

Tamil Nadu's transition to Net-zero Carbon economy

A discussion on “Tamil Nadu's transition to Net-zero Carbon economy” was conducted by the Dravidian Professional Forum. The Panelists were honourable Palanivel Thiagarajan, the Minister for Finance, Human Resources Government of Tamil Nadu, who before entering politics was the senior managing director of the Standard Chartered Bank; Mr Erik Solheim, Norwegian diplomat, former Executive Director of the United Nations Environment Programme and the Under-Secretary-General of the United Nations; Ret. Irene Giner-Reich, Director of the International Department of the Austrian Ministry for the Environment, Austria's Permanent Representative to the UN, IAEA, UNIDO and CTBTO in Vienna and headed the UNIDO Office in New York, Cofounder fo the Global Women's Network for the Energy transition in 2017; Benoit Lebot, Senior Advisor Government of Finance, Former Executive Director, IPEEC, A G20 countries hub on energy efficiency; TRB Rajaa, Indian politician and a member of the Dravida Munnetra Kazhagam, member of TN State Planning Commission. Salem Dharanidharan and Mr Pugazh moderated the session.

Mr Dharanidharan introduced the topic saying climate change is a two coveted problem because it is intergenerational in character with no single authority to address the issue and time is running out with no significant steps taken to curb this issue. Although the number of countries to promise a net-zero carbon economy is growing the clock is ticking and we need imminent plans to tackle the same. Since 1980, the average temperature has increased by 0.8°C and is expected to rise by 3.5°C by 2050 if the same continues which is disastrous.

Tamil Nadu adding \$300 billion to the Indian GDP and ranking number one in terms of infrastructure, healthcare, education, industrialisation and other socio-economic metrics has strived hard to find ways for sustainable development. Tamil Nadu Chief Minister has taken strong initiatives in climate change mitigation and achieving zero-carbon emission and also as a responsible organisation DPF is trying to provide a platform to discuss and ponder suggestions to help the government fight this global danger. He also mentioned some of the initiatives taken by the Tamil Nadu government to culminate climate change like:

- 1) Changing the name of the Environment Ministry to Ministry of Environment and Climate Change,
- 2) Currently, the Finance Minister has initiated Green Climate Fund towards Climate change adaptation and mitigation,
- 3) TN Green Climate company for climate change mission and TN green mission,
- 4) Climate Adaptation Programme in Kaveri Delta in assistant with Asian Development Bank,
- 5) The government has also signed MOU with the Switzerland based company to implement these green missions.
- 6) Plastic ban.

He also emphasised that with the will and aim to achieve Green mission we need the tech how, policies, proper planning and implementation and the Tamil Nadu government is working to realise and set an example of the same.

Minister Palanivel Thiagarajan highlighted the success of Tamil Nadu as a state which has a relatively high GDP in India, human resource development and no inequality. But with this as well

there are certain benefits and costs at the same time. With more industrialisation, urbanisation and development there is more generation of waste in the state which needs immediate action. Due to its favourable location, the state has enough potential to harness solar, wind energy by virtue of god but these are also seasonable in nature and to avail, its full capacity the state lacks storage technology. Adding to the abilities of the state he said the state is a forest state hence there are venues to avail carbon trading credit to an extent. With these ample sources of renewable energy, the need of the hour is to have a structural policy to look after the situation. With the increase in the standard of living of the people, there is an increase in the per capita consumption and a rise in the number of vehicles on the road adding to pollution. Also, there is no policy for household management that is needed. He reemphasised that the time is running and there haven't been policies and plans to address the issue. Being one of the forerunners of the state he assures that if India is to achieve a carbon-free economy by 2070 then Tamil Nadu should be able to achieve the same by 2050 because of its socio-economic indicators which are far ahead and developed from the average of the country.

Mr Erik Solheim spoke on the importance of the Net-Zero carbon economy and how important it is for a state like Tamil Nadu? Tamil is one of the top-performing states in socio-economic metrics has abnormal abilities to lead the other states has this amazing opportunity to lead the other countries by achieving a green economy mission with well-designed policies and programmes. Not only this as mentioned by the minister there is a need to accomplish this considering the size of the state and the level of development leading to increasing pollution and waste in the province. Appreciating the promises made by different political leaders at the Glasgow summit he said the promises were not abstract but rather the countries are working towards the same. He also mentioned some of the important promises like:

- 1) India to source half of its energy needs through renewable energy by 2030.
- 2) US and China being the leading economies to work together for climate action while reducing geopolitical tension.

Apart from this even businesses like Microsoft assuring to go green helping the nations, US has disbursed 2,000 billion dollars for their Green plans which is a big amount, China plants trees equal to the size of the country Belgium, EU driving investment from brown to green, India announced the formation of the green corridors and various other green missions. These are the efforts that we can see and force us to look at the optimistic side. The world is working towards the right side but the only need is to speed up.

Tamil Nadu has an eminent role to play in this direction as it has ample sources to harness renewable energy given technology by virtue of location. Also, the state excels in terms of its human resources indicator so with proper government programmes, innovative storage technology the state can perform far better than other states. TN and its government could learn from their neighbouring country China which indeed is a pioneer in its renewable energy and they have been able to achieve the same as their framework is to allow the government to lead with businesses bringing in their technology. Suggestion other solution he talked about electric mobility. He said TN is one of the big car-producing states in the country and states like Mumbai implementing an Electric bus scheme. So Tamil Nadu can use this as an opportunity while at the same time implementing the same. A recent example is Norway where 80% sold cars are electric and has achieved the same because of its various offers and programmes like introductory offers to those who buy electric cars, taxation policies, etc. TN can learn from this.

He also emphasised that the government needs to focus on a Circular Economy that aims at recycling waste. TN should allow the countries to transform the waste produced into values because all waste is a raw material for new products and TN needs that. He also said that the

state should go for nature-based solutions and extract benefits of its resources like the long coastline as Maharashtra uses Mangroves efficiently attracting green tourism and biodiversity. Various NGOs are working to make green cities the government should collaborate with them and learn from the cities like Telangana and Bangaluru attracting people because of their nature. TN government has this as an opportunity to turn the state green through its policies and administration. He also assured to help the government at any time if it wants.

Irene Giner-Reich expressed her views on the importance of energy transitions that are gender-inclusive. Pressing on the need for women and energy transition she informed about the Global Women's Network for Energy Transition an NGO which promotes inclusive energy transition because there is a lower proportion of women in this sector and as this sector has enough potential to increase jobs so all men and women should be included in this transition. Participation of women will be good for the energy sector as it is a social co-benefits and research has shown that if companies have more women participation that leads to proper management and helps to achieve sustainable growth while supporting women. She also mentioned some of the initiatives of the organisation like mentoring programmes, improving data situations, assisting in government initiatives, holding knowledge transfer webinars, and has become a platform for 2000+ women self-registered on the portal to be as capable as any men for any working and leading position.

She also shared information about another organisation "Gender Energy Compact" which is a UN registered organisation and a platform for self commitments of the actors to promote the energy transition and response to climate change challenge. The main aim of the organisation is to work towards SDG 5 and 7. It has 5 countries and 77 partners and is still open for support. Its main underlying principles are the following:

- 1) Importance of SDG 5 on gender equality to achieve SDG 7 of sustainable energy for all.
- 2) Enhancing gender equality and women empowerment and fostering inclusive and safe institutional policies.
- 3) Help the women to take on a leadership role and receive due recognition for their contributions.
- 4) Gender mainstreaming should be integrated in a cross-cutting manner in the planning, financing, etc.
- 5) Recognition of women and girls in the rural and urban areas significantly and disproportionately affected due to energy poverty and take targeted actions.
- 6) Address gender inequalities, barriers and challenges.
- 7) Recognise clean cooking principles.
- 8) Build an expand transforming local and global partnership.
- 9) Increase opportunity for and improve the position of women as leaders, innovators, investors, etc.

Tamil Nadu can also work with these types of organisations and the aim to achieve the net-zero carbon economy should be inclusive harnessing innovation, technology and data. Gender equality and women empowerment are the key drivers to ensure energy transition for social justice.

Benoit Lebot expressed his concern about the increasing Global warming. It was an Ice age 20,000 years ago and with an average temperature of -5°C. From 1750 to 2020, the temperature has risen from 15°C to 16.2°C due to the continuous burning of fossil fuels, tremendous deforestation, etc. It's expected if the same continues the global temperature would rise by 2°C. to 5°C which would be unheard of in the history of humanity. With just a

1°C rise we have seen floods in New York, Tornadoes in the US, famine in Madagascar so if that happens what would the state be? Of course, we do not want that that is why there is a need to go green.

One interesting fact is there of Global climate injustice wherein the countries which have contributed the least are the most vulnerable to climate change. Every time, everyone, everywhere energy is consumed for every work. It is alarming to see that the population has grown 4 times from 1900 to 2000 leading to exploitative use of energy and resources. He suggested six possibilities to reduce carbon footprints:

- 1) Lifestyle and Behaviours change.
- 2) Energy efficiency
- 3) Choice of energy
- 4) Material footprint
- 5) Improved carbon sinks.
- 6) Shift to the de-carbonised resources.

Also, he said to meet even the Paris Agreement we have to follow on a low carbon path and we have to reach net-zero in "D"

- Decarbonize
- Decouple
- Decentralize
- Digitalize
- Disruptive
- Desirable

TN digitalisation is a blessing that would help the government body to take decisions for balanced energy growth. Also, TN needs to move from sustainable goals to sustainable desirable goals.

TRB Rajaa said that Tamil Nadu has always been conscious about the environment with its able and wonderful political leaders. He shared some of the plans and ideas upon which the state planning commission is working. He reiterated the target i.e. if India would go carbon-free by 2070 then TN would go green by 2050. TN is the biggest manufacturer and buyer of electronic vehicles and hence a shift to hydrogen vehicles would be immensely effective and the commission is working to revise the policies to implement the same. At the same time research is being conducted to find out ways of how to use graphite and local resources to push the use of electric mobility and push public mobility simultaneously. Tamil Nadu can have good ties with Korea which already has innovative and modernised know-how. The commission is finding plans to make available CNG at every fuel station and achieve the promise made by the Chief minister to have 18,000 Mw energy from renewable energy in the next 10 years as the state has immense solar, wind know-how and expertise for the same. For the storage problem research and development programmes are there to find a technology to make use of these resources all around the year.

Ways are also being found out on how to capitalise on the huge coastline in TN. The government doesn't promote nuclear energy as the disposal of the waste generated from that is also a major issue and there are plans to go completely coal-free when the state becomes self-reliant in renewable energy. The government is also working on knowing the pros and cons to wave energy which could be a great source of energy given the necessary

know-how and abilities to harness it. He also told about the aim of the government to increase the green cover by more than 9% ie 43,000 sq. Km. which is indeed a huge and significant step to go green. Addressing the agriculture sector he talked about the paddy which requires an ample amount of water with no large return to the farmers. Hence, one of the challenges to the present government is also water management and driving away farmers from water intrinsic crops. He also talked about ethanol blending which if implemented properly would be a blessing to the government.

With government efforts there is also a need for people to embrace green tech, sources of energy and the government need to incentivise this so that more and more people become a part of this. The government also needs to use funds in the right directions and digitalisation can also help to achieve the aim to a large extent. He also assured that inclusivity, equality and women empowerment shall always be kept in mind while planning and implementing these policies. He claimed that TN is the most trusted, stable, environment friendly and with huge foreign capital in the country and surely TN would bring a change.

Dharanidharan added that way back in 1921, it was the Justice Party which in its manifesto had asked for the universal franchise for women, equal rights in the property for women which had never been thought and heard of and this got implemented in 1967 when DMK came to power. So, this verifies that the state would be able to achieve this objective as well.

Q and A

Q1) Dharanidharan asked that the UN be formed after World War II but there is no global governance to tackle this pertinent issue of climate change which needs immediate action. So, how an organisation like this could be formed to make the countries more accountable towards this issue?

Erik made some remarks, he said that the world is being driven by political economy and not by the diplomacy of the countries. He said for the prices of the technology to come down to harness renewable energy China needs to succeed as at present China only seems the country way ahead of other countries. He said India and Norway can work in partnership with this global aim.

Irene answered that economic transition has terrific economic and socio-economic benefits as well. There is a requirement for the national and international level organisation for governance towards this matter and address the loss associated with this energy transition. Also, for an organisation like this, there is a need that they keep an eye that no one is left behind while the economic transition is just and equitable.

Q2) Mr Pugazh asked that climate change started in the 1970s and there has always been a debate between the developed and developing nations. Developed countries use more resources and developing have to bear the repercussion. As development is inversely related to the use of resources and also developing countries are left there to use alternative sources of energy for which either they do not have the know-how to extract the same that is they can't grow at a higher pace. So, how to bring the balance in the same?

Irene addressed the concern saying that no more global power is concentrated. New colonialism is ideological and economic power is not there with the north but tends to concentrate somewhere else. Green economy and nature-based solutions would definitely benefit the people and the entire global humanity. And there is an opportunity to make the people better by resorting to the new moderns of the society instead of indulging in any kind of debates.

Q3) From the audience it was asked from TRP Rajaa that TN is one of the wealthiest states and hence higher consumption is observed. So, how to balance this between the middle class and the affluent section of the economy?

TRP Rajaa answered that it would not be the job of the government to bring down the consumption of the rich people because people have the right to avail themselves of their dreams rather the government could focus on driving their consumption pattern to the green and renewables through incentives.

Q4) How digitalisation is going to help towards a carbon-free economy that looks like a paradox?

Benoit agreed to the fact that a lot of energy is used in digitalisation and IT but the researches have shown that the benefits of digitalisation as compared to the disadvantages of the same are many ways ahead hence, it's an opportunity to help us bring in the green economy. He said in the current scenario we have a knowledge economy and we are able to make use of unlimited solar energy because of the virtue of this digitalisation. But the bottleneck is that almost 90% of the data is unused which if used could be of great use and potential. Hence, the present need is to have energy efficient and data centred system.

Q5) Archana asked Benoit he spoke about the behavioural change to make use of more renewable energy. So how could taxation policy be used to achieve the same?

Benoit emphasised the importance of taxation as a tool to realise the objective voluntarily from people's contribution and participation. He said as long as people do not have to for something they do not understand the importance of it. He said that at present even we have fossil fuels being subsidized and not renewable ones so we need policies so as to at least charge prices equal to the market price or tax the conventional. Not only this, the most important need is to use the collected revenue of the carbon tax towards the factors that would help to implement the policies that would enable the desired transition towards a zero-carbon emission economy.

TRB Rajaa added that Tamil Nadu would be accomplishing the aim if the unused potential of the data could be exploited to its full potential, there is sufficient allocation of funds from the centre and with good governance.

