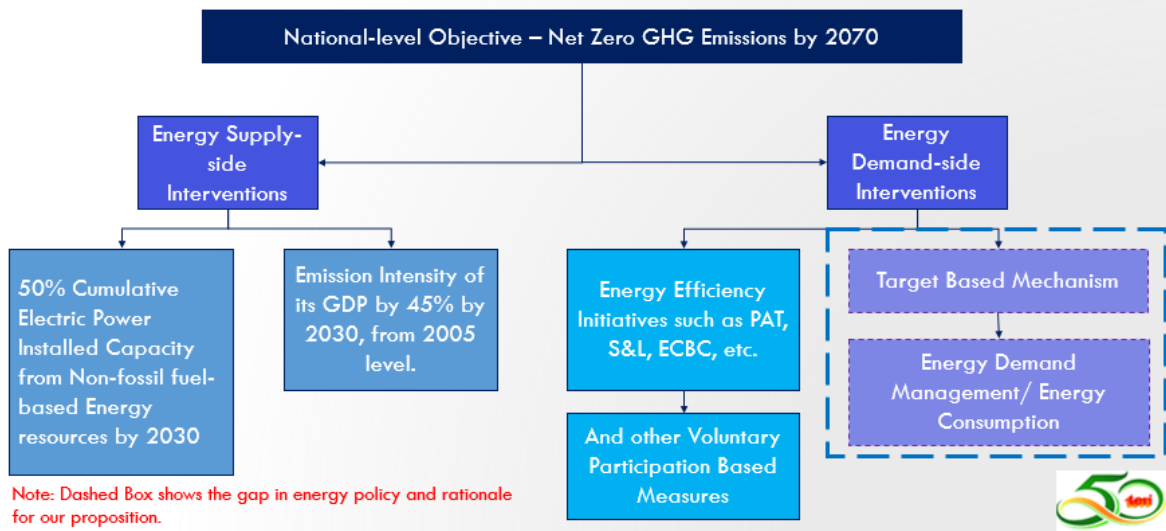
Regarding the adoption of a national energy efficiency target, Dr Sharma said that many developed and developing countries have included energy efficiency as a part of their climate mitigation strategy. The European Union’s Energy Efficiency Directive targets a 13% reduction in energy consumption by 2040 compared to the 2023 reference scenario. While this is in line with the EU’s macroeconomic ‘Fit for 55’ package, this has also penetrated to EU member countries. However, developing countries are not far behind, and countries like Thailand and China also aim for energy intensity improvement as a part of their climate policy.

Highlighting the need for India to adopt an energy efficiency goal, she informed that the country’s NDCs have clearly defined supply-side targets of increasing 50% cumulative electric power-installed capacity from non-fossil fuel-based energy resources by 2030 and reducing emission intensity by 45% by 2030 from 2005 levels. Demand-side interventions in India are currently largely voluntary, except PAT. Therefore, to strengthen demand-side management, the study team proposes an economy-wide quantified and time-bound energy efficiency target for India. This approach will not only complement India’s efforts to achieve nationally determined contributions but also help in a coordinated approach for a swifter energy transition while ensuring optimal cost implications.



Rationale

For Economywide Energy Efficiency Target for India

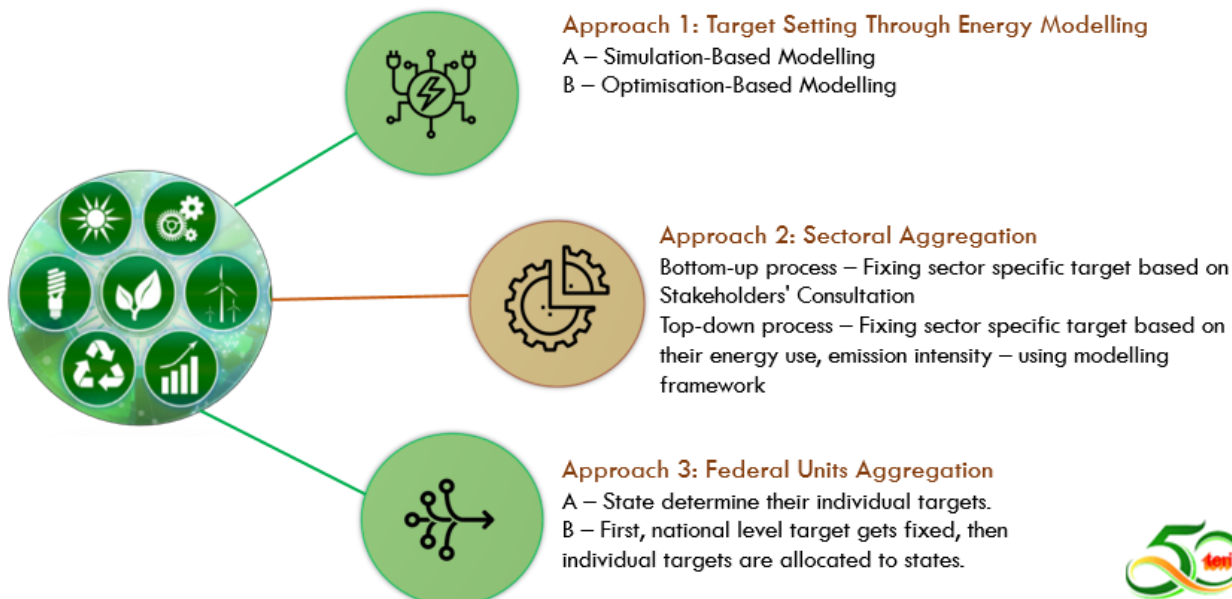


TERI’s study proposes three approaches for setting an economy-wide energy-efficiency target for India. The first approach involves using an **Energy Modelling framework** for arriving at a target.

In this approach, an energy-efficiency target is suggested as a key variable for reducing future energy consumption. The target could be inserted in the energy model framework in two forms: in the first case, the target could be determined through stakeholder consultation and assumed to be an independent variable along with other variables, such as renewables share in energy generation, emissions intensity, etc. It could also be a simulation-based modelling exercise from which the best possible energy transition pathway can be found.

Possible Approaches

For Setting Up Energy Efficiency Target in India



In the second case, the energy modelling framework could help determine the economy-wide energy-efficiency target assuming the target to be a dependent variable, factored upon future energy demand, the share of renewable energy generation, emissions intensity, monetary constraints, GDP growth, etc. This modelling exercise could help find the optimum target value that would lead to a consistent and cost-effective energy transition pathway.

The sectoral aggregation approach advocates a bottom-up process where sector-specific targets could be defined via stakeholders’ consultation based on their contribution to GDP, energy consumption, and emission intensity. This will compel actions and encourage governments and economic sectors to achieve certain predetermined outcomes.

Another method of finalizing the sectoral target could be devised by using a modelling framework. The sector-specific factors such as share in GDP, energy use, and environmental implications could be weighted in the model. This approach will provide insights on how and what targets should be defined for individual sectors.

Presently, energy-efficiency initiatives are majorly devised at the central level, and state agencies play their role in the implementation and enforcement stages only. Suggesting **policy progress indicators** of energy efficiency, this approach suggests states determining their individual targets and their aggregation could be used for an economy-wide energy-efficiency target. Alternatively, the central energy efficiency target could be determined in an analytical or consultative manner.

In Conversation

Mr. RR Rashmi, Distinguished Fellow, TERI (Moderator)



Moderating the session, Mr Rashmi started the discussion by highlighting the fact that many countries have realized the importance of energy efficiency. He informed that some countries have even gone to the extent of internationalizing it, which means it is not just a national goal but an international goal to which they stand committed, and it demonstrates their adherence to this form of a goal now. He further added that as India has an emission intensity goal but not an energy efficiency goal, then should India not have an energy efficiency goal, too. He then posed questions to the panellists.

Mr Rashmi: Energy efficiency has been recognized as a national goal in the National Action Plan on Climate Change. How and why is it not a part of India's Nationally Determined Contribution?

Dr Mathur: The NDC had two main targets: one focused on reducing carbon dioxide emissions, and the other aimed at achieving a specific percentage of electricity generated from renewable sources in the total electricity capacity. However, a significant challenge arises when measuring energy efficiency, as it calculates the total energy divided by the GDP without differentiating between energy from coal and renewable sources. In India, this calculation is based on the energy supplied rather than the energy consumed.



This approach fails to consider the energy losses that occur during the conversion of coal to electricity and the transmission of electricity from power stations to end-users. While these losses are inherent in the energy supply, they do not account for the transition to renewable fuels. Therefore, using energy divided by GDP as a metric does not adequately measure the progress towards adopting renewable energy sources.

As a result, this limitation was one of the main reasons why energy divided by GDP was not included in the metric provided for evaluating progress towards renewable energy adoption and transitioning to a greener economy.

Mr Rashmi: *Do you see a connection in energy efficiency and the International Solar Alliance Programme?*

Dr Mathur: Yes, of course! The biggest drop in prices in the solar lighting system came when the bulb was changed from an incandescent bulb to a CFL and then a CFL to an LED. This led to a reduction in the size of solar panels to one-fifth of their earlier size, which resulted in reduced prices.

Lighting is essential even when the sun is not shining, which necessitates using batteries to store renewable energy. The combination of renewables and batteries and a focus on energy efficiency is crucial in encouraging people to adopt sustainable practices.

There is an interesting story related to the visibility of energy efficiency. In 2015, during six meetings of the Energy Standing Committee of Parliament, a former Member of Parliament was involved. After these meetings, the member approached and asked what else, besides LED bulbs, is energy efficient. At first, it seemed surprising that after six meetings on energy efficiency, the member still did not grasp the concept. However, this highlighted the significance of visibility in promoting energy efficiency.

The labelling programme, like the star rating system for appliances, makes it easy for consumers to recognize and choose more energy-efficient options. LED bulbs, for instance, with higher star ratings, are visibly more efficient than incandescent bulbs. This labelling visibility has been highly effective in promoting energy-efficient choices.

In contrast, with buildings, achieving similar visibility for energy efficiency is more challenging. Energy-efficient buildings may not have distinct visible features, making it harder for consumers to recognize their energy-saving benefits.

A potential solution to this challenge lies in merging renewable energy panels, such as solar panels, with buildings. By creating energy-efficient buildings that incorporate solar panels and promote net-zero energy consumption, we can offer a recognizable and visible solution. This approach not only addresses mitigation and energy efficiency but also contributes to carbon mitigation.

In summary, combining renewables, batteries, and energy efficiency, along with making renewable energy panels more visible in building structures, offers a comprehensive approach to sustainable development, addressing various aspects of environmental conservation and energy consumption.

Mr Rashmi: *What, according to you, are the low-hanging fruits of energy efficiency in Europe given the energy crisis surrounding it?*

Ms Pinho: The journey towards setting targets for energy efficiency has not been without its challenges. While aiming for a 55% reduction in greenhouse gas emissions by 2030 might seem adequate, it became evident that it is essential to combine this target with specific goals for renewable energy sources and energy efficiency. This realization was crucial in shaping our vision of a climate-neutral continent by 2050.

In the past, it was not easy to establish National Energy Efficiency targets, considering the diversity among the 27 member states of the European Union, a challenge India faces with its numerous states. The complexity lies in defining whether to fix a target at the EU level and then translate it into national targets. We have implemented national indicative targets, which, despite being indicative, need to add up to a binding EU-level target. Accompanying individual member states becomes crucial in ensuring the EU target is met collectively.



Recently, we voted on a new energy efficiency target at the EU level for 2030, which ended up being 11.7% higher than the initial proposal by the commission. This increase was driven by the understanding, especially during the crisis last year, of the potential for energy efficiency. Industries discovered the significance of energy efficiency when faced with the possibility of reduced gas supplies from the main supplier. The hope is that such revelations will lead to structural changes and a lasting focus on energy efficiency beyond crisis situations.

The EU now comprehends the importance of energy efficiency and the need for even more ambitious targets. While there are different approaches to achieving these goals, our model combines national indicative targets with a binding EU target. Meeting the 2020 targets was a challenge, but the momentum and urgency to address climate change have increased significantly.

Energy-efficient appliances play a crucial role in this endeavour. By labelling and making energy-efficient appliances visible to consumers, we emphasize the long-term cost savings and energy conservation benefits they offer. This understanding encourages consumers to invest in more efficient options.

Energy efficiency is rightfully referred to as the ‘first fuel’, and we firmly believe in the principle of ‘energy efficiency first’. This approach acknowledges the vast potential of energy efficiency in reducing emissions and achieving sustainable energy consumption.

There is still significant untapped potential for energy efficiency, and we are committed to harnessing this potential by encouraging energy-saving practices, setting ambitious targets, and creating a sustainable future for the European Union and beyond.

Mr Rashmi: What is your take on having an economy-wide energy-efficiency goal for India, given that it already has several other goals like Sustainable Development Goals? Is there good social and political acceptance?

Ms Paul: Energy efficiency is undoubtedly a critical aspect of both development and climate change mitigation. The common adversity we all face, climate change, compels us to find innovative solutions, much like how the industry in Europe realized the potential of energy efficiency when faced with gas price fluctuations.

In the global negotiations on climate change, a notable shift is occurring, with developing countries, including emerging economies such as India, taking on more significant leadership roles. This shift does not necessarily imply higher emissions but rather a proactive approach to addressing the challenge. These countries now play a key role in persuading developed nations to do more, not only in reducing emissions but also in providing financial support.

India, as a developing nation, has a unique position in these negotiations. It has the opportunity to offer meaningful contributions while keeping its development agenda in mind. Among various measures, setting an energy efficiency target could be a relatively easier yet significant step for India to present during negotiations. This target aligns with its development objectives and can serve as a persuasive tool to urge other countries to enhance their efforts.

However, it is crucial for India to ensure that any concessions made during negotiations are part of a well-thought-out strategy. Offering an energy efficiency target should be done in a manner that secures meaningful reciprocation from other nations, especially on issues such as emission reduction and financial support.

In conclusion, an energy efficiency target could play a vital role in international negotiations, enabling India to drive discussions and inspire others to do more. While it is an important aspect to consider, the negotiation process requires careful consideration and strategic decision-making to achieve a balanced and beneficial outcome for India and the global community.

Mr Rashmi: How can we create a strategy that would fast-track the process of adoption of energy efficiency as a possible goal?

Ms Pinho: First and foremost, it is essential to emphasize that in the EU, we have successfully decoupled economic growth from energy consumption, debunking the misconception that being mindful of energy consumption hampers growth. On the contrary, we have shown that significant potential lies in growing while decreasing energy consumption. This paradigm shift needs to be acknowledged and promoted more widely.

It is crucial to convey that energy efficiency leads to savings, making it a tangible and effective way to reduce energy bills. As we optimize energy consumption, we are less reliant on excessive energy usage, resulting in cost savings for individuals and businesses alike.

In addition to these inherent incentives, the EU has implemented supportive programmes and financing instruments to motivate and facilitate the adoption of energy efficiency measures across various sectors. While the benefits may not be immediate, over time, the rewards become evident.

The EU provides financial assistance and support programs to promote energy efficiency in industries, households, and buildings. For instance, renovation programmes for houses offer tangible opportunities to make energy-efficient upgrades, such as transitioning from gas boilers to heat pumps. However, such transformations can still be costly for consumers. To ease this transition, financial investments and incentives are provided to facilitate the adoption of energy efficiency practices.

By offering financial aid, the EU ensures that the advantages of energy efficiency are accessible to a broader range of individuals and businesses. This approach not only stimulates widespread adoption but also encourages sustainable practices across the economy.

Dr Mathur: Certainly, the issue of sovereign debt in developing countries poses a significant challenge for sustainable programmes. Private sector financing becomes crucial to drive initiatives such as energy efficiency, but often, investors are hesitant due to concerns about repayment. In this context, guarantees play a vital role in attracting private-sector investments.

One of the European Union's commendable programmes is linking loans from entities like the European Investment Bank or member country development banks with guarantees provided by the commission. Enhancing this guarantee programme can be a powerful tool in facilitating the transition towards sustainable practices.

To promote energy efficiency and renewable energy projects, a key question arises: where will the necessary funding come from? In recent times, there has been a considerable skew in investment allocation. While the solar sector witnessed around US\$250 billion of investment globally in 2022, a staggering 70% of this investment went to the Organization for Economic Cooperation and Development countries and China. In contrast, Africa received a mere 3% to 4% of these investments.

Addressing this skewed investment geography is critical, and guarantees can play a significant role in encouraging private sector investment in regions with relatively low investment allocations. By providing guarantees, the risks for investors are mitigated, making them more amenable to invest in projects in these regions. This step can potentially change the prioritization that companies and countries place on energy-efficiency initiatives.

Guarantees act as a safety net, reassuring private investors that they will be paid even in challenging economic situations. With guarantees in place, private sector financing becomes more viable and attractive, leading to increased investment in energy efficiency and renewable energy projects in regions that need it the most.

Mr Rashmi: *How do we create an ecosystem of energy data collection in case there is an economy-wide energy-efficiency target fixed?*

Ms Pinho: Indeed, combining the three approaches has been crucial in establishing energy efficiency targets in the EU. We began by developing a model based on thorough modelling and analysis. Additionally, we addressed the important question of whether to calculate targets based on energy supplied or energy consumed. To ensure comprehensive progress, we set targets for both primary energy consumption and final energy consumption.

To effectively monitor progress, we designed a reporting mechanism. Member states are required to report annually on their status in meeting these targets. This reporting covers various parameters and indicators across different sectors, such as industry and transportation. By gathering and analysing this data, we can ensure a standardized and unified approach, enabling fair comparisons and establishing a common base and methodology.

The use of sectoral targets for industry and transportation further enhances our ability to address energy efficiency comprehensively and tailor interventions according to specific needs. By setting and monitoring these targets, we create a structured framework to evaluate and enhance energy-saving practices and policies across the EU.

In conclusion, the combination of modelling, setting targets for primary and final energy consumption, and implementing a robust reporting mechanism with sectoral targets has been instrumental in driving progress and fostering a common understanding of energy efficiency across the EU. These efforts contribute significantly to the pursuit of a more sustainable and energy-efficient future for the entire region.

Mr Rashmi: *What, according to you, Dr Mathur, would be the correct approach for India to set an energy efficiency target and how to monitor the target?*

Dr Mathur: The challenge of setting sectoral targets exists both in Europe and in India, where energy usage varies significantly across different sectors and geographical regions. Allocating targets at a sectoral level can be complex, particularly in countries with diverse energy consumption patterns. While member countries in Europe and states in India can allocate targets at a sectoral level, doing so at a national level can be more challenging.

One of the key issues in achieving effective energy efficiency targets is the availability and reliability of data. In Europe, Eurostat has played a crucial role in creating a framework for energy data collection, which has been helpful in monitoring progress. Similarly, India needs to undertake a similar exercise focused on consumption data. For example, data collection should account for energy generated from rooftops in households, where some energy is consumed locally while the excess is sold to the grid. The current data systems often lack the capability to accurately account for such self-generation and consumption scenarios.

To address this data challenge, discussions need to begin on the development of a statistical system that considers self-generation and consumption in the equation. Possible approaches include using sample tests, self-reporting mechanisms, or smart meters that can accurately measure energy consumption and generation at the household level. Each of these options comes with its own advantages and challenges, and finding the most suitable method will require careful consideration and consultation with experts and stakeholders.

In summary, overcoming the challenge of setting sectoral targets and accurately collecting consumption data are critical aspects of advancing energy efficiency goals in India. By engaging in informed discussions and exploring various data collection methods, India can lay the groundwork for a robust energy efficiency strategy that accounts for the unique energy consumption patterns across different sectors and regions.



Annexure: Final Agenda

Time	Agenda Flow
04:45–04:50 pm (05 Minutes)	Welcome Address by Dr Vibha Dhawan, Director General, TERI
04:50-04:58 pm (8 Minutes)	Framing Presentation by Dr Vatsala Sharma, Associate Fellow, TERI
04:58-05:00 pm (2 Minutes)	Release of Publication: <i>An Economy-Wide Quantified Goal on Energy Efficiency in India</i>
05:00 pm–05:25 pm (25 Minutes)	In Conversation: Economy-wide Energy Efficiency Goal for India <ul style="list-style-type: none">• Mr R.R. Rashmi, Distinguished Fellow, TERI (Moderator)• Dr Ajay Mathur, Director General, International Solar Alliance• Ms Paula Pinho, Director, Directorate-General for Energy, European Commission• Ms Seema Paul, Program Director, Sequoia Climate Foundation
05:25–05:50 pm (25 Minutes)	Panel Discussion: Economy-wide Energy Efficiency Goal for India Moderators: <ul style="list-style-type: none">• Mr Souvik Bhattacharjya, Associate Director & Senior Fellow, TERI• Mr Arijit Sengupta, Director, BEE** Panelists: <ul style="list-style-type: none">• Mr Brian Dean, Head Energy, SEforAll• Ms Cornelia Schenk, Energy Efficiency Policy Analyst, International Energy Agency• Ms Trupti Deshpande, Senior Programme Manager–Electric Mobility, Shakti Sustainable Energy Foundation• Dr Shailly Kedia, Associate Director & Senior Fellow, TERI
05:50-06:00 pm (10 minutes)	Questions & Answers

Master of Ceremony: Ms. Sonali Mathur, Manager, TERI
