NITI Aayog – GIZ : National Sensitization Workshop on State Energy Action Plan

Date: 8 November 2019 **Venue: NITI Aayog, New Delhi**

Team NITI Aayog

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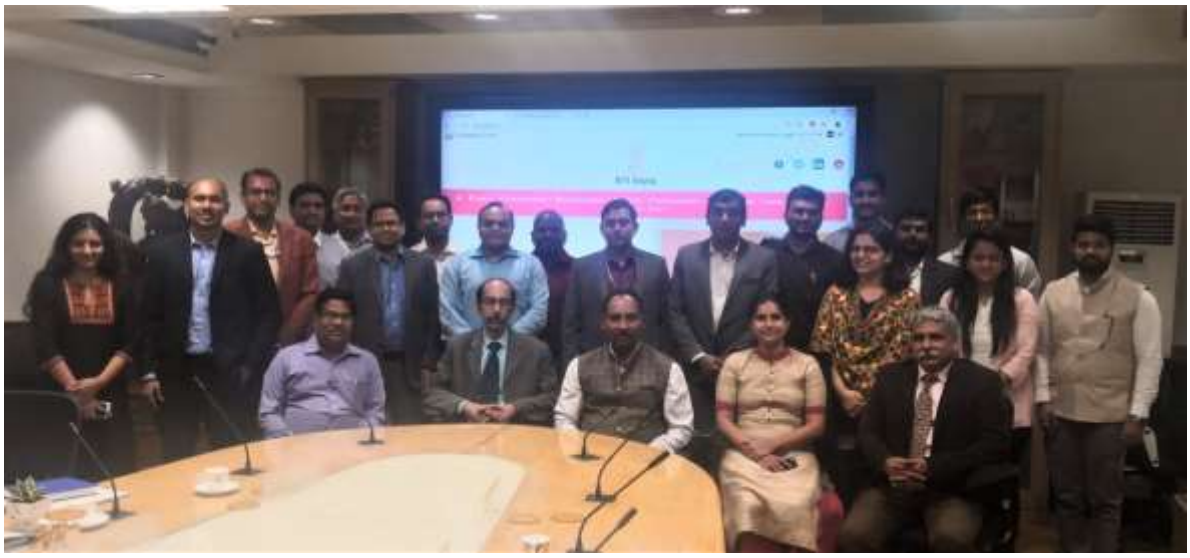

Workshop Summary

NITI Aayog and GIZ India jointly organized a National Sensitization Workshop on State Energy Action Plans (EAP) on 8 November 2019 in order to share the key learning and benefits achieved during energy planning exercise with the states. The basic objective of the sensitization workshop was to share knowledge and experience on the following:

1. Inter-dependency between State EAP and National energy security / policy / plan;
2. To discuss what approach, methodology are to be used for developing State Energy Action Plan (EAP);
3. Share experience while developing state energy calculator and State EAP;
4. Work out next steps for designing national EAP framework.

This workshop shared the experiences gained while developing State Energy Calculators (SEC) across several states (Karnataka, Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh, Assam) and also State Energy Action Plans of Assam and West Bengal.

The key highlights from the workshop deliberations were –

- State Energy Action Plans are critical and there is a need to support the states developing EAP;
- A smooth interface between the IESS, India Energy Model and the State Energy Calculators/Models will help to move towards a more accurate and optimal planning to meet our energy requirements, with reduced emissions;
- Data is the key to the Policy analysis. NITI Aayog has taken steps to address this by constituting 8 sub-groups on energy data management in supply side and demand side of energy. Based on the sub groups report, the proposal is being formulated to strengthen Energy Data management in India. NITI Aayog is also planning to establish an open source data dashboard in the near future;
- Participation of all relevant stakeholders is critical to the energy planning exercise. There is a need to identify a relevant anchor institution for the energy planning exercise that can convene and actively engage with the stakeholders, when updating the plan periodically;
- Some states expressed an interest to develop city level Energy Action Plans along the lines of the State Energy Action Plans;
- GIZ will develop a concept note on the way forward with respect to building the capacity of states across India to develop their Energy Action Plans and mainstreaming the same. GIZ will also coordinate with BHC on their plans to develop energy calculators in other states to avoid duplication of efforts.

The next section presents the detailed discussions during the workshop. The Annexures 1 – 4 provide workshop agenda, background note, list of participants and photographs respectively.

Session-wise Discussions

Session 1: Inaugural Session

At the outset, **Additional Secretary (Energy)** welcomed the participants and provided the importance of energy data management for any kind of policy making and analytically exercises. There are several agencies which are into business of data management but there is no single agency which really looks after the entire energy data management aspects. He indicated that the primary objective of the workshop was to highlight the critical role of long-term energy planning at the state level.

Adviser (Energy), NITI Aayog then shared that the genesis of energy planning tool started by NITI Aayog in 2013 with the support from DFID, UK when the India Energy Security Scenario (IESS 2047) was developed by NITI Aayog in order the facilitate an informed debate on energy policies. Subsequently, with the support from NITI Aayog and DfID, state energy calculators were developed for 6 states – Assam, Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu. The purpose of this workshop was to share the experiences, both at the centre and the state level, of such energy planning and encourage other states to initiate the same.

Dr. Damm, Head of Energy, GIZ India highlighted the importance of Energy Action Plans in the light of climate change concerns and associated impacts, especially given the long-term impacts of our investment decisions with respect to energy options today. He further indicated that such action plans cannot mere be a one-time exercise resulting in a report but must be dynamic and updated regularly, with the involvement all the relevant stakeholders. He provided examples where clear policy decisions based on such planning can result in significant changes in a very short period. One example was that of China, which has been able to switch almost entirely to electric 2 wheelers whereas there has been hardly any uptake in India during the same period. Another example of possible action that he quoted was that of Delhi, where the peak requirement of 7,400 MW was only for around 10 – 20 hours in a year, which could easily be managed/reduced through demand adjustments rather than investment in energy capacity.

Session 2: State Energy Action Plans and National Energy Security

Mr. Rajnath Ram, Adviser (Energy), NITI Aayog, when speaking about the critical role of energy in economic development, indicated that the IESS 2047 has been utilised in several key policy decisions, such as the determination of target for NDC, the draft National Energy Policy, etc. The IESS 2047 was also promoted through outreach activities in partnership with FICCI and has since been used by several academic and research institutions. He also shared that the draft third version of the IESS, with several updates including an updated baseline (2017) and inclusion of recent policies, will be launched in December 2019.

Ms. Nidhi Sarin, Programme Head, IGEN – Access II, GIZ, while providing a brief introduction to EAPs, highlighted the critical role it plays in ensuring a cost effective and integrated resource planning. She also indicated that such energy planning was not only important to ensure energy security with optimal investments while still meeting the development needs of the state but increasingly necessary to measure and report with respect to the states' sustainable development goals (SDG), action plan for climate change (SAPCC) and the contribution towards nationally determined contributions (NDC) towards mitigation efforts.

Mr. Manoj Mahata, Technical Expert, IGEN – Access II, GIZ, while providing a more detailed overview of the energy planning process, further emphasised on the role of energy action plans in overcoming the challenges arising out of incremental energy planning. He also brought out the differences in approach during the energy planning exercise in Assam (top-down) and West Bengal (bottom-up) as well as the optimization tools available/used (LEAP in Assam and MESSAGEix in West Bengal), given the demand and supply projections.

Mr. Manoj Upadhyay, Deputy Adviser, NITI Aayog, while providing an overview of the IESS 2047, indicated that it formed the basis for the National Energy Policy (2018) and contributed to several other major programmes and plans such as the National Solar Mission, National Electric Mobility Mission, National Energy Storage Mission, National Mission for Enhanced Energy Efficiency, Power for ALL, etc. He further indicated that the model included 4 levels of effort – least, determined, aggressive and heroic, and provided the user with a visual representation of the supply and demand as well as the implications of that choice on land use, GHG emissions, import dependency and costs.

Dr. Anindya Bhattacharya, The Celestial Earth, provided an overview of the updates in the IESS 2047 V3 as well as the India Energy Optimization Model (IEM) that is under development. He indicated that the IESS and IEM will form the input to the State level Energy Models and Action Plans. He also shared that this model was being developed on the MESSAGEix open source platform and will be further linked to a Decision Support Tool (DST) platform as well as other models such as the macroeconomic model, water-energy-land use nexus model, air pollution module, etc.

Ms. Poulami Choudhury, Senior Advisor, British High Commission, presented the support provided to 6 states in developing their state energy calculators, which was based on the IESS. She indicated that the SECs again set out four trajectories for each sector and provided an indication of the impact of choices on supply and demand, emissions, energy flows, land use and energy costs. She indicated that the SECs were the key stepping stones to more detailed modelling to support policy making and highlighted the need to focus on not only periodically updating the calculators but also improving them to get more accurate outputs. She also emphasized the need to involve all the relevant local stakeholders and to also embed this within not just an anchor institution within the government but also local academic and research institutions to support widespread use of these calculators. She also indicated that the UK government plans to provide further support in developing and updating these calculators across India, including possibly city level calculators (as per the request from Tamil Nadu) and also linking them to other programmes.

Mr. Gurpreet Chugh, ICF, shared the learnings from the development of state energy calculators and the energy action plans across several states. He indicated that this exercise enabled greater collaboration across departments and also led to a more holistic approach to strategies and policy decisions (e.g. consideration of the EV strategy impact on the electricity grid). He also shared that such planning had led to the consideration of similar exercises in other sectors (e.g. planning for water supply and use in Gujarat). Finally, he believed that it was critical to engage academic institutions in the development of such tools and planning to ensure the long term sustainability of such planning activity.

During the discussions it was informed that NITI Aayog has formed 8 sub-groups with representatives of key ministries (supply and demand) on data management, which is currently working on a report on data gaps and the next steps.

On the query regarding the choices between the 2 models, IESS and SEC, Mr. Rajnath Ram indicated that they were two separate models, the former applicable at the country level and the latter at the state level, both being complementary and necessary. Further, it was clarified that the IESS was also a model though it did not include optimization.

In response to the discussion on whether state energy action plans can be made mandatory, Dr. Damm suggested that even if states cannot be forced by the Centre in this regard, the Centre could offer incentives and also link subsidies to the development and adoption of state energy calculators and energy action plans.

With regards the issue of the development of city action plans it was suggested that the same can be linked to the smart cities initiative but such plans were subject to the presence of relevant governance structures at a city level for independent decision making.

Session 3: Sharing State Experience

Ms. Nidhi Sarin, when introducing the afternoon session on states' experiences, indicated that each state that undertook the energy planning exercise did so with different objectives– WB focussed on more efficient and cleaner energy; the focus in Karnataka was on energy efficiency; while the focus in Assam was on improving access through cleaner energy, reducing imports, etc.

Shri Nirmaljit Das, Chief General Manager (PP&D), APDCL, provided an overview of the process adopted in developing the Energy Action Plan for Assam and shared key lessons from the experience. They indicated that the vision should be determined in scientific manner based on the goals identified. They also shared that accuracy of baseline data, which was not always easy to obtain (resulting in the use of assumptions from the IESS 2047), is critical to achieving meaningful outputs from the modelling exercise. They also indicated that it was important to have equal participation from all the critical stakeholders, especially the various government departments. With regards the use of the tool for policy making, they felt the need for a user-friendly decision support tool, which can be used to quickly generate different scenarios.

Mr. Pramod Singh, ICF, while presenting the work done on developing the State Energy Calculator in Karnataka (one of 8 states in India with an energy calculator), indicated that the focus of the exercise there was on energy efficiency improvements in the context of rapid increase in energy demand due to urbanization. The key learnings here were in line with that of the other states, wherein the critical aspects were with respect to data availability, inter-departmental collaboration and appropriate anchor institution for sustainability and regular use of the calculator.

Dr. Anindya Narayan Biswas, Commissioner, Dept of Power & NES Department, Government of West Bengal presented the approach adopted as well as the results of the Energy Action Plan in West Bengal. He identified interdepartmental collaboration as the critical missing link during the exercise due to shortage of time in developing the plan. He indicated that mainstreaming of the EAP and building inhouse capacity for the sustained use of the optimization model and action plan were the next steps. During this process, addressing data gaps was another critical aspect.

In response to a question on what can be done differently if West Bengal had to undertake the energy planning exercise again, Dr. Biswas indicated that equal participation of all stakeholders from the beginning was critical. This was absent in the current exercise due to paucity of time as a result of which the current focus is only on supply i.e. takes into account only the interests of the power department.

Further discussions also highlighted the need for an anchor agency, preferably the state planning department or equivalent, which can adopt a holistic approach and capture the state requirements well. It was also felt that the expectations of the various stakeholders need to be managed so that they understand that this exercise pertains to long-term decision making and will not address any short-term requirements/challenges. Lastly, the need for capacity building and handholding in order to promote sustained use was highlighted.

Concluding Remarks

During the concluding discussion, Mr. Vaibhav Chaturvedi, CEEW, indicated that the targets at the state level should not be determined/optimized on a cost basis but should be value driven to deliver more than "Business as Usual". It was also suggested that a smooth interface between the IESS, India Energy Model and the State Energy Calculators/Models will help move towards a more accurate and optimal planning to meet our energy requirements, with reduced emissions.

The workshop concluded with GIZ indicating that they will work with NITI Aayog to develop a concept note on the way forward with respect to building the capacity of states across India to develop their Energy Action Plans and mainstreaming the same. In this regard, GIZ will also coordinate with BHC on their plans to develop energy calculators in other states to avoid duplication of efforts.

Annexure 1 – Workshop Agenda

10.00 – 10.30	**Registration**
10.30 – 11.00	**Inaugural Session** Welcome Address by Shri R. P. Gupta, AS-NITI Aayog **Special Address** By Dr. Winfried Damm, Cluster Coordinator, Indo-German Energy Programme, GIZ India
11.00-11.15	**TEA**
11.15-12.45	**State Energy Action Plans and National Energy Security** • **Role of IESS in designing national level policies and plans**– by Shri Rajnath Ram • **Introduction to State Energy Action Plan** – by Nidhi Sarin, Programme Head, IGEN Access-II, GIZ • **Inter-dependency between IESS and Energy Action Plan** – By Manoj Kumar Upadhyay, Dy. Advisor, NITI Aayog • **Approach, methodology and steps of developing State EAP** - By Manoj Mahata, Technical Expert, IGEN Access-II, GIZ • **Developing state energy calculator**- Ms. Poulami Choudhury, Sr. Adviser - Climate Security, British High Commission • **Discussions**
12.45 – 14.00	**LUNCH**
14.00 – 16.00	**Sharing State Experience** (short presentation and panel discussion) Chair and Moderator: Nidhi Sarin, GIZ • **Assam Energy Action Plan** – Mr. Nirmaljit Das, CGM (PP&D), APDCL • **West Bengal Energy Action Plan** – Dr. Anindya Biswas, IAS, Commissioner, Dept of Power & NES • **Experience and impact of State Energy Calculator** by Mr. Pramod Singh, ICF • Way forward, Opportunity and Challenges – NITI Aayog and GIZ **Vote of Thanks by NITI Aayog**
16.00 Onwards	**Networking Tea**

Annexure 2 – Background Note

In 2015, India made a commitment of increasing the share of non-fossil based electricity capacity to 33-35% by 2030, at COP 21 in Paris. In line with this commitment, India has put a target of addition of 175 GW of renewable energy capacity by 2022. These bold commitments need to be augmented with new policies, programs and capacity building in the coming 8 years running to 2030.

Dynamism of industrial, transport, residential, commercial, cooking and agricultural energy market is bringing new opportunities and challenges to India across all its states. Moreover, energy is slowly becoming a demand driven sector than a supply driven. Hence it is slowly getting difficult for the states to maintain their respective level of operational comfort, when design inputs will come from various sectors from within and outside the states and national boundaries. This transition of energy requires diligent planning of phasing out traditional energy consumption into much cleaner form of energy.

To deal with such issues and challenges, NITI Aayog has developed an energy scenario building tool, which aims to explore a range of potential future energy scenarios for India, for diverse energy demand and supply sectors; leading up to 2047 (please refer IESS 2047). NITI Aayog has also helped several federal states (e.g. Karnataka, Maharashtra, Tamil Nadu, Andhra Pradesh, etc.) to develop their respective state energy calculators to simulate various energy scenarios.

In line with India Energy Security Scenario - 2047, GIZ India has provided technical assistance to West Bengal and Assam in developing State Energy Action Plan (EAP). A rational, scientific and data driven approach has been followed to develop Energy Action Plan for West Bengal and Assam. This has been well recognised by the respective state governments which they will utilise for allocating different resources optimally and scientifically for the next 15-20 years. This will also help them to prioritise their investment decisions.

With the above background, NITI Aayog and IGEN Access-II program of GIZ India are jointly organizing a **National Sensitization Workshop to share key learning on process and benefits of developing State Energy Action plan on 8 November in New Delhi.** The objectives of the sensitization workshop are to exchange knowledge and experience on the following:

1. Inter-dependency between State EAP and National energy security / policy / plan
2. Approach, methodology of developing State Energy Action Plan (EAP)
3. Interaction to exchange ideas and experienced with States developed EAP
4. Providing inputs to NITI Aayog and GIZ to design national EAP framework

About the Workshop Organizers

The **National Institution for Transforming India**, also called **NITI Aayog**, is the premier policy 'Think Tank' of the Government of India, providing directional, policy inputs and implementation of certain programs and policies of India. While designing strategic and long-term policies and programs for the Government of India, NITI Aayog also provides relevant technical advice to the Centre and States. NITI Aayog acts as the platform for policy resolution of the Government of India to bring States to act together in national interest, and thereby fosters Cooperative Federalism.

The Indo-German Energy Programme, also called **IGEN Access – II**, is a bilateral cooperation project carried out by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Indian Ministry of New and Renewable Energy. IGEN Access - II aims to improve the energy supply in rural areas of selected federal states.

Annexure 3 – List of Participants

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Annexure 4 – Photographs