ABSTRACT

Environment, Climate Change & Forests - Tamil Nadu Green Climate Company (TNGCC), a not-for-profit body, under Sec 8 of the Companies Act, 2013 to implement the three Missions viz., Tamil Nadu Wetlands Mission, Tamil Nadu Climate Change Mission and Green Tamil Nadu Mission - Setting up –Orders – Issued.

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ENVIRONMENT,CLIMATE CHANGE AND FORESTS (EC2) DEPARTMENT

G.O.(Ms.) No.101 **Dated: 03.11.2021**
பிலவ, ஐப்பசி–17
திருவள்ளுவர் ஆண்டு – 2052

ORDER:

Hon'ble Finance Minister while presenting the Tamil Nadu Revised Budget for the year 2021-2022, among others, made the following important announcements: -

(i) "Forests play an important role in conserving natural resources and ecosystems and preserving environmental balance and normal rainfall patterns. This Government will launch the Green Tamil Nadu Mission to increase the total area under the forest and tree cover in Tamil Nadu to 33 per cent of the land area of the State. Under the Mission a massive tree plantation programme of indigenous and diverse species, in co-ordination with multiple departments, public and private institutions will be taken up with people's participation over 10 years."

(ii) Combating and mitigating the impact of climate change is a major concern for a coastal State like Tamil Nadu. This Government will launch the Tamil Nadu Climate Change Mission under the Hon'ble Chief Minister to focus on climate change adaptation and mitigation activities with a total outlay of Rs.500 crore.

(iii) Under the leadership of the Hon'ble Chief Minister, this Government will launch the "Tamil Nadu Wetlands Mission with the objective of ecological restoration of wetlands in Tamil Nadu. The mission will identify and map 100 wetlands in 5 years and restore the ecological balance with focus on livelihood options at a cost of Rs.150 crore.

2. The above-mentioned announcements signify the intent of the Government of Tamil Nadu in conserving and preserving the rich natural heritage of Tamil Nadu. Given below is a brief on the objectives of each of these Missions:

a) **Green Tamil Nadu Mission** - Enhance the Forest and Tree cover from the existing 23.27% to 33% through a meticulously planned tree planting campaign over a period of 10 years.

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b) **Tamil Nadu Wetlands Mission** - Ecological restoration of wetlands in Tamil Nadu in addition to the conservation and management of wetlands.

c) **Tamil Nadu Climate Change Mission** — Focus and take action on climate change adaptation and mitigation activities.

3. Climate change is one of the biggest challenges being faced today affecting people and nature across the globe, with developing countries being most impacted. Most countries are becoming vulnerable to climate change with the speed at which it is occurring thereby directly impacting their development path and in turn their economic growth. Reducing the negative impact caused by climate change is of utmost priority for countries. This can be achieved by adapting to changes by making appropriate resilience and mitigation plans combined with suitable adjustments and opportunities.

3.1 According to United Nations Framework Convention on Climate Change (UNFCCC), key risks due to climate change are:

(i) Risk of death, injury, ill-health, or disrupted livelihoods
(ii) Systemic risks due to extreme weather events leading to breakdown of infrastructure networks and critical services
(iii) Risk of mortality and morbidity during periods of extreme heat
(iv) Risk of food insecurity and the breakdown of food systems
(v) Risk of loss of rural livelihoods and income
(vi) Risk of loss of marine and coastal ecosystems
(vii) Risk of loss of terrestrial and inland water ecosystems

The Intergovernmental Panel on Climate Change (IPCC) in its Sixth Assessment Report has provided a high level summary of the understanding of the current state of the climate and has red flagged several issues relating to Climate Change.

3.2 To mitigate the risks identified by the UNFCCC and in line with the Paris Agreement, efforts have been taken at the national level to reduce national emissions and adapt to the impacts of climate change. Towards this, India has submitted its **Nationally Determined Contribution (NDC)** which is as follows:

i. To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation,

ii. To adopt a climate friendly and a cleaner path than the one followed hitherto by others at corresponding level of economic development.

iii. To reduce the emissions intensity of its GDP by 33 to 35 percent by 2030 from 2005 level.

iv. To achieve about 40 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030 with the help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF).

v. To create an additional carbon sink of 2.5 to 3 billion tonnes of C02 equivalent through additional forest and tree cover by 2030.

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vi. To better adapt to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health, and disaster management.

vii. To mobilize domestic funds, new & additional funds from developed countries to implement the above adaptation actions and mitigation in view of the resource required and the resource gap.

viii. To build capacities, create domestic framework and international architecture for quick diffusion of cutting-edge climate technology in India and for joint collaborative R&D for such future technologies.

3.3 As the Second largest economy in India with 38 districts spread over a total land area of 1,30,058 sq. km, Tamil Nadu is an important coastal State, with a coastline of 1,076 km, which is often affected by the vagaries of nature. The Western Ghats, Deccan Plateau, the Mountain ranges, forests, beaches, mangroves, estuaries, spanning across the State include a wide range of `biomes' that are prone to risks posed by climate changes.

3.4 As a result of climate change, risks such as heat waves, deterioration in agriculture, damage to infrastructure, droughts, cyclones, unseasonal rains, floods, damage to nets & boats of fishermen, loss to assets and amenities, deforestation, land degradation and desertification, cause direct economic impact to the State. These not only affect the livelihood of people and cause displacement of households but also impact the ecosystems and biodiversity. Indirect impact of climate risks cause water borne diseases, malnutrition, loss of assets and amenities, debt, migration, etc.

3.5 With high dependency on natural resources, Tamil Nadu is under constant threat of climate change and its negative impact. Events in the past show that there is a high probability of increase in climate related natural hazards, with high frequency and intensity, which would result in a potential threat of natural disasters directly linked to climate change. The sensitivity and vulnerability of the State calls for State Level Climate Models to be put in place to arrive at sectoral initiatives, that are not only climate friendly but would also help the State to effectively plan the growth of the economy by providing an enabling environment.

3.6 Ceased of this, the Government of Tamil Nadu is crafting many solutions to leapfrog the State to a greener, cleaner and more resilient State. Efforts are being taken by the State to draft plans that are not merely mitigative in nature, but which will also pave the way for the transformation of the economy underpinning **'Affordability, Sustainability and Scalability'** as the key elements.

3.7 The State proposes to focus on plans based on the following areas of intervention for successful implementation of the Missions announced in the Revised Budget — 2021-22:

i. Sustainable Agriculture: Popularize strategies to reduce the losses in agriculture due to extreme weather. Increase use of micro-irrigation technologies, harvest rainwater, strengthen crop insurance programmes, forecast disease outbreaks and popularize indigenous variety of plants.

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ii. Climate resilience: Increase productivity of crops, build ecosystems to manage droughts, create institutional frameworks to combat climate change, advice and encourage farmers to adapt to climate change strategies.

iii. Water resources: Adaptation of climate change programmes in water resources, modernize irrigation, increase water use efficiency.

iv. Forest & biodiversity: Valuation of bio resources in forest ecosystem, increase the forest cover through a massive afforestation programme, integrate development of wildlife habitats, eco restoration and conservation of water bodies and canopy improvement.

v. Coastal area management: Integrate tree plantation with water management and livelihood enhancement, assess micro-plastics in coastal areas, protect shores, manage disasters and risks, manage coastal livelihoods and encourage eco-tourism.

vi. Disaster management & mitigation: Deploy big data, State database and digital risk mapping models to combat risks, strengthen post disaster surveillance systems, response systems, zonal teams and medical responses, create funds to mitigate disasters, encourage restoration and protection of eco-systems, map vulnerable areas etc.

vii. Health: Increase the capacity of primary and secondary healthcare network by improving the infrastructure of hospitals such as bed strength, laboratory, radiology facilities etc.

viii. Technology: Provide climate smart strategies like shifting towards renewable energy, electric vehicles and other innovative climate solutions that would accelerate preservation of natural habitats, biodiversity, environment protection with the objective of strengthening the economy by creating new opportunities and protection for those who are negatively impacted.

ix. Energy Transition: Moving away from fossil fuels, industry transition by transforming polluting industries, green indexing of Industries, green bench marking, setting up Green Industry fora, focusing on mitigation in cities and villages by introducing low emission buildings, mass transport with focus on resilience for the urban poor etc

x. Emission Reduction: Identify effective and beneficial ways to achieve emission reduction by promotion and adaptation of electric vehicles, use of natural gas, incentives for emission reduction for faster adoption of emission reduction technologies.

xi. Transportation: Introduce strategies for Clean Vehicle usage such as hybrid and electric, promote walking and bicycle tracks and other multi-modal transport systems.

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4. Above mentioned interventions would be streamlined to formulate suitable projects to be implemented under the aegis of the three proposed missions. The focus of the three Missions is outlined below:

4.1. **Green Tamil Nadu Mission**

Under this Mission, the Government of Tamil Nadu proposes to increase the Forest and Tree Cover in the State from the present 23.8% (as per the India State of Forest Report 2019 of the Forest Survey of India, Dehradun) to 33% by the year 2030-2031.

The State would achieve the above through afforestation activities on the degraded forest landscape (about 4,500 sq.km) and tree planting activities farm lands, fallow lands, educational institutions, temple lands, sacred groves, industrial areas, tank foreshore, canal banks and areas under the control of Defense establishments in Tamil Nadu. This Mission will have the following major activities;

1. Restoring degraded forest areas by undertaking tree planting and soil moisture conservation efforts
2. Planting tree species in farm lands with suitable agri-silviculture model
3. Planting in public lands like community lands, tank foreshore, fallow lands, avenues, canal banks, through people's movement

4.1(a) **Restoration of Degraded Forest Land.**

Forest loss and degradation exacerbate local and global problems related to food and livelihoods, clean water, fresh air and the climate. Degraded landscapes are also more vulnerable to natural disasters and extreme weather conditions, such as heavy rainfall, floods and landslides. Forest Land Restoration has great potential to address these issues by enhancing landscapes in ways that ensure lasting benefits. Benefits include better local climate regulations, improved flood and erosion control, an increased variety and availability of food and non-food products and economic opportunities for local people. Reducing emissions from deforestation and degradation in the forest areas is yet another challenge in combating the adverse impact of the Climate Change on biodiversity conservation and protection. Forest land restoration can support climate change mitigation and adaptation, while enhancing ecological and livelihood values for the landscape and its people.

The forest cover of the State as per the ISFR 2019 has sequestrated 216 Million tonnes (Mt) of carbon which is 3.03% of the total carbon stock of 7,124 Mt stored in India's forest cover. Therefore, through the Green Tamil Nadu Mission, the State of Tamil Nadu has proposed to enhance the carbon sequestration potential on an average of 8 Mt every year from the year 2024-2025 to 2030-2031 by increasing the forest & tree cover. It is expected that the carbon stock can be built up to about 265 - 270 Mt, in the year 2031 from a base year of 2019. The improvement of forest and other resources throughforest land restoration processes can also reduce disaster risks such as floods, droughts landslides or outbreaks of pests.

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4.1(b) **Agri-silviculture — a viable solution to enhance the green cover and economic sustainability of the farmers.**

Trees outside Forests plays an important role in climate change adaptation through diversified land-use practices improving the sources of income and for providing the buffering against weather related production losses, besides resilience building against climate impacts in farming systems. Due to enhanced focus on the Biodiversity Conservation and Management the "Trees outside Forests" in the form of Agroforestry have to play a significant role in meeting out the pulp, plywood, matchwood, dendro-biomass, requirements for the rural & urban population, for reducing deforestation and forest land degradation in future. Under this component, farmers will be given quality planting materials of agro-forestry species to get additional revenue.

4.1(c) **Increasing green cover on public lands**

The Green Tamil Nadu Mission aims to increase green cover on public land in a period of 10 years i.e., from 2020-2021 to 2030-2031 on farmlands, fallow lands, Educational Institutions, temple lands, sacred groves, Industrial areas, tank foreshore, padugai areas and areas under the control of Defence establishments in Tamil Nadu. A special drive will be initiated under this Mission to increase the green cover in public lands to the optimum level.

4.2. **Tamil Nadu Climate Change Mission**

In line with the National Action Plan on Climate Change (NAPCC), the Tamil Nadu State Action Plan on Climate Change (TNSAPCC) 2015-2020, was prepared and endorsed by the Ministry of Environment, Forests and Climate Change (MoEF&CC), Government of India (GoI) on 31.03.2015, defining the following seven vulnerable sectors viz.,

1. Sustainable Agriculture
2. Water Resources
3. Forests & Biodiversity
4. Coastal Area Management
5. Enhanced Energy Efficiency & Solar Mission
6. Sustainable Habitat
7. Knowledge Management

Tamil Nadu State Action Plan on Climate Change 2.0 (TNSAPCC 2.0) is under preparation with the focus on Disaster Management and Mitigation, Health, Sustainable Development Goals and Composite Vulnerability Index (CVI) for the State.

In view of above, the Government of Tamil Nadu shall launch the Tamil Nadu Climate Change Mission with the objective of implementing several proven strategies in the field of Climate Change. The primary aim of the Mission is to prepare a holistic Climate Change Policy for Tamil Nadu incorporating policies for non-conventional alternative sources of energy, new technologies such as electric or plug-in hybrid cars, energy-efficient homes. Efforts will also be taken to implement projects with funding under National Adaptation Fund for Climate Change (NAFCC), Green Climate Fund (GCF) etc.

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The Mission would also promote strategies for ensuring cleaner air quality by use of efficient public transport systems, wide-spread acceptance of CNG and alternate fuel resources and suggest measures for mitigation of Green House Gases.

The Mission would strive to create smarter infrastructure systems, to handle natural disasters and recover from it. Another important focus of the Mission would be to emphasize on gender mainstreaming in the climate related projects, encouraging multi-disciplinary research on public health emphasizing on pandemics and provide guidance on developing various courses and curricula in Educational Institutions.

4.3. **Tamil Nadu Wetlands Mission**

Currently wetlands are receiving global attention due to recognition of the several ecosystem services provided by them, driving the need for protecting, restoring and conserving them, as they are shrinking and getting degraded. Wetlands are inundated with water permanently or seasonally and are unique, highly productive ecosystems where terrestrial and aquatic habitats meet. Wetlands include mangroves, peatlands and marshes, rivers and lakes, deltas, floodplains and flooded forests, rice-fields, and even coral reefs. They play a critical role in maintaining many natural cycles and supporting a wide range of biodiversity. They serve as a natural sponge against flooding and drought, protect our coastlines and help to fight climate change. Bursting with biodiversity, wetlands are a vital means of storing carbon.

The Ramsar Convention, an international intergovernmental treaty for conservation of wetlands, ratified by Government of India in 1982, facilitates designating wetlands of importance as Ramsar Sites. India is a party to this Convention, which provides a framework for national action and international cooperation for the sole mission of conservation and wise use of wetlands and their resources. In India, currently, 42 wetlands, with a surface area of over a million hectares are designated as wetlands of international importance under the Ramsar Convention.

In Tamil Nadu, major threats to the wetlands is over-exploitation leading to loss of ecological balance, loss of habitat for flora and fauna, soil and water salinity along coastal wetlands, spread of invasive species and scarcity of fresh water. In addition, coastal wetlands bear the brunt of intense cyclones. In many wetlands, studies show that the water quality was unsafe for avifauna to feed and breed. Apart from these, wide range of problems are associated with wetlands by virtue of being fragile and vulnerable ecosystems. Further, wetlands have been extinguished at an alarming pace with the relentless progress of industrial processes, intensive agricultural practices etc. Practical solutions are required for the recovery of lost or severely damaged wetland ecosystems.

Under the Tamil Nadu Wetlands Mission announced in the Revised Budget 2021-22, it is proposed to prepare an Integrated Management Plan and undertake ecological restoration of wetlands through a purely participatory process involving local communities as well as all relevant stakeholders, which would be inventorized through digital technologies.

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5. **Tamil Nadu Green Climate Company**

The three important Missions announced in the Revised Budget 2021-22, shall be implemented within a defined time frame to achieve their underlying objectives. It is, therefore, critical to set out a well-defined mechanism for efficient implementation of these Missions to achieve desired goals.

While these Missions shall be implemented through the Department of Environment, Climate Change and Forests, it is equally important to involve and include the academia, private sectors and societies for transitioning the State to climate friendly platforms, championing renewable energy, sustainable and resilient infrastructure, agriculture, management and protection of forests, resilience and adaptation to climate impacts.

Considering the above objectives the Government shall set up a new Special Purpose Vehicle (SPV), viz., **"Tamil Nadu Green Climate Company (TNGCC)".**

6. The important objectives of the proposed Tamil Nadu Green Climate Company are as below:

i) Planning, execution and monitoring of the State-wide Programme for the climate change adaptation and mitigation, wetlands mapping and restoration, enhancing the forest and tree cover of the State to 33% over the next ten years.
ii) Creating strong policy support for climate change, cutting across all sectors of governance.
iii) Devise strategies to reduce greenhouse gas emissions, bench marking of industries to move towards green manufacturing etc.,
iv) Promote eco-friendly technologies towards a sustainable future e.g., solar and wind harvesting technologies, biodegradable packaging, e-vehicles etc.
v) Develop collaborations and strengthen community engagement to build long term commitment for a Net Zero Carbon future for Tamil Nadu.
vi) Promote multi stakeholder approach to fast-track climate change action in a synergized fashion.
vii) Use proven climate change science & technologies to create evidence based green models for emulation and adaptation.
viii) Educate and empower local communities in management of climate change at ground zero.
ix) Promote successful climate change adaptation and mitigation models for replication.
x) Build standards for energy efficient infrastructure to save precious energy and reduce energy consumption.
xi) Create practical models for green mobility to reduce missions.
xii) Create State-of-the-Art monitoring mechanism for better compliance of Environmental Standards through transparent and credible systems.
xiii) Conserve and preserve natural resources and promote their sustainable use.
xiv) Creating a framework to bring synergy among the line Departments of the State for initiatives for environment protection.

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xv) Creating a platform for integration of knowledge and experience of National and International agencies through collaboration and partnership.

xvi) Developing a framework for capacity building of various stakeholders (Line Departments, Institution / Universities, Researchers, Experts, Non-Government Organizations (NGOs) on Climate Change Adaptation and Mitigation, wetlands, tree plantation, eco restoration etc.

7. The Tamil Nadu Green Climate Company shall setup a specialized Project Management Unit (PMU) for coordinating and monitoring of project activities under all the three Missions in partnership with the Tamil Nadu Infrastructure Fund Management Corporation Limited(TNIFMC).

7.1 The composition of **the Board of the Tamil Nadu Green Climate Company** will be as follows:-

1.	Secretary, Environment, Climate Change and Forest Department - Chairperson and Managing Director
2.	Secretary, Finance Department or his nominee
3.	Secretary, Energy Department
4.	Secretary, Municipal Administration and Water Supply Department
5.	Secretary, Agriculture and Farmers Welfare Department
6.	Secretary, Public Works and Water Resources Department
7.	Principal Chief Conservator of Forests, Tamil Nadu Forest Department

7.2. The Funding and shareholding pattern of the Company immediately upon closing shall be set forth as below:

(in Rs. crores)

Shareholder	Equity	% Equity Holding
Government of Tamil Nadu.	2.55	51
Agencies, Boards, Other Statutory Organizations such as Tamil Nadu Pollution Control Board	2.45	49
Total	**5.00**	**100**

The Authorised Capital of the Company shall be Rs. 5,00,00,000/- (Rupees Five Crores only).

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8. The Government accord permission to set up the **Tamil Nadu Green Climate Company (TNGCC)**, under Section 8 of the Companies Act, 2013, to implement the three key Missions of the Government of Tamil Nadu viz, The Tamil Nadu Climate Change Mission, The Green Tamil Nadu Mission and the Tamil Nadu Wetlands Mission.

9. This order issued with the concurrence of Finance Department vide its U.O.No3337/FS/P/2021, dated 20.10.2021.

(BY ORDER OF THE GOVERNOR)

SUPRIYA SAHU
PRINCIPAL SECRETARY TO GOVERNMENT

To
The Additional Chief Secretary to Government,
Finance Department, Secretariat, Chennai-9.
The Additional Chief Secretary to Government,
Public Works Department, Secretariat, Chennai-9.
The Additional Chief Secretary to Government,
Municipal Administration and Water Supply Department, Secretariat, Chennai-9.
The Principal Secretary to Government,
Energy Department, Secretariat, Chennai -9.
The Secretary to Government,
Agriculture and Farmers Welfare Department, Secretariat, Chennai-9.
Principal Chief Conservator of Forests,(Head of the Department) Chennai-15.
Principal Chief Conservator of Forests and Chief Wildlife Warden,Chennai-15.
Director of Environment, Chennai-15.
The Chairman, Tamil Nadu Pollution Control Board, Chennai-32.
Additional Principal Chief Conservator of Forests /Member Secretary,
Tamil Nadu State Wetland Authority, Chennai-15.
The Accountant General, Chennai-18.

Copy to:-

The Private Secretary to Secretary IV to Hon'ble Chief Minister,
The Hon'ble Chief Minister's Office, Chennai -9.
The Special/Senior Personal Assistant to the Hon'ble Minister(Forests), Chennai-9.
The Special/Senior Personal Assistant to the Hon'ble Minister for Environment, Climate Change and Youth Welfare and Sports Development, Chennai – 9.
The Private Secretary to Principal Secretary to Government,
Environment, Climate Change and Forest Department, Chennai-9.
The Private Secretary to Special Secretary (Environment, Climate Change),
Environment, Climate Change and Forest Department, Chennai-9.
The Private Secretary to Additional Chief Secretary to Government,
Finance Department, Chennai-9.
Finance (AHD&F/BPE) Department, Chennai-9.
Environment, Climate Change and Forest (FR.6,FR.7, FR.9 and EC.1)Department,
Secretariat, Chennai -9.
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3/11/21.

JOINT SECRETARY TO GOVERNMENT