South Asia Forum For Infrastructure Regulation

Indian Institute of Corporate Affairs
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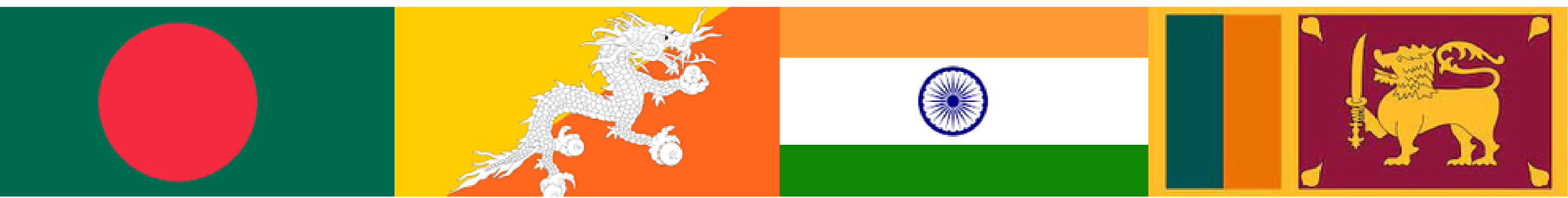
REPORT ON **SAFIR WEBINAR**

Incentivising Green Energy through Regulation

March 27, 2024 | 03:00 PM Onwards (IST)

Organised by: Indian Institute of Corporate Affairs (IICA)



Contents

Expert Speaker

Mr Shirish S Garud
Former Director & Senior Consultant
The Energy and Resources Institute (TERI)

Mr Shirish S Garud is engaged with the Electricity and Renewables Division of The Energy and Resources Institute (TERI). With his three-decade long experience in the renewable energy sector, Mr Garud is a specialist in renewable energy technologies such as solar and wind, energy planning, and renewable energy policy studies.

Mr Garud has been key in executing several national and international projects, providing advisory services on Low Carbon Low Emission Clean Energy Technology Transfer in Kenya and Ethiopia, developing an Integrated Energy Management Master Plan for the Royal Government of Bhutan, and implementing off grid solar projects in several parts of rural India.

A member of the Technical Committee of the Bureau of Indian Standards (BIS) for solar thermal, Mr Garud was instrumental in commercializing solar selective coating technology developed by National Aeronautical Laboratories, Bangalore. He holds a Masters in Energy Systems Engineering from the Indian Institute of Technology, Bombay and a Bachelors in Mechanical Engineering from the University of Poona, Pune.

Convenor

Shri Praveen Kumar
Director General & CEO
Indian Institute of Corporate Affairs

Shri Praveen Kumar assumed the charge of Director General and CEO of the Indian Institute of Corporate Affairs in December 2021. He is a 1987 batch retired IAS Officer of Tamil Nadu cadre and has headed various responsibilities in the Government of Tamil Nadu and Government of India in multiple Departments such as Finance, Elections, Industries, Education, Corporate Affairs, New & Renewable Energy, etc.

He has also headed a number of State and Central Public Enterprises including TANMAG & TNSL (as MD), TNPFC (as CMD), SECI (as Chairperson) and IREDA (as CMD), apart from acting as Nominee Director in a number of State PSUs, and public-private partnership companies. He has also held Memberships in Boards/ Councils/ BOG of various education-related institutions such as AICTE, IIMs, IIT, IISERs and UGC Committees.

Apart from getting various awards from media and civil society organizations for his work as Chief Electoral Officer, TN, in the period 2010-2014, he was also awarded the Prime Minister's Award for Excellence in Public Administration for the year 2019, for his role in acting as Prabhari Officer of the Aspirational District Virudhunagar in TN, which saw the district attain the number one position amongst all aspirational districts. He retired from the Government of India as Secretary, Ministry of Skill Development & Entrepreneurship in June 2021. He vacated the office of the DG & CEO, IICA on March 31, 2024.

MODERATOR

Prof (Dr) Naveen Sirohi
Founding Head, School of Finance & Management,
Indian Institute of Corporate Affairs (IICA)

Prof (Dr) Naveen Sirohi is the Founding Head of the School of Finance & Management at the Indian Institute of Corporate Affairs (IICA), a think tank under the aegis of the Ministry of Corporate Affairs (MCA), Government of India.

A former banker-turned-academician-cum-administrator, Prof Sirohi possess a unique blend of 20+ years of experience across corporate, academia and government/regulatory space enabling him to develop holistic view on policy issues considering multi-stakeholder perspectives.

He is also providing support to various priority initiatives of the Government of India like financial reporting, financial inclusion and financial literacy working closely with concerned government bodies/departments like Investor Education and Protection Fund Authority (IEPFA), India Post Payments Bank (IPPB) and National Financial Reporting Authority (NFRA). He contributed inputs in the Economic Survey 2021-22.

Prof Sirohi holds the additional charge of the Chief Financial Officer (CFO) at IICA. He is a visiting faculty in various reputed institutions, universities, and central and state training academies. Academically, Dr Sirohi holds post-graduate and PhD degrees in commerce with a first-class academic record.

Participants Profile

Various participants joined the webinar, representing regulatory agencies, academic institutions, utilities, private sector entities engaged in the field of renewable energy, and regulatory bodies of SAFIR Member States such as Electricity Regulatory Authority (ERA) Bhutan, Bangladesh Energy Regulatory Commission, Central Electricity Regulatory Commission (CERC), Indian State Electricity Regulatory Commission (SERCs), Grid Controller of India Limited and officials from non-member organizations such as Telecom Regulatory Authority of India (TRAI) and The Energy and Resources Institute (TERI).

55 participants attended the webinar.

PROGRAM OUTLINE

The Indian Institute of Corporate Affairs, in collaboration with the South Asia Forum for Infrastructure Regulation (SAFIR) Secretariat, organized the webinar titled **"Incentivising Green Energy through Regulation"** on March 27, 2024.

The webinar was conducted with the objective of exploring various regulatory and policy initiatives for transition to green/renewable energy in the South Asian Region, contributing to the ongoing global dialogue around strategies for sustainable development & dealing with the challenge of climate change. It provided participants with an interactive platform to get updates and put forward their views.

Introduction to the Webinar

The webinar formally commenced with the introductory address by **Prof (Dr) Naveen Sirohi** *(Webinar Convenor and Founding Head, School of Finance & Management, IICA)*. He extended a warm welcome to the expert speaker **Mr Shirish S Garud** *(Ex-Director & Senior Consultant, The Energy and Resources Institute TERI)* and participants.

Introducing the theme of the webinar - ***"Incentivising Green Energy through Regulation"***, Prof Sirohi emphasized on the urgent need for reducing greenhouse gas (GHG) emissions to avert the crisis of climate change. For this, transition to green and renewable energy sources such as solar energy, wind power, geothermal energy, biomass and hydroelectric power is essential.

Moving to energy transition initiatives in the South Asian Region (SAR), Prof Sirohi pointed to the massive potential for power generation through renewable sources, especially solar and hydro. The governments in the SAR countries like Bangladesh, Bhutan, India, Nepal & Sri Lanka are actively pursuing goals related to energy transition and emissions reduction, in line with their individual nationally determined contributions (NDCs) under the Paris Climate Accord of 2015.

Bangladesh has committed to increase its renewable energy (RE) share to 20% by 2030 and aims to produce 40% of its energy from RE by 2041. Bhutan, already a net-zero country, is positioned to help its neighbours achieve their net-zero targets through export of hydropower. India has pledged to net zero GHG emissions by 2070 and increase its RE capacity to 450 GW by 2030. Nepal is focusing on capacity augmentation of its hydropower generation for sustainably meeting energy needs. Sri Lanka aims to cut 10% of emissions through interventions such as transport electrification and development of solar and wind potential.

Prof Sirohi concluded his address with suggestive steps for accelerating energy transition across SAR, such as an integrated approach to green energy and environmental policymaking focusing on implementation, funding support and energy infrastructure. Further, regional collaborative endeavours such as Cross Border Electricity Trade (CBET) can facilitate strengthening of existing mechanisms and exchange of strategies & experiences.

Lead Talk

The expert speaker for the event, **Mr Shirish S Garud** *(Ex-Director & Senior Consultant, TERI)* commenced his talk by describing the foundational principle behind regulation, which entails the promulgation of targeted rules typically accompanied by some authoritative mechanism for monitoring and enforcing compliance. In the context of green energy, regulation is aimed at facilitating energy transition from fossil fuels to renewable energy (RE) sources such as wind, solar, hydro, with the overarching objective to limit global average temperature increase to 1.5 degrees celsius by the year 2100. This is critical to reducing the catastrophic effects of climate change.

Moving to the **RE policy analysis in the Asia Pacific Region**, Mr Garud gave a brief country-wise account of regulatory policies and financing aspects including fiscal incentives & public financing for green energy. From amongst the SAFIR Member States, Bangladesh, India, and Sri Lanka have national level RE targets, along with active public financing support to RE, green energy projects. Bangladesh & India have also set biofuel blending mandates to reduce dependence on petrol, diesel. Whereas Sri Lanka has set building standards for promoting energy efficiency. Further, all three nations have fiscal policies that incentivize green energy through investment/production tax credits, tax breaks, customs duty exemption etc.

Country		Regulatory Policies							Fiscal Incentives and Public Financing				
	Renewable energy law / act	Renewable energy targets	Energy efficiency targets	Biofuel blend obligation/mandate	Feed-in tariff/ premium payment / renewable energy certificates	Tendering / auctions	Electric utility quota obligation / renewable portfolio standard (RPS)	Net metering / billing	Public investment, loans, grants, capital subsidies or rebates	Investment or production tax credits / tax breaks / customs duty exemptions	Reductions in sales, energy, CO_2, VAT or other taxes	Energy production payments	Public Investment, loans, grants
Northeast Asia													
People's Republic of China	●	●		●	●	●	●			●	●	●	●
Japan	●	●	● B	●	●	●			●	●	●		●
Mongolia	●	●	●		●				●	●	●		D
Republic of Korea	●	☆		●	●		●	●	●	●	●		●
Central Asia													
Georgia			● B,T,I					●					
Kazakhstan	●	● P	● B, A, T, I		●	☆		●	●		●		●
Uzbekistan	★	●	●			★				★	★	★	
South Asia													
Bangladesh		●	●	●		●	●	●	●	●	●		●
India		● BF	● B, H	●	●	●	●	◖	●	●	●	●	●
Pakistan		D			D	D		●	●		D		●
Sri Lanka	●	● P	● B		●	●		●		●	●		●
Southeast Asia													
Indonesia		● P, BF	D, B	●	Price Cap	●	●	●		●	●		●
Myanmar		●				●					●		●
Philippines	●	● P, BF	● B, A, H, C	●	☆ (April 2019)		●	●	●	●	●	●	●
Thailand		☆			☆ (2019)	●		★		●		●	●
Viet Nam		●	●	●	★	D	●	●	●	●	●	●	●
The Pacific													
Fiji		● P, BF		●	●				●	●			●
Tonga		●	●	●									

Legend: ★ = New; ☆ = Revised; D = Drafted

Policies: ● = Existing **national** policy or tender framework (could include sub-national); ◖ = Existing **sub-national** policy or tender framework (but no national)

Renewable Energy Targets: P = Power; H = Heating; BF = Biofuel mandates

Energy Efficiency Targets: B = Building standards; A = Appliance standards; H = Heating; C = Cooling; T = Transport; I = Industry

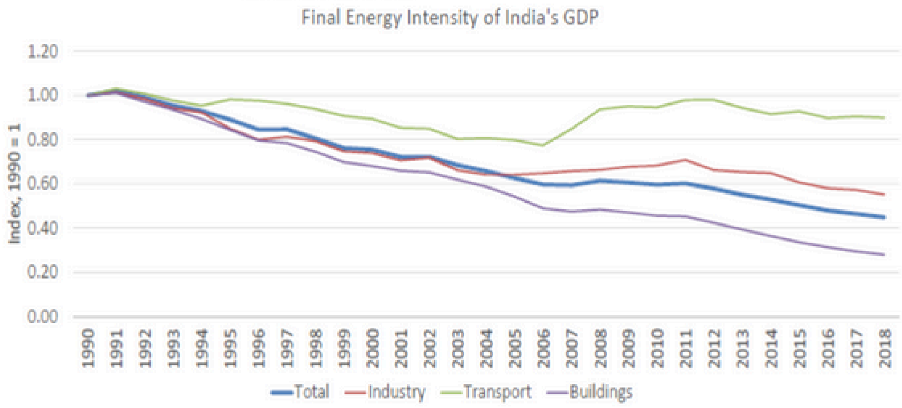
Source: REN21, 2019 Asia and the Pacific Renewable Energy Status Report (Paris: REN21 Secretariat)

Moving from the regional level discussion, Mr Garud delved into a detailed exploration of the policy and regulatory measures in India for incentivizing and accelerating green energy adoption. India has set ambitious targets of increasing RE share in the installed capacity to 40%, reducing projected carbon emissions by 1 billion tonnes by 2030, and achieving net-zero emissions of greenhouse gases (GHGs) by 2070. The policy and regulatory steps at the national and sub-national levels have been commensurate with the climate action targets.

The regulatory measure of **Renewable Purchase Obligation (RPO),** first introduced in India through the Electricity Act 2003, is directly targeted at shifting the power procurement decision of distribution utilities (discoms) to aid transition to green energy. Both Central and State Electricity Regulatory Commissions (ERCs) have been setting RPO targets (% of total energy procured through wind, solar, hydro, etc.) for discoms periodically. As per the trajectory set by the Ministry of Power, Government of India, total RPO will reach 43.33% by the year 2029-30. Additionally, several ERCs have issued **Green Energy Open Access regulations** to facilitate connectivity to intra-state transmission (or distribution) networks for procuring green energy by consumers.

Besides regulatory interventions, policy push for the growth of the RE Sector has been evident through steps such as use of biomass for coal replacement in boilers, ethanol blending in transport fuels (10 % achieved & 20% target for 2025), and launch of Green Hydrogen Mission in January 2022. The Private Sector has also taken definitive steps towards energy transition, with 11 Indian corporations being a part of 'Climate Group RE100' - a grouping of more than 400 of the world's largest businesses committed to 100% RE. The impact of the concerted policy and regulatory effort, accompanied with private action, is visible on ground, with the energy intensity of India Gross Domestic Product (GDP) falling by 30% between 2011-2018.

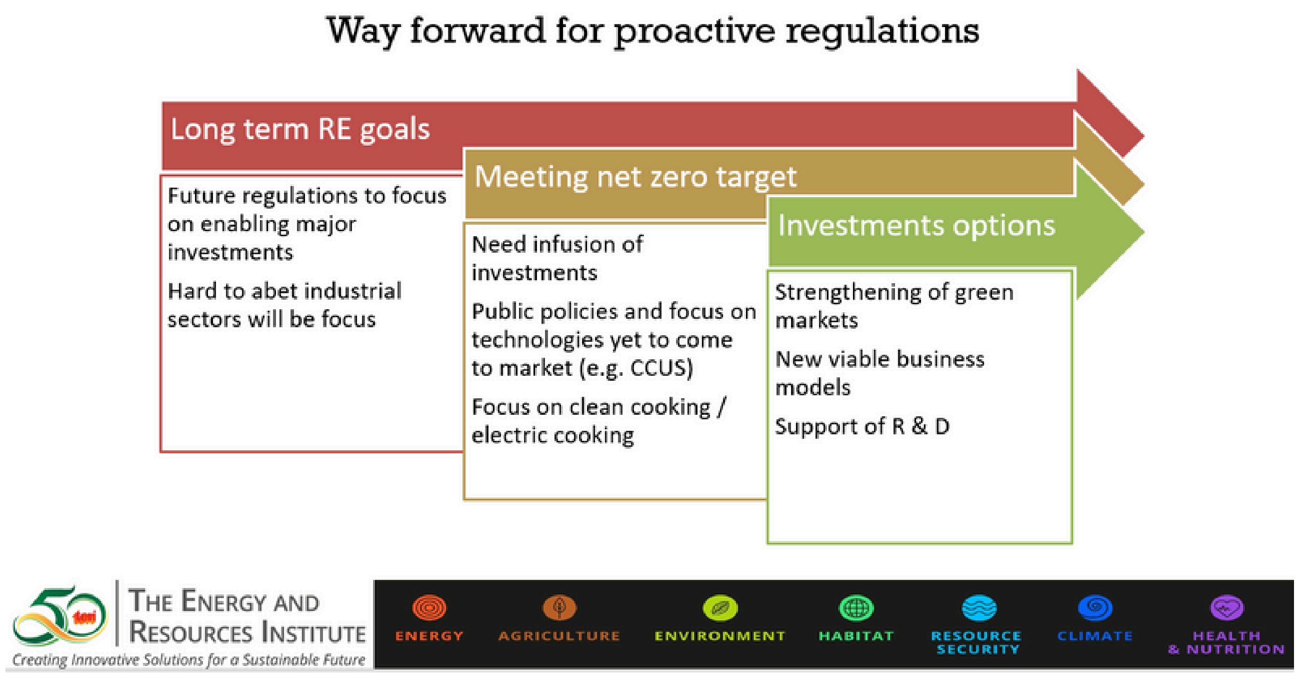
Impact of Regulations, Policies and Government actions



Total final energy intensity Of India's GDP has fallen by 30% between 2011- 2018

Source: TERI, 2021

Towards the end, Mr Garud discussed various barriers to energy transition such as insufficient support infrastructure for RE including energy storage and grid integration infrastructure, inadequate attention to socio-economic dimension in policymaking including a lack of industrial policy for viable supply chains, and gap in skills and institutional capacity due to inadequate workforce training. These issues can be remedied relatively easily with a focus on modernization and expansion of support infrastructure for new supply-demand dynamics; designing policy/regulatory frameworks for enabling RE integration and deployment from local, regional, national and global levels; and awareness & capacity building of institutions, communities and individuals. For dealing with the climate crisis, the way forward is inarguably through proactive regulations on energy transition.



Question/Answer Round

The expert talk was followed by the interactive exchange between the guest speaker and the participants, wherein various pertinent questions were posed covering issues related to the yet untapped potential of grid-connected solar rooftop, skills gap in the renewable energy (RE) industry, possibility of withdrawal of incentives (such as transmission & other charges waiver) for RE generation, and storage technologies for RE.

Highlighting Government of India's **Rooftop Solar Yojana** that provides free of cost electricity up to 300 units using solar installations on rooftops, Mr Shirish Garud pointed out that this will promote small rooftop installations while also reducing cross subsidization burden on industry (which is levied a higher tariff to cross-subsidize agricultural and residential consumers). Besides this, the Govt is focusing on other solar applications such as floating solar (on water bodies), canal top solar, agricultural land based solar photovoltaic (PV) projects. These will give further impetus to solar energy.

On the other hand, initiatives such as **Skill Council for Green Jobs** under Central Government's Skill India Initiative are aimed at bolstering the supply side capabilities in the RE sector, focusing on areas such as PV industry, hydrogen sector certification courses (mechanics, managerial, technological courses), etc.

On the question of gradual withdrawal of **incentives for the RE Sector** such as waiver of different charges (e.g. transmission charges), Mr Garud opined that this is a long-term process and presently, focus is on building a supportive environment for fulfilment of medium and long term targets related to energy transition (2030) and net zero emissions (2070). Besides, RE tariffs may not increase much even after withdrawal of incentives due to more efficient technologies and better handling of RE power in the future.

Addressing **storage side aspects**, Mr Garud discussed the Renewable Purchase Obligation (RPO) targets announced by the Government for electricity procured through storage systems (e.g storage hydro power plants and battery storage). This is set to further strengthen the storage infrastructure, crucial for grid integration of the intermittent RE. Simultaneously, the Government has taken steps such as waste disposal scheme for batteries, solar PV modules to counter the potentially adverse impact of such technologies.

Vote of Thanks

The webinar ended with a vote of thanks by Prof (Dr) Naveen Sirohi. He expressed gratitude to the esteemed speaker for sharing his experience and wisdom on the topic, which is critical to the future of the country, as well as to the participants for their active engagement during the session.

Prof Sirohi thanked the SAFIR Secretariat for giving IICA an opportunity to be its knowledge partner. Lastly, he acknowledged the efforts of the Regulatory Governance Team, IICA for the successful conduct of the webinar.

The efforts of SAFIR and IICA for conduct of the webinar were much appreciated by the speaker and the participants.

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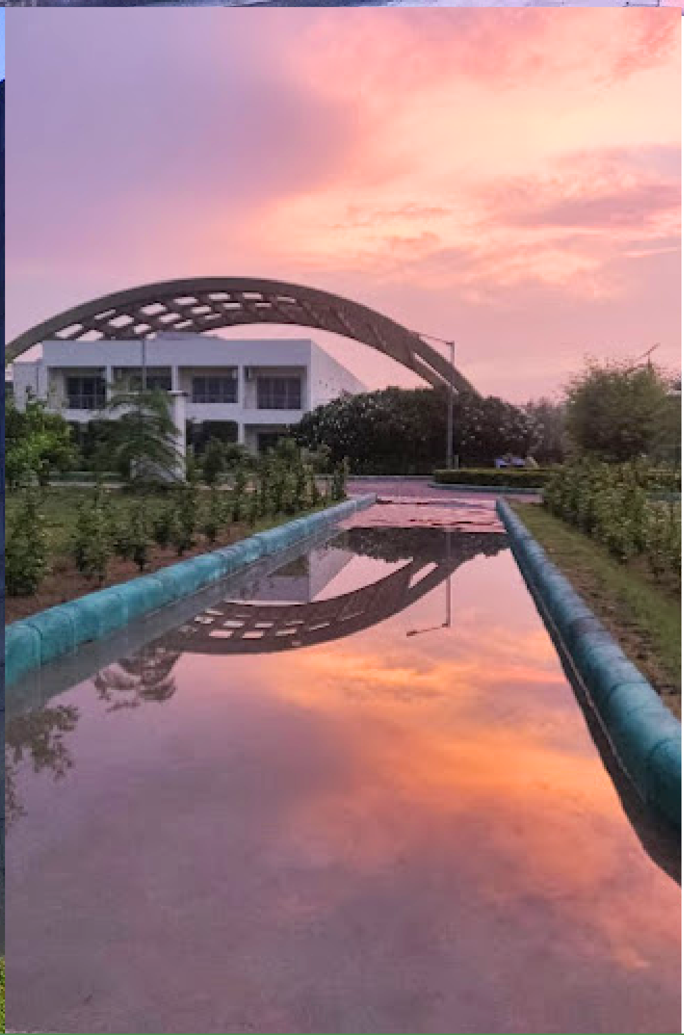

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