

# NGC Green Energy Map of Trinidad and Tobago 2024

## GREEN - RENEWABLE ENERGY DEFINITION

**Green Energy** - Sustainable energy used from renewable energy technologies utilizing natural resources that emit little to no greenhouse gases (GHGs). These sources include solar energy, wave energy, wind power, hydropower, green hydrogen, biofuels among others.

**Renewable energy** - Sustainable energy derived from natural resources that renew faster than they are consumed. While most sources emit little to no GHGs, such as those listed under green energy, there are some (e.g. trees to produce firewood and charcoal) that emit GHGs when utilized.



### Legend

- Atlantic LNG
- CNG Stations
- GCCTA+ Solar Photovoltaic Installation Sites
- National Ports
- Industrial Energy Renewable Energy Sites
- Carbon Storage
- Potential Wind Generating Sites
- NCC Wave Stations
- Solar Sites Large Consumers
- NCC Pipelines
- Airport
- Trinidad and Tobago / Venezuela Delimitation Line
- Forest Restoration Programme Areas
- NCC Reforestation Sites

### GCCTA+ Solar Photovoltaic Installation Sites

Twelve sites were selected which utilize solar, rooftop and on-roofing applications in Trinidad and Tobago to enhance installation of high-quality, roof-mounted Solar Photovoltaic (SPV) units. The sites are part of the Global Climate Change Mitigation and Resilience (GCCCTA+) Project, which aims to improve energy efficiency and reduce carbon emissions in Trinidad and Tobago.

The GCCTA+ Project is a joint initiative of the Energy Utility Limited (EUL) and the Ministry of Energy and Energy Services, and the United Nations Development Programme (UNDP). The project is a key component of the National Climate Change Policy (NCCCP) and the National Energy Efficiency Action Plan (NEEAP).

### National Greenhouse Gas (GHG) Reduction Initiatives

The Knowledge Management System (KMS) for Trinidad and Tobago, National Climate Change Planning, Reporting and Verification (NCCPP) is designed to provide a comprehensive overview of the GHG emissions and reduction initiatives in the country.

The KMS is a web-based platform that provides a central repository for all GHG emissions and reduction data. It is designed to be user-friendly and accessible to all stakeholders involved in the NCCPP process.

The KMS will enable the government to track and report on its GHG emissions and reduction progress. It will also provide a platform for the private sector and other stakeholders to report on their own GHG emissions and reduction efforts.

### Wind Energy

Wind Energy Generation of electricity using wind turbines. These turbines convert the kinetic energy of the wind into mechanical energy, which is then used to generate electricity. Wind energy is a clean, renewable energy source that has the potential to provide a significant portion of the country's electricity needs.

The wind energy potential in Trinidad and Tobago is being assessed through a series of studies and projects. These include the installation of wind turbines at various locations across the country, as well as the development of wind energy parks.

The wind energy sector is expected to grow significantly in the coming years, as the government continues to invest in renewable energy and seeks to diversify its energy portfolio.

### Solar Energy Data

Solar Energy Generation of electricity using solar panels. Solar energy is a clean, renewable energy source that is becoming increasingly popular in Trinidad and Tobago. The country has a high potential for solar energy, particularly in the coastal and central regions.

The solar energy sector is being supported by a variety of initiatives, including the installation of solar panels on government buildings, the development of solar energy parks, and the provision of financing options for private citizens.

The solar energy industry is expected to continue to grow rapidly in the coming years, as the government and private sector continue to invest in solar energy technologies.

### NCC Reforestation Programme

As part of the 'No Net Loss' strategy, NCC embarked on a project in 2005 to replant approximately 315 hectares of forest. From 2005 to 2021, over 100,000 seedlings were planted in reforestation locations at Rosalind, Mayaro, and Rio Claro in southwest and southeast Trinidad. To 2018, NCC commissioned a study by The University of the West Indies (UWI) to conduct another study to assess the status of the replanted forest.

The study found that the replanted forest is showing signs of recovery, with many of the seedlings surviving and growing well. This is a positive indication that the NCC's reforestation efforts are making a difference.

### CNG Environmental Impact Data

Compressed Natural Gas (CNG) in Trinidad and Tobago's transition fuel for road transportation. Trinidad and Tobago has embarked on a road vehicle conversion scheme to use CNG. This initiative is part of the country's broader strategy to reduce greenhouse gas emissions and improve air quality.

The CNG program has seen significant success, with a large number of vehicles converted to CNG. This has resulted in a substantial reduction in CO2 emissions and other pollutants.

The CNG program is expected to continue to expand in the coming years, as more vehicles are converted and the infrastructure for CNG is improved.

### CNG at a Glance

Summary of CNG conversion statistics and environmental impact.

VEHICLES CONVERTED TO CNG	1,471 (SEVEN EQUIVALENTS)	25% HIGHER FROM 2021
CO2 EMISSIONS REDUCED	15,883 TONNES	
CO2 EMISSIONS REDUCED AS A RESULT OF CONVERSION	59,639 TONNES	

### Trinidad and Tobago LNG Production by Train

Train	Train 1	Train 2	Train 3	Train 4
Capacity (MMtpa)	1.2	1.2	1.2	1.2
Production (MMtpa)	0.8	0.8	0.8	0.8
Efficiency (%)	80	80	80	80
CO2 Emissions (MMtpa)	0.1	0.1	0.1	0.1

### Climate Resilience for Trinidad & Tobago

Climate Resilience for Trinidad & Tobago: A comprehensive assessment of the country's vulnerability to climate change and the potential impacts on various sectors. The report identifies key areas of concern and provides recommendations for building resilience and reducing risk.

The assessment covers a wide range of sectors, including agriculture, tourism, infrastructure, and the environment. It also considers the potential impacts of sea-level rise, increased frequency and intensity of extreme weather events, and changes in precipitation patterns.

The report is a valuable resource for policymakers and other stakeholders involved in climate change planning and adaptation.

### Planar Solar Farm

The Planar Solar Farm is a large-scale solar energy project located in the coastal region of Trinidad and Tobago. The farm is designed to generate clean, renewable energy for the country and to provide a model for other large-scale solar energy projects.

The farm is a significant investment in renewable energy and is expected to provide a substantial portion of the country's electricity needs. It is also a key component of the government's strategy to diversify its energy portfolio and reduce its dependence on fossil fuels.

### Map of Trinidad and Tobago

A detailed map of Trinidad and Tobago showing various energy and environmental features. The map includes locations for solar and wind energy projects, carbon storage sites, and forest restoration areas. It also shows the country's coastline and major infrastructure.

The map is a key tool for understanding the country's energy and environmental landscape and for planning future development. It provides a clear visual representation of the various initiatives and projects being implemented across the country.

### Offshore Wind Sites and Feasibility Studies for the Hydrogen Economy

A proposed hydrogen economy roadmap for Trinidad and Tobago. The roadmap outlines the key steps and milestones for developing a sustainable hydrogen economy in the country. It covers the production, distribution, and use of hydrogen in various sectors.

The roadmap identifies offshore wind as a key source of clean energy for hydrogen production. It also highlights the importance of developing a strong infrastructure for hydrogen distribution and storage.

The roadmap is a comprehensive guide for policymakers and other stakeholders involved in the development of the hydrogen economy.

### Trinidad and Tobago Renewable Energy Projects

Project Name	Location	Project Size	Project Start	Status	Key Collaborators
GCCTA+ Solar Photovoltaic	Various sites	12 sites	2020	ongoing	NCC, EUL, UNDP
Wind Energy	Various locations	Multiple projects	2015-2022	ongoing	NCC, EUL
Solar Energy	Various locations	Multiple projects	2015-2022	ongoing	NCC, EUL

### NCC Sustainable Energy Projects

Project Name	Location	Project Size	Project Start	Status	Key Collaborators
GCCTA+ Solar Photovoltaic	Various sites	12 sites	2020	ongoing	NCC, EUL, UNDP
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### Carbon Resilience Energy Targets

Country	Renewable Energy Target	Renewable Electricity Target
Andhra	100% by 2030	100% by 2030
Armenia	20% by 2030	100% by 2030
Bahrain	100% by 2030	100% by 2030
Belize	25% by 2030	100% by 2030
Bolivia	100% by 2030	100% by 2030
Burkina Faso	100% by 2030	100% by 2030
Burundi	100% by 2030	100% by 2030
Canada	100% by 2030	100% by 2030
Chad	100% by 2030	100% by 2030
Chile	100% by 2030	100% by 2030
China	100% by 2030	100% by 2030
Colombia	100% by 2030	100% by 2030
Cuba	100% by 2030	100% by 2030
Dominican Republic	100% by 2030	100% by 2030
Egypt	100% by 2030	100% by 2030
El Salvador	100% by 2030	100% by 2030
France	100% by 2030	100% by 2030
Germany	100% by 2030	100% by 2030
Ghana	100% by 2030	100% by 2030
Guatemala	100% by 2030	100% by 2030
Haiti	100% by 2030	100% by 2030
Honduras	100% by 2030	100% by 2030
India	100% by 2030	100% by 2030
Indonesia	100% by 2030	100% by 2030
Kenya	100% by 2030	100% by 2030
Madagascar	100% by 2030	100% by 2030
Maldives	100% by 2030	100% by 2030
Mali	100% by 2030	100% by 2030
Mexico	100% by 2030	100% by 2030
Moldova	100% by 2030	100% by 2030
Morocco	100% by 2030	100% by 2030
Mozambique	100% by 2030	100% by 2030
Nepal	100% by 2030	100% by 2030
Netherlands	100% by 2030	100% by 2030
Nigeria	100% by 2030	100% by 2030
Poland	100% by 2030	100% by 2030
Portugal	100% by 2030	100% by 2030
Romania	100% by 2030	100% by 2030
Russia	100% by 2030	100% by 2030
Senegal	100% by 2030	100% by 2030
Sierra Leone	100% by 2030	100% by 2030
South Africa	100% by 2030	100% by 2030
South Korea	100% by 2030	100% by 2030
Spain	100% by 2030	100% by 2030
Sweden	100% by 2030	100% by 2030
Switzerland	100% by 2030	100% by 2030
Taiwan	100% by 2030	100% by 2030
Tanzania	100% by 2030	100% by 2030
Togo	100% by 2030	100% by 2030
Turkey	100% by 2030	100% by 2030
Uganda	100% by 2030	100% by 2030
Ukraine	100% by 2030	100% by 2030
United Kingdom	100% by 2030	100% by 2030
United States	100% by 2030	100% by 2030
Venezuela	100% by 2030	100% by 2030
Zambia	100% by 2030	100% by 2030
Zimbabwe	100% by 2030	100% by 2030

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**NGC Company Profile**

NGC is an integrated energy company operating across the energy value chain, focusing on sustainability and pursuing an energy transition model through its Green Agenda. NGC leads a diversified, globalising conglomerate of over 30 companies, which support its mission to provide its customers with innovative and sustainable energy solutions through its diverse and strategic partnerships.

While NGC core business is the aggregation, purchase, sale, transportation, and distribution of natural gas in Trinidad and Tobago, other development and focus areas of business include natural gas processing and marketing of natural gas liquids; (non-operated) joint venture of production and trading of energy commodities; portfolio investments; technical services; engineering and analytics in the sustainable energy space; investing in renewable energy and energy efficiency projects and investments; development and management of industrial site, port and marine infrastructure; and marketing and sale of compressed natural gas (CNG).

**NGC's main subsidiaries are:**

- National Energy Corporation of Trinidad and Tobago Limited (National Energy)
- Phoenix Park Gas Processors Limited (PPGL)
- NCC Green Company Limited
- The Bona Industrial Development Company Limited (ABDCO)
- Trinidad and Tobago NS Limited (TTNSL)

A valued partner in our nation's natural gas-based energy sector, NGC, and by extension, the NGC Group of Companies, has a proven business model for managing resources: a model with applicability far beyond the shores of Trinidad and Tobago.

**The National Gas Company of Trinidad and Tobago Limited (NGC)**

NGC is a state-owned enterprise established in 1974. It is the primary supplier of natural gas in Trinidad and Tobago. NGC's mandate is to ensure the reliable, efficient, and sustainable supply of natural gas to its customers.

NGC is committed to providing high-quality natural gas services and to supporting the country's economic growth and development. It is also committed to environmental protection and to promoting sustainable energy solutions.

**TRINIDAD AND TOBAGO**

WGS 84 Zone 20 Universal Transverse Mercator

Approximate coordinates only. Not to be used for navigation or engineering. For full details please refer to the project plan.

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