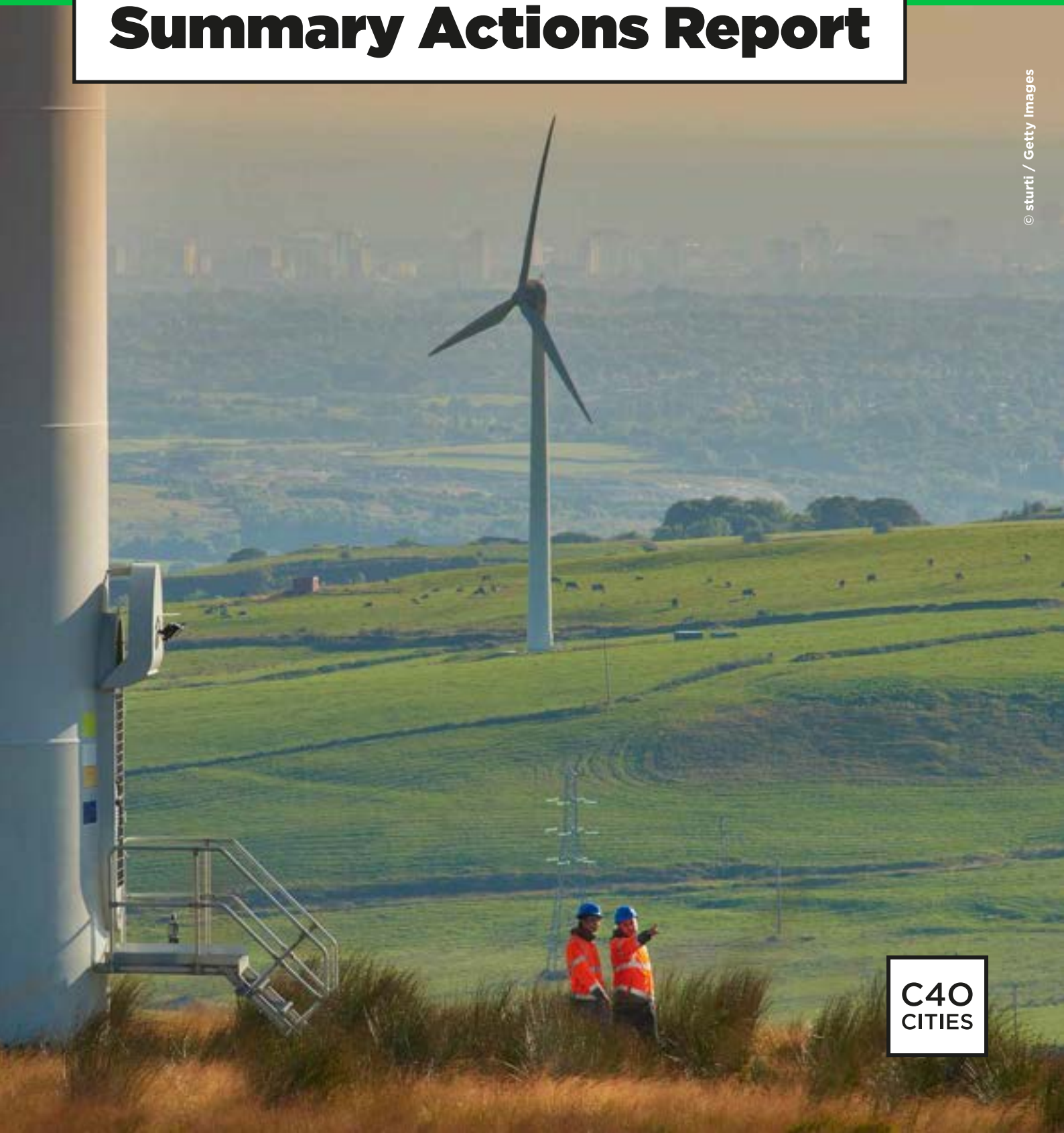
RENEWABLE ENERGY ACCELERATOR

Summary Actions Report



C40 CITIES

INTRODUCTION

Cities – and the world – will not stay on a 1.5°C trajectory without decarbonising energy demand. Despite recent progress in the deployment of renewable technologies, the energy used to power cities and heat and cool buildings is still mostly generated from fossil fuels – emitting vast quantities of greenhouse gases (GHGs) while polluting the air we breathe. Moreover, the world is far from achieving Sustainable Development Goal 7 on universal access to reliable, sufficient, affordable and sustainable energy: approximately 800 million people lack access to electricity while others cannot afford to heat their homes.

Cities have a major role to play in accelerating the energy transition. Targets to decarbonise energy are central to C40 cities' climate action plans. Despite exercising varying control over energy supply, C40 cities deploy a wide range of tools to move away from traditional and fossil fuel-based energy systems and accelerate the deployment of renewable energy technologies – such as incentives for solar photovoltaic (PV) installations or shifting municipal consumption to renewable sources. These actions reduce air pollution, improve energy access and create local jobs.

At the September 2021 UN High Level Dialogue on Energy, 15 C40 cities decided to step up their leadership on the energy transition by signing up to the C40 Renewable Energy Accelerator: Powering Green and Just Cities. These 15 leading cities have committed to power a green and just recovery from the COVID-19 pandemic with renewable energy and take all possible steps to accelerate the full decarbonisation of electricity, heating, cooling and cooking while phasing out fossil fuels.

To meet this commitment, cities will:

- Adopt one of the following pathways in line with their objectives, priorities and context.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- Lead by example, either by switching municipal electricity consumption to 100% renewable energy by 2025 or deploying renewable energy systems on all feasible municipal assets by 2030.

Pathways:

- **Accelerating renewable energy transition:** Use 100% renewable electricity citywide by 2035 and fully decarbonised energy to cook and heat and cool buildings within the city no later than 2050.
- **Enabling energy access with renewables:** Achieve universal access to reliable, sustainable and affordable electricity and clean cooking fuels and technologies by 2030 and use 100% renewable electricity citywide by 2050.
- **Maximising local renewable energy:** Deploy clean energy systems for electricity, heating, cooling and cooking to achieve 50% of the assessed feasible potential within the city by 2030 and 100% by 2050.

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C40 CITY SIGNATORIES

Buenos Aires	London	Paris	Tokyo
Copenhagen	Los Angeles	San Francisco	Tshwane
Lagos	Melbourne	Seoul	Vancouver
Lisbon	Montréal	Sydney	

Located across six continents and hosting over 70 million residents, these 15 cities will accelerate a just and equitable energy transition to combat the climate crisis. Mayors' actions will create healthier communities, improve air quality, create decent jobs and protect their most vulnerable residents from the impacts of climate change. This summary report highlights the outstanding actions already taken or planned by cities to meet the ambitious Renewable Energy Accelerator commitments, as well as demonstrating the aggregated transformational impact of individual actions

AFRICA

LAGOS

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PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

The Lagos Climate Action Plan (Lagos CAP), Second Five Year Plan 2020 – 2025 aims to set the city on a path to carbon neutrality by 2050. Guided by the carbon neutrality 2050 goal and climate change scenarios, the Lagos CAP has an integrated plan of actions across various sectors, including the energy sector with a focus on renewable energy. An example of these actions is the plan to reduce emissions in the residential sector by promoting the development of energy storage technologies and incentivising the deployment of micro-grids in off-grid urban communities.

The Lagos State Electricity Policy seeks to address the energy supply challenges and off-grid emissions in the state through its key objectives, which include: implementing a programme to transit from distillate fuels to natural gas and renewable sources; and adopting the cleanest, commercially viable modern technologies in order to deliver electricity to the state's residents using diverse and secure energy sources.

Impact and Targets

According to Lagos CAP, the city aims to increase the deployment of decentralised renewable energy installations to enhance the reliability and climate resilience of the energy supply while reducing emissions. Key mitigation targets related to the energy sector in the Lagos CAP includes: 49% of grid electricity to be generated by renewables in 2050; and 100% of cooking stoves to be electric by 2050.


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The city also aims to install renewable energy systems on most of the feasible municipal assets by 2030 and use 60-70% renewable electricity citywide by 2050. There is another target of deploying liquefied petroleum gas (LPG) for cooking – for which it hopes to achieve more than 65% and 75-85% of the assessed feasible potential usage within the city by 2030 and 2050 respectively.

Municipal Operations

Currently, there is a total of 4.85 MW of solar PV installed on municipal assets. Under the Lagos CAP, the city intends to: develop policies that promote decentralised renewable energy generation; and expand their solar installation programme to all schools, municipal buildings and hospitals.

Action Highlights

From 2015 until now, Lagos State – with funding support from the UK government under the Lagos Solar Power Project – has powered 172 schools and 11 rural primary healthcare centres via off-grid solar systems.

Equity, Inclusion and Collaboration

The Lagos State Electricity Policy proposes the accelerated adoption of off-grid solutions (OGS) to meet the demands of many unserved and under-served areas, which have sufficient demand but are perceived as being "unviable" or unable to afford service. OGS can enable the delivery of clean energy, particularly those who are poor and vulnerable.

To reduce emissions, especially among the poor and vulnerable, the LPG Intervention Scheme is aimed at deepening the use of this primary fuel for domestic and roadside cooking, thereby eradicating the use of dirty fuels such as kerosene, firewood and charcoal, and their subsequent carbon emissions.

During the formulation and implementation of the Lagos Electricity Policy, there were and will be programmes and engagement of stakeholders from both the private and public sector to accelerate the use of alternative clean energy for electricity and cooking. This will also stimulate local markets and jobs. All the climate adaptation and resilience actions in the Lagos CAP in various sectors, including energy, will cater to the social inclusion of vulnerable groups.

TSHWANE

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PATHWAY ENABLING ENERGY ACCESS WITH RENEWABLES

Roadmap

As highlighted in its Climate Action Plan, the city of Tshwane will develop strategies and implement actions so that renewable energy projects are approved faster in its jurisdiction. As one example, a wheeling framework is being developed that will allow more generators to be connected to the grid. And, in terms of strategy, the city will explore transitioning its coal-fired generation sources to renewable projects. In addition, a maximum of 10% of electricity consumption in the city of Tshwane will be sourced from renewable energy sources, subject to the council's approval.

Impact and Targets

The local government is developing green building by-laws, which will assist both the city and the private sector to achieve a reasonable percentage of renewable energy supply and consumption by 2050. The city is also exploring the pathway for transitioning its coal-fired generation to renewables and has set itself a target to install and connect to the grid 5,000 kilovolt amps (KVA) worth of capacity of small-scale embedded generators.

Municipal Operations

The city has implemented various energy efficiency projects, some of which include installing energy efficient lighting and solar PV systems in municipal buildings.

Other proposed city action projects include: creating the CHP Wastewater Treatment Plant, with an estimated completion date of end-2024, and the ongoing Small Scale Embedded Generation (SSEG), which has an annual target of 5,000 KVA and current installation capacity of 3574.6 KVA. The city is also working on an ongoing Solar Water Heater Project and LED streetlight retrofitting. And during fiscal year 2021/22, it retrofitted year-marking buildings with efficient LED and solar PV systems.

Action Highlights

The development of the embedded generation policy and the green building development policy and by-law aims to encourage the usage of renewable and efficient technologies. Currently, many of the residential developments include the use of solar water heaters in their designs, which is a requirement for SANS10400 XA (South African national building standards).

With the implementation of the planned implementation of the embedded generation policy and the green building policy and by-law and use of the biofuels for the city's bus services, the Climate Action Plan estimates following GHGs emission reductions contributions by different sectors: 41.5% by renewable energy; 28% by industry; 13.5% by transport and 17% by waste.

Equity, Inclusion and Collaboration

The rollout of solar water heaters in poorer communities will help residents lacking financial resources to benefit from energy efficiency projects while providing the opportunity for new jobs and upskilling. The city of Tshwane recognises that the private sector will play a significant role in alleviating the energy crisis and will work with them to transition towards a renewable energy pathway. The embedded generation policy, review of the energy by-law and the green building by-law (which the council must approve) are aimed at engaging and encouraging the private sector and the public entities in the city area to implement decarbonisation solutions.

EUROPE

COPENHAGEN

PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

The Copenhagen 2025 Climate Plan, adopted in 2012, established the goal of becoming carbon neutral by 2025, alongside 19 sub-goals. The plan is split into four pillars: energy consumption, energy production, mobility and city operations. The actions are reviewed every 3-5 years, and the most recent – 'Roadmap 2021-2025' – was adopted in 2020 and reviewed the following year.

Impact and Targets

Copenhagen's Climate Plan aims to deliver carbon neutral district heating by 2025. The city also aims to increase renewable electricity production within the city so that it exceeds annual consumption – actions to this end include deploying 560 MW of onshore and offshore wind power in collaboration with local utility HOFOR.

Municipal Operations

Copenhagen will lead by example by switching municipal electricity consumption to 100% renewable energy by 2025. It is also exploring the possibility of employing a power purchase agreement (PPA) with renewable projects in the next procurement cycle. The municipality already produces more renewable electricity through the facilities they own than required, and it is striving towards increasing this production significantly as part of the city's climate action plan.

Action Highlights

To achieve carbon neutral district heating, the city will transition its combined heat and power (CHP) plants to renewable energy (e.g. starting production on a highly advanced biomass-based CHP in 2020). The city will also establish heat pumps and heat storage, reduce flow temperature, and transition peak-load plants to electricity or renewable fuels and work towards a carbon-based merit order in the district heating system.

To maximise local renewable power production, the city has already either used or dismissed all available areas for erecting wind turbines. HOFOR is developing two offshore wind turbine projects in the Øresund strait with a potential capacity of 410 MW. The city is also enabling the installation of solar PV systems through a PV action plan.

Energy efficiency will play a critical role in meeting the city's objective, including through reducing heating demand in large buildings and switching street lighting to LEDs.

Equity, Inclusion and Collaboration

The municipality will collaborate with the private sector through the Energy Leap (a partnership with building owners representing 20% of the city's floor area) and EnergyLab Nordhavn (a partnership with universities and private companies to develop and demonstrate future energy solutions).

A climate task force will engage citizens in urban renewal programmes that support low-income neighbourhoods and areas within the city, with significant funding for public housing improvements.

LONDON

PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

Since the Mayor published his London Environment Strategy and 1.5°C climate action plan in 2018, the science has shown the need for even more urgent action on climate change and the stark consequences of failing to act. Recognising this urgency, the Mayor declared a climate emergency and brought forward by 20 years the target for London to be net zero, by 2030. To support this increased ambition, he commissioned experts to analyse pathways for London to reach net zero more quickly. His response to this analysis explains that the Mayor's chosen pathway is the Accelerated Green pathway, which now replaces the previous trajectory in the 1.5°C plan. Delivery of this pathway will require for example, a nearly 40 per cent reduction in the total heat demand of our buildings and 2.2 million heat pumps to be in operation in London by 2030.

The London Plan is London's spatial development strategy and sets out a framework for how London will develop over the next 20-25 years. Climate change is a key consideration throughout the 2021 version. This will require developments to contribute towards London's ambitious net zero-carbon target by increasing energy efficiency, including through the use of smart technologies, and utilising low carbon energy sources. Creating a low carbon circular economy, in which the greatest possible value is extracted from resources before they become waste, is not only socially and environmentally responsible, but will save money and limit the likelihood of environmental threats affecting London's future.

Impact and Targets

In 2018, the Mayor of London set a target to supply 15% of London's energy from renewable and local sources by 2030. He also set a target to achieve 1 GW of installed solar capacity by 2030 and 2 GW by 2050 in his Solar Action plan. Meeting his updated Accelerated Green pathway to net zero emissions by 2030 would see the levels of solar installed increase even further to 1.5GW by 2030 and 3.9GW by 2050.


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Municipal Operations

The generation of electricity from solar in 2020-21 within the Greater London Authority (GLA) estate was as follows:

- Transport for London (TfL): 200MWh
- Metropolitan Police Service (MPS): 464MWh (25 PV systems across the estate with a combined installed capacity of 715kWp)
- London Fire Brigade (LFB) 3,790 MWh (LFB has installed solar on 71 buildings and solar thermal on 14 buildings, which is over 50 per cent of its buildings)
- London Legacy Development Corporation (LLDC): 337MWh

Further installation of solar panels across the GLA estate continues to be explored and advanced.

Action Highlights

London Power is a partnership between the Mayor of London and Octopus Energy launched in February 2020 that aims to provide London's residents with 100% renewable electricity at an affordable rate. Any profits made by the city will be reinvested into delivering Mayor Sadiq Khan's social and environmental goals.

The city also aims to lead by example by maximising solar energy technologies on the GLA's buildings and land as part of the Solar Action Plan. Under this, the city also aims to encourage the uptake of solar energy installations by helping Londoners to retrofit their homes and workplaces through Mayoral programmes and funding; helping Londoners to make informed decisions about investing in solar energy technologies; and calling on the government to set a national policy framework that unlocks London's solar energy potential.

Moreover, the Mayor has a suite of accelerators to speed up the transition to net zero. Retrofit Accelerator for Homes, aims to transform the way London retrofits its ageing and energy-inefficient housing to create warm, affordable and ultra-low carbon homes. Measures such as high-spec insulation, renewable heating systems and solar panels are part of the whole-house approach, making old infrastructure future-proofed. Retrofit Accelerator - Workplaces (also referred to as RE:FIT) was established in 2009. The Accelerator helps a range of organisations including London boroughs, NHS bodies, central government departments, schools and other educational establishments, and cultural and heritage organisations to implement retrofit projects. Finally, the Local Energy Accelerator is a £6m programme providing expertise and support to organisations to develop clean and locally generated energy projects. Projects include district energy networks that use renewable heat sources (including river water and waste heat), and energy technologies such as heat pumps, solar panels, and batteries transform the way London generates, supplies and uses clean local energy in buildings. LEA focuses on helping projects that are in their final stages and would benefit from support to deliver carbon savings.

Solar Together London is a group-buying programme that enables Londoners to install solar panels, batteries and EV charging on their homes at an affordable price. Round five has now closed but delivery is ongoing.

Equity, Inclusion and Collaboration

Through spatial mapping and access to technical support, the London Solar Opportunity Map accurately highlights potential areas for installing solar and storage in homes, organisations and businesses. It was developed by the City of London, in collaboration with UCL's Energy Institute and the Centre for Advanced Spatial Awareness.

The London Community Energy Fund provides much-needed financial support to get community energy projects up and running and deployed faster to reboot the economy and benefit hard-hit communities.

As part of maximising solar generation, the Mayor of London and the GLA plan to work with community energy groups and others to install solar energy technologies on GLA land. Community energy groups are usually made up of local residents that come together to generate, own, manage or reduce energy consumption. Other public sector landowners and managers are also encouraged to install solar PV on vacant land or make it available to community energy groups.

By working closely with local authorities, the government, housing providers and the construction industry, the Retrofit Accelerator is also supporting the creation of new jobs and skills in a growing low carbon sector.

The Green New Deal Fund aims to boost green jobs, tackle climate and ecological emergencies, improve air quality, and address inequalities. The funds are also used to implement London's Green Economy, which covers renewable energy projects, like wind, solar and other green technology, transport, and the materials used to make low carbon buildings.

Further readings

London Environment Strategy

Chapter Five in the London Plan 2016

Solar Action plan for London

London Power

Retrofit Accelerator for homes

Retrofit Accelerator for workplaces

Local Energy Accelerator

Solar Together London

London Solar Opportunity Map

London Community Energy Fund

Green New Deal Fund

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LISBON

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PATHWAY MAXIMISING LOCAL RENEWABLE ENERGY

Roadmap

As per the Lisboa Cidade Solar strategy, the city aims to achieve a cumulative installed capacity of 103 MW of solar energy by 2030. Under this strategy, Lisbon has developed the Solar Lisbon (SOLIS) platform to promote wider acceptance and mass adoption of solar PV systems in the city.

Impact and Targets

Lisbon aims to be a solar city by 2030, with 103 MW (178 W per capita) of cumulative PV capacity installed. In 2021, the city had 8 MW of cumulative PV capacity and an additional 2 MW of municipal PV plant assets (which is in the deployment phase).

Studies will be continued on the SOLIS platform, with an aim to better determine solar feasibility, both in terms of rooftops and other areas of integration (e.g. public space and vehicles), taking into consideration relevant technological options and upgrades present.

Municipal Operations

The city of Lisbon has the goal of using 100% renewable energy for municipal operations by 2025. Currently 2.5 MW of solar PV capacity is installed on municipal assets, including: schools (34 PV systems), municipal housing (25 PV systems), sports facilities, the city hall, municipal service buildings, parishes and municipal companies.

According to the CAP 2030, the city is developing a detailed database of solar PV and technology on municipal assets, as well as information on installation plans for the next 4 years.

Action Highlights

The City of Lisbon has made a Pact, a specific commitment for reducing carbon emissions that includes deploying solar generation technologies. The commitment is being developed within the framework of the Lisbon Climate Action 2030 commitment and C40 City Business Climate Alliance.

SOLIS aims to promote the wide acceptance of solar technology, encourage mass adoption, and produce technical and georeferenced data about the city's solar potential.

Equity, Inclusion and Collaboration

The Lisbon Climate Action 2030 commitment, launched under the motto "CHOOSE TO EVOLVE: 2030 measures for 2030", has already been signed by hundreds of entities, including companies, universities, schools and other public bodies, public and private associations and non-government organisations, among others.

Under Lisbon's municipal Affordable Rent programme, all new buildings are designed in accordance with the specifications of an A+ energy performance certification and include collective PV consumption systems (solar social tariff). Another affordable housing scheme is the Municipal Supported Rent Programme. This will see existing housing stock undergo retrofitting, targeting an energy performance certification rated at B and collective PV consumption systems (solar social tariff).


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Other relevant initiatives under development in the city include promoting behavioural changes to embrace renewable energy in local communities, using tactical urbanism as an action tool, fostering the urban prototyping of projects within the community, and mobilisation through arts and ludic events like the Lisbon Solar Festival and Urban Art Muro Festival.

PARIS

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PATHWAY MAXIMISING LOCAL RENEWABLE ENERGY

Roadmap

Since 2009, the city of Paris has been evaluating the evolution of renewable energy sources in its area and their development potential. The three main sources identified include: geothermal, hydrothermal (from the Seine) and solar. In 2009, Paris also produced the first edition of its solar registry.

All the potential maps are available here.

Impact and Targets

The Paris Climate Action Plan has set a target for the city to become carbon neutral and 100% reliant on renewable energy by 2050. To attain its zero emission goals, the city plans to cut its energy consumption in half.

In 2014, 17% of the city's energy came from renewable sources and 5% locally. To achieve the 100% renewable energy goal, the city plans a step-by-step approach of increasing renewables consumption from 17% in 2014 to 25% in 2020, and then to 45% in 2030 and 100% in 2050.

Additionally, the city is committed to accelerating the greening of its heating network, for which it will source 75% of its electricity from renewable energy by 2030 and 100% by 2050.

Municipal Operations

Since 2015, the municipality's electricity has been 100% acquired from renewable and secure sources.

Action Highlights

As part of the Ecorénovons program, the city supported the renovation of 15,000 private homes between 2014 and 2020 with the integration of renewable energy. This programme will be renewed between 2022 and 2026 to promote the development of renewable energy in Parisian buildings. (However, its scope and costing are under arbitration.)

As part of the development of renewables in its heating network, which has increased from 40% of EnR[2] (a project that produces renewable energy form agricultural produce) to 53% in ten years, Paris has invested more than €50 million in deep geothermal energy to supply nearly 20,000 homes and €100 million in wood cogeneration.

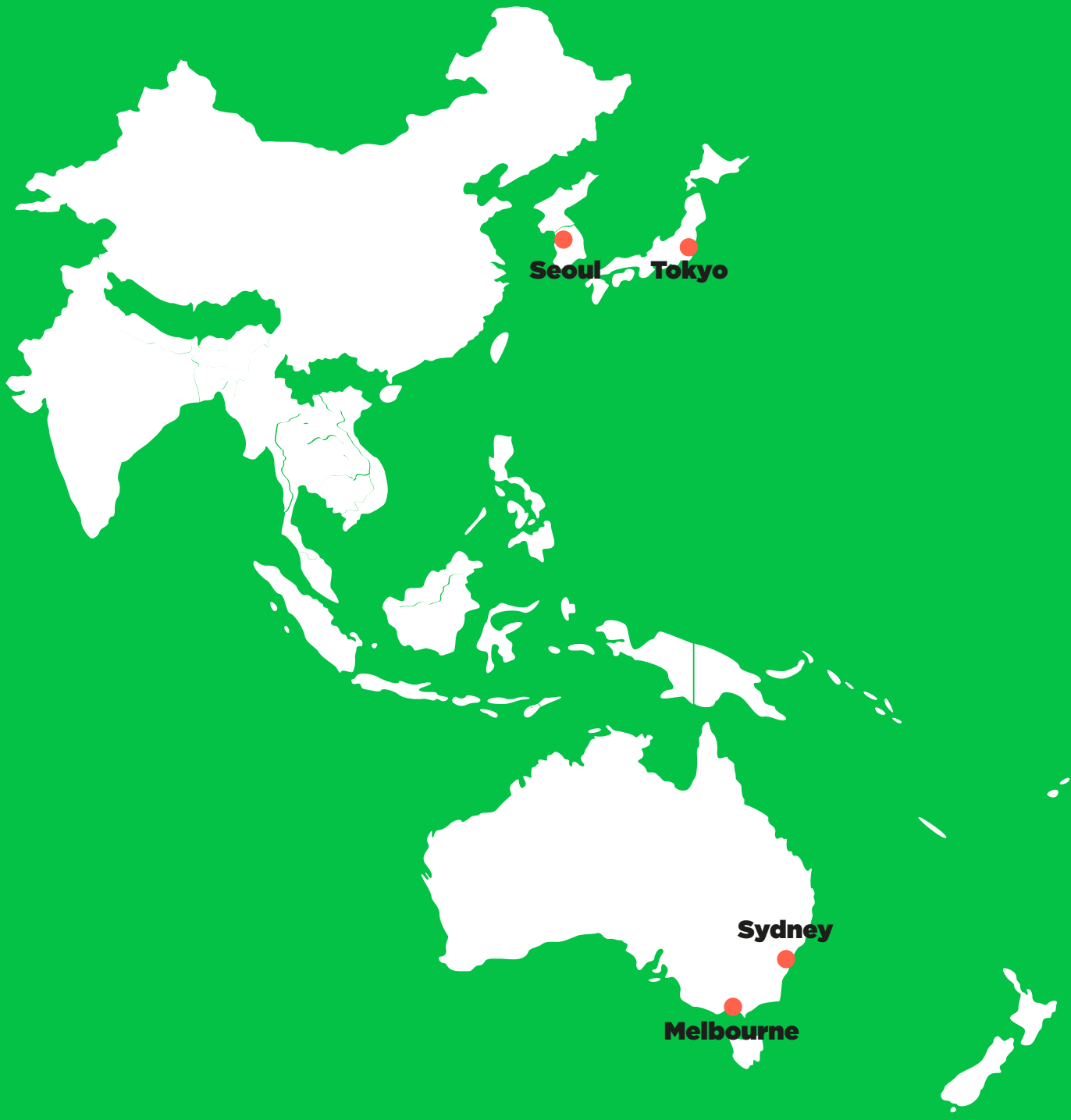
Equity, Inclusion and Collaboration

Since 2008, the city has prioritised the renovation of social housing in Paris (55,000 renovated housing units and lower-income housing) under renovations programmes. This principle has been reaffirmed by the current mayoral term of office (2020-26) with the renovation for 5,000 social housing units per year and private housing for the lowest incomes. This accompanies the energy poverty programme implemented in Paris.

Further readings

Cadastre Solaire

Le diagnostic territorial du PLU



EAST, SOUTHEAST ASIA AND OCEANIA

MELBOURNE

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PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

The City of Melbourne's Climate Change Mitigation Strategy, endorsed in 2018, sets out the actions committed by the city, and those needed from the state and federal government, to achieve the goal of 100% renewable energy. The strategy includes a rolling 5-year implementation plan and timeframes, as well as the anticipated emissions reduction for each action. A comprehensive evaluation of the targets and implementation plan will take place after five years, in 2023.

In addition, the city council's 2020 Response to the Climate and Biodiversity Emergency Declaration establishes a 2030 citywide target of 100% renewable electricity and includes actions to accelerate renewable energy purchasing, undertake bold advocacy to the state and federal government, and transition all of the council's operations from fossil fuels by 2040.

Impact and Targets

The City of Melbourne's Climate Change Mitigation Strategy established '100% renewable energy' as one of four strategic priorities to achieve the council's goal of reaching a zero emissions city. In addition, the council has a citywide renewable electricity target of 100% by 2030.

The council's Response to the Climate and Biodiversity Emergency Declaration (2020) commits to undertaking bold advocacy on behalf of their community. This includes advocacy to the Victorian government to deliver 100% renewable electricity by 2030 and committing to develop a pipeline of actions to meet the target. It also includes advocating to the federal government to accelerate the roll-out of the Australian Energy Market Operator's Integrated System Plan to rapidly and efficiently transition the energy system to renewables.

With modelling, the city projects that their renewable energy actions could save a cumulative 34.5 $MtCO_2e$ by 2050 by displacing the need to rely on coal-generated electricity, with a benefit-cost ratio of 47.6.

Municipal Operations

Since 1 January 2019, the City of Melbourne's operations have been powered by 100% renewable electricity through the Melbourne Renewable Energy Project (MREP). The project catalysed the construction of a 39-turbine, 80 MW wind farm located outside the municipality, which powers the City of Melbourne's assets.

The City of Melbourne has also undertaken multiple solar PV installations since 2003 to reduce the council's reliance on the carbon-intensive electricity grid. As of 30 June 2021, the City of Melbourne has installed 1,044 kW of solar capacity across 28 sites.

The city is also looking to transition its infrastructure away from gas by 2040, starting by converting its ten largest buildings to all-electric by 2030. The City of Melbourne's first gas-free building will be a community recreation centre in Kensington.

Action Highlights

The City of Melbourne deployed a wide range of actions to accelerate the adoption of renewables beyond council-owned infrastructure. Under the Melbourne Renewable Energy Project, the city has led a 14-member buying group of corporates, local governments, universities and cultural institutions, combining their purchasing power to buy 88 GWh of renewable electricity per year under a 10-year PPA. The city provides advice and support to industry to develop group renewable energy purchasing models for large energy users based on this model and has already replicated it with a second group of seven buyers with an aggregated demand of 110 GWh. The city also works to develop new renewable energy purchasing models for businesses and residents.

The city has launched the Power Melbourne Battery Collaboration to support the development and deployment of battery storage and renewable energy in the municipality.

Beyond electricity, the city is undertaking actions to transition off gas citywide, as outlined in the council's Response to the Climate and Biodiversity Emergency Declaration (2020). The city is currently pursuing a Planning Scheme Amendment, requiring new buildings to reduce emissions along a pathway aligned with the Green Building Council of Australia's Carbon Positive Roadmap and World GBC Advancing Zero project. For 5 Star buildings, the Carbon Positive Roadmap requires 100% renewable energy supply (onsite or offsite) by 2023 and for them to be free of fossil fuels by 2026. Planning amendments must be approved by the Victorian state government. The city is also advocating to the Victorian and Australian governments to deliver gas-free, climate-ready buildings and changes to the National Construction Code.

Equity, Inclusion and Collaboration

The City of Melbourne will lead and support actions that benefit low-income and marginalised groups. This includes engaging with community stakeholders to identify barriers, social impacts and opportunities to enhance social inclusion and social benefits through their policies, programmes and projects. The city also plans


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to collaborate with community organisations to identify vulnerabilities and reduce barriers to access programmes. The city will also consider energy affordability and the potential impact on energy prices for low-income and marginalised groups when implementing or advocating for energy actions and policies.

This citywide renewable energy target will also be achieved through advocacy and collaboration with the Victorian and Australian governments. The council's climate strategy identifies opportunities both within and outside of the City of Melbourne's control to advocate and influence policy changes in the state and national jurisdictions.

The City of Melbourne will also deepen its engagement with the private sector to deliver ambitious renewable energy actions, in addition to the existing MREP project and the Power Melbourne Battery Collaboration. This will include building a business coalition to advance the clean energy and circular economy and holding roundtable meetings with cities and the investment sector to explore joint approaches to financing city climate solutions – which will support the replication and delivery of group renewable power purchasing models.

Further readings

Design for the Kensington Community Recreation Centre redevelopment

City of Melbourne's Response to the Climate and Biodiversity Emergency Declaration

Climate Change Mitigation Strategy

Australian Energy Market Operator's Integrated System Plan

Power Melbourne Battery Collaboration

SYDNEY

PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

Sydney's Environmental Strategy 2021-2025 outlines key targets and actions to achieve the pathway's goals with a focus on powering future building and transport sector energy requirements with renewable energy. In 2021, the city also adopted a target for net zero emissions by 2035 for its local government area.

Impact and Targets

The city aims to achieve net zero emissions within its local government area by 2035. This includes a number of milestones for renewable energy, including a shift to electrification of buildings and transport with a grid powered predominantly by renewables.

Recent modelling by the Australian Energy Market Operator for its 2022 Integrated System Plan also shows that the electricity grid may be zero emissions by 2035.

Municipal Operations

The city entered a ten-year PPA for 100% renewable electricity with electricity provider Flow Power in 2020. With this deal, energy is sourced from one wind and two solar farms with generation matched with demand more than 80% of the time.

Sydney also installed around 2 MW of solar PV on 43 council sites, including office buildings, childcare centres, libraries, depots, community centres, sporting fields and other venues. The PV panels produce around 2,500 GWh of electricity per year, which is approximately 10% of the city's operational electricity use. Additionally, the city hosts the first major customer-based battery storage facility, a 500-kWh lithium ion battery, allowing the hosting energy department to use energy from 484 kWh onsite solar PV.


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The main opportunities for the municipality in renewable energy within the city's local government area are solar PV and heat pumps. The potential for solar PV on buildings is estimated at around 400-700 MW, and the potential for heat pumps has not been calculated but is expected to increase as buildings switch to electrification in response to corporate carbon reduction goals in addition to efficiency, cost and health factors.

Action Highlights

Sydney will introduce net zero performance standards within its planning framework to establish minimum energy performance for new buildings (commencing 2023) combined with onsite and offsite renewable energy (commencing 2026).

The electricity grid that serves the City of Sydney is greening at a rapid rate. Within the relatively small 26sqm of the city of Sydney local government area there is approximately 17 MW of solar PV installed

In July 2021, the Sydney Council endorsed a non-binding Memorandum of Understanding to investigate the city's participation in a Renewable Gas Certification Pilot. This Australian-first Renewable Gas Certification Pilot plans to unlock a voluntary market for gas users to buy renewable gases. The pilot will also aim to design and test a simplified renewable gas registry, which will make renewable gas available to customers.

Equity, Inclusion and Collaboration

The city supports community renewable energy projects through its innovation grants and ideas and advocates for a just transition. It is also part of Climate Emergency Australia, which is a major climate group in Australia, representing around 100 councils that have declared a climate emergency.

The city of Sydney aims to encourage community uptake of onsite and offsite renewable electricity and stimulate the green economy. This will be done through partnership programmes, advocacy and opportunities to facilitate aggregate renewable electricity purchasing. The city successfully runs sustainability partnership programmes with key sectors of the community with a focus on renewable energy, including the Better Buildings Partnership, CitySwitch, the Sustainable Destination Partnership and Smart Green Apartments.

Additionally, with most residents living in apartment buildings, the city has been running a campaign encouraging residents and businesses to switch to green electricity through their local energy provider or renewable electricity PPAs.

PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

The city of Tokyo established the Zero Emission Tokyo Strategy in December 2019 with the aim of actualising city-wide net zero by 2050. The revised version was published in March 2021 under the title Zero Emission Tokyo Strategy 2020 Update & Report. The report says the city will strive to achieve targets for 2030 such as renewable electricity consumption of approximately 50%, installation of 1,300,000 kW of solar power generation equipment and 100% renewable electricity usage for Tokyo Metropolitan Government (TMG) facilities (governor's bureaus and departments).

Impact and Targets

In order to increase the percentage of renewable electricity consumption to approximately 50% by 2030, the city will utilise building-related TMG ordinances to promote the installation of renewable energy systems and the uptake of renewable energy as a demand-side initiative. The city will also rely on the Environmental Energy Reporting Program to expand the supply of renewable energy in addition to making it mandatory for city energy providers to report on the amount of electricity generated from renewable sources as a supply-side initiative.

To reach the 100% decarbonised energy goal by 2050, the city aims to: expand local production and consumption of renewable energy and procurement of 100% decarbonised electricity; ensuring that the latest renewable energy technology becomes standard equipment; standardise renewable energy sharing between regions; and implement decarbonised thermal energy for sectors where electrification is difficult.

Municipal Operations

Tokyo will deploy renewable energy systems on all feasible municipal assets by 2030. This includes installing 12,000 kW of solar power generation equipment on TMG facilities (governor's bureaus and departments) by 2024.

To accomplish this, the city will standardise the installation of solar power generation equipment during the renovation or new construction of TMG facilities and proactively install solar power generation equipment on TMG facilities that have been deemed suitable in accordance with the Tokyo Rooftop Solar Register.

The city will also increase the percentage of renewable energy in electricity used at TMG facilities (Governor's bureaus/departments) to 100% by 2030. At present, 7% of the annual electricity consumption of TMG facilities is sourced from renewable energy.

Action Highlights

The city has identified six main actions to achieve the target of 50% of renewable electricity utilisation by 2030. To do so, firstly, the city plans to expand the installation of renewable energy facilities and increase its utilisation in buildings under the Tokyo Cap and Trade Program, which requires existing large-scale buildings to reduce their CO_2 emissions.

In addition, the city will promote the installation of solar panels on existing residential homes by providing subsidies to private businesses installing solar power generation equipment with no upfront costs. The city will also promote the use of renewable electricity and heat during urban development by utilising metropolitan ordinances such as the Program on Effective Use of District Energy, which requires large-scale developers to consider the installation of renewable energy facilities.

The city will also promote the self-consumption of renewable energy as well as local renewable energy sharing. The city also plans to take advantage of the large demand for electricity within its boundary to expand electricity procurement, leading to the installation of new large-scale renewable energy facilities outside of its boundaries. Lastly, the city aims to promote the installation of solar power generation equipment in collaboration with private businesses. To this end, the city will publish data on the potential of solar power, which can incentivise businesses to install solar PV panels.

Equity, Inclusion and Collaboration

The city is making renewable energy more affordable by promoting the installation of solar power generation equipment at zero initial cost through methods like leasing as well as developing a group purchase model which would allow people to purchase renewable energy electricity at a lower cost.

The city is calling on the national government to accelerate initiatives towards maximising renewable energy implementation, including the improvement and reinforcement of power system operations and the development of systems necessary to expand the introduction of renewable energy.

TMG has established a mechanism to provide financial aid to local municipalities and private businesses, thereby assisting them with implementing and utilising renewable energy. The city is accelerating climate action in cooperation with cities around the globe by introducing the Time to Act climate action movement as a decarbonisation initiative.

SEOUL

PATHWAY MAXIMISING LOCAL RENEWABLE ENERGY

Roadmap

The 5th Seoul Local Energy Plan launched in 2020, followed by the Climate Action Plan in 2021, highlight the city's commitment and set actions to maximise local renewable energy by deploying such systems on all feasible municipal assets by 2030.

Impact and Targets

As assessed under the 5th Local Energy Plan, the feasible potential for solar PV in Seoul is 1 million tonnes oil equivalent (TOE), and the city aims to produce 470,000 TOE of solar PV power by 2030. It also aims to reach 50% renewable energy generation by 2030 from geothermal energy while continuing to identify and expand other renewable energy sources to reach the 2050 net zero emissions target.

Municipal Operations

The city of Seoul aims to continue the renewable energy expansion actions described under the 5th Local Energy Plan and the 2050 Seoul Climate Action Plan, launched in 2020 and 2021 respectively, committing to deploy renewable energy systems on all feasible municipal assets by 2030.

At present, the city has installed renewable energy systems within 676 public schools, 1,468 city halls and other municipal buildings. These systems generate approximately 333 MW, with solar PV accounting for 91.83%, followed by waste to energy (incineration heat and digestion gas) at 8%, waste heat at 0.14%, and wind at 0.03%.

Action Highlights

Seoul is planning to open the Seoul Energy Information Centre by 2025, a platform that will integrate energy(electricity, gas, heat etc.) generation and consumption data to efficiently manage energy demand. The platform will also be linked to solar PV and GHG monitoring systems in order to maximise the efficient management of electricity demand and supply by predicting solar power generation and dividing power demand at peak electricity hours. Seoul is also going to introduce demand response services that incentivise less electricity consumption during peak hours.


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Additionally, the city government will gradually require new buildings to be zero energy buildings (ZEB). Private buildings with a total floor area of 100,000 m^2 or more must be ZEB from 2023, while buildings with a floor area of 1,000 m^2 or more must adhere to the requirement from 2025.

As of December 2020, total electricity generation from renewable energy systems within the city is 1,637 GWh, accounting for 25.7% of Seoul's citywide electricity consumption of 45,788 GWh.

Equity, Inclusion and Collaboration

Seoul has various policy actions aimed at supporting those vulnerable to the effects of climate change. The Seoul Energy Welfare Civic Fund (that has about 1.6 million USD worth fund is raised annually) is used to improve energy efficiency of low-income households and buildings used by children and the elderly who are particularly vulnerable to climate change.

Under the Seoul Local Energy Plan and the 2050 Seoul Climate Action Plan, the city will increase civic engagement in renewable power generation and take phased actions considering the public's reception and environmental impacts. Moreover, Seoul will keep implementing various actions to promote new renewable technologies in order to foster the industry and increase employment.

Moreover, the city will continue their engagement with C40, C40 cities and other city networks like ICLEI. The city will also work with other levels of government to advocate for the goal of reaching 100% decarbonised energy systems.

NORTH AMERICA

LOS ANGELES

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PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

Los Angeles' Green New Deal (GND) establishes decarbonisation strategies across all sectors within the city. In addition, the city produced the landmark LA100 study, in collaboration with the U.S. National Renewable Energy Laboratory (NREL), showing that there are multiple pathways for the city to achieve 100% renewable electricity by 2035 and leading the city to bring forward their clean electricity target by ten years. The Los Angeles Department of Water and Power (LADWP) incorporated this target in their 2022 Strategic Long Term Resource plan.

Impact and Targets

The city's GND establishes a number of renewable energy milestones to achieve a 100% carbon-free grid by 2035, including: replacing 100% of meters with smart meters by 2025, phasing out coal at the Intermountain Power Plant by 2025 and replacing it with renewable hydrogen, powering the 2028 Olympic and Paralympic Games with 100% clean power, and cancelling the plan to repower Once Through Cooling gas power plants. The city has already reached its target of 500 MW for installed solar capacity and aims to achieve 1,428-1,524 MW of cumulative energy storage as well as 96 MW of residential thermostat demand response capacity by end-2021.

The GND plans for US$8 billion of investments in power infrastructure upgrades by 2022 and to increase private sector green investment by US$750 million by 2025 and US$2 billion by 2035. Thousands of jobs will be created by the GND, with targets of up to 300,000 by 2035 and 400,000 by 2050. These include 6,500 jobs supported by solar installations by 2025. Analysis has also shown that zero carbon buildings will reduce air pollution, prevent 190 premature deaths annually, and save US$1.9 billion from prevented deaths and hospital admissions every year.

Municipal Operations

The city is committing significant resources to deploy renewable energy systems in municipal properties. In 2020, under Executive Directive No. 25, Mayor Eric Garcetti directed city agencies to identify and prioritise the potential for solar energy on city-owned facilities and expand programmes for accelerated solar deployment. The directive also targeted all new municipally owned buildings or major renovations to be carbon neutral by 2030. The LA City Council allocated US$30 million in the budget for fiscal year 2021/22 to achieve these goals. A number of critical departments and agencies will also identify and prioritise projects for zero-carbon microgrids and resiliency centers at city facilities.

Action Highlights

The city is deploying a multitude of actions, in large part through the LADWP, in its aim to accelerate the deployment of renewable energy projects both within the city and outside of its boundaries. The city is, for example, supporting the deployment of small-scale local solar projects through a net metering policy and a feed-in-tariff, as well as a Distributed Energy Resources Request for Proposal. LADWP also enters into long-term agreements with private power producers to rapidly and cost effectively deploy renewable resources. Notable projects include: the 331 MW Red Cloud Wind power project; the 400 MW Eland Solar project combined with 300 MW of 4-hour battery capacity; and the 250 MW Beacon Solar development that includes a 20 MW battery system.

Energy efficiency is central to these plans, including the goal of having net zero carbon buildings by 2050.

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Equity, Inclusion and Collaboration

Los Angeles's GND calls for equity considerations across all infrastructure investments. Numerous actions aim, for instance, to support low-income households to access the benefits of renewable energy deployment. By the end of 2021, the city increased access to feed-in-tariffs and community solar for low-income and renter households and will have launched a new Virtual Net Energy Metering pilot programme for multi-family households. Specific outreach will also be made to support renters, affordable housing customers and multi-family properties to access energy efficiency programmes, such as the Comprehensive Affordable Multifamily Retrofits Program.

The city is undertaking several initiatives to support the development of 100,000 green jobs by 2025. The city also aimed to open green career pathways by the end of 2021 through programmes connected to Hire LA's Youth, Los Angeles Community College District, LA Trade Technical College, the Los Angeles Cleantech Incubator and much more. Los Angeles will partner with LA County develop a sunset strategy for oil and gas drill sites countywide and formulate a companion just transition strategy, including creating a just transition task force – all while ramping up its renewable energy production. This will include supporting the upskilling of workers and residents in and around the fossil fuel industry, to help them transition to other employment. LADWP initiated work on a new LA100 Equity Strategies Initiative, focusing on the just and equitable transition to a 100% renewable grid.

Further readings

Los Angeles' Green New Deal (GND)

LA100: The Los Angeles 100% Renewable Energy Study

Executive Directive No. 25

LADWP Strategic Long Term Resource Plan

Comprehensive Affordable Multifamily Retrofits Program

MONTRÉAL

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PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

In an effort to fight climate change, Montréal developed the Climate Plan 2020–2030 (CAP 2030), which seeks to catalyse opportunities to reduce GHG emissions by at least 55% below 1990 levels by 2030, with the ultimate goal of becoming carbon neutral by 2050. The plan is split into actions like financing, banning the use of all fossil fuels in municipal buildings, and ensuring that all municipal buildings are powered by renewable energy.

Impact and Targets

As part of the Climate Action Plan, the city aims to have all existing commercial, industrial, institutional and residential buildings with oil-burning furnaces converted to using renewable energy sources by 2030. The city has a target to ban the use of fossil fuels (fossil-based natural gas, heating oil and propane) in all municipal buildings and will replace them with renewable energy.

For construction, expansion or major renovations of existing buildings, Montréal aims to have all municipal buildings powered by renewable energy. At the Montréal Climate Summit 2022, the city announced its target to have all buildings fully powered by renewable energy by 2040 rather than 2050.

Municipal Operations

Montréal plans to convert 100% of its municipal real estate stock to net zero carbon. The renovation of the city hall is one of the first major projects in this area. The city hopes that this will encourage the other city residents and private sector stakeholders.

Action Highlights

In 2019, Montréal announced that it intends to end the use of heating oil in buildings and put aside US$4 million to replace all oil furnaces in municipally owned buildings in the next two years.

Equity, Inclusion and Collaboration

The city aims to carry out campaigns to motivate behavioural changes to support the Montréal community in resilience and the ecological transition through various programmes. Among these will be encouraging the electrification of residential building heating systems to eliminate the use of heating oil and adopting renewable energy sources.

Residents, companies, industries, businesses, community organisations and municipal staff are mobilised and working together effectively, transparently and constructively to provide living environments that are resilient, adapted to climate change and carbon neutral. The mobilisation will be led and facilitated by the city through incentives, policies and providing spaces.

SAN FRANCISCO

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PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

The city's Climate Action Plan provides a list of strategies and actions to become net zero by 2040. This includes numerous policies and actions focusing on accelerating the deployment of renewable energy and decarbonising buildings, including through mandating all-electric new buildings.

Impact and Targets

The city has a target of supplying 100% renewable electricity to residents by 2025. Large commercial buildings are required to use 100% renewable electricity from 2022.

In addition, through its Climate Action Plan, the city has committed to fully decarbonising buildings by 2040 (with larger commercial buildings to achieve this by 2035) by phasing out the use of fossil fuels (namely natural gas). This includes a ban on natural gas in new construction, which was adopted in 2020, and planning for the equitable decommissioning of the city's natural gas system.

Switching to renewable electricity and decarbonising buildings could save over 250,000 tCO_2e by 2030.

Municipal Operations

All of the city's municipal electricity consumption is already 100% renewable. San Francisco's publicly owned utility, Hetch Hetchy Power, supplies clean electricity to municipal services such as public schools and the San Francisco International Airport, as well as the San Francisco Municipal Transportation Agency – which operates one of the nation's largest electric-powered fleets of buses, light-rail vehicles and cable cars. The San Francisco Public Utilities Commission has installed 10 MW of renewable capacity on municipal facilities (solar PVs and biomass facilities using methane produced from wastewater processing). The city is now working on a municipal programme to develop solar on buildings, where feasible, and will explore grid-independent solar and storage systems at critical municipal facilities and other critical or vulnerable community sites. The city will also transition the district system steam loop serving downtown and the Civic Centre to renewable energy.

Action Highlights

As stated in the Climate Action Plan, the city of San Francisco has four main electricity providers: Hetch Hetchy Power (San Francisco's publicly owned utility), CleanPowerSF (City's Community Choice Aggregation programme), PG&E (an investor-owned utility) and Direct Access companies. About 70% of electricity consumed is provided by Hetch Hetchy Power and CleanPowerSF. Hetch Hetchy Power already provides 100% renewable electricity, while CleanPowerSF plans to provide 100% renewable electricity to all its customers by 2025. PG&E and Direct Access providers are also on track to meet the state's goal of 100% renewable electricity by 2040.


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The San Francisco Public Utilities Commission (SFPUC) is investing in local solar-plus-battery-storage projects. The city will also continue to explore developing grid-independent solar and storage at critical municipal facilities and other critical or vulnerable community sites. Development of onsite solar on city-owned buildings and reservoirs based on emerging opportunities and SFPUC feasibility analysis are among the city's planned actions for increasing local renewable energy.

Equity, Inclusion and Collaboration

The California Public Utilities Commission initiated a process to plan for the long-term disposition of gas utilities in California. San Francisco plans to support these efforts by engaging with businesses, residents, state regulators and PG&E. With this, it seeks to develop a local approach for decommissioning gas infrastructure informed by constraints and opportunities for workers, families and neighbourhoods to ensure equitable outcomes. The city's goal is to develop a Decarbonization Masterplan documenting the systematic approach to decommissioning natural gas distribution and transmission in San Francisco.

As a way of growing collaborations and business engagement, the city plans to utilise workforce development programmes, such as Project Pull Internship, and education programmes, such as Project Learning Grants and the Teacher Externship Programme, to expose youth to clean energy-related jobs and careers and diversify the workforce. The city will partner with workforce training providers, labour unions and apprenticeship programmes to align with and disseminate regional and state-wide electrification workforce training, funding and project financing opportunities.

The city will also partner with affordable housing providers, equipment vendors, subject matter experts, utilities and community choice energy programmes, community-based organisations, and others to create a Climate Equity Hub to connect building owners and other customers with high-road service providers and installers, rebates and financing, and case studies. The refinement and implementation of policies in all the Climate Action Plan's new actions will engage the private sector. The City of San Francisco will also continue to work with the San Francisco Business Council on Climate Change to develop effective public-private partnerships (PPPs) related to renewable energy.

To address equity and inclusion, the Climate Equity Hub will advance the dual goal of racial equity and decarbonisation by developing a one-stop shop for electrification that will empower residents, create jobs, provide new policy avenues and consider low-income workers. San Francisco is also collaborating with the State of California to launch two new renewable energy programmes – on green tariffs and community solar – which are designed to serve low-income customers living within disadvantaged communities in San Francisco. The city's Low Income Inverter Replacement programme aims to help current low-income customers in possession of GoSolarSF-installed solar systems replace their non-functioning inverters to preserve solar access. The city plans to review existing tenant protection and anti-displacement policies for renters to ensure buildings transitioning to efficient and all-electric operations do not result in displacement and will begin offering targeted technical assistance this year through its newly launched environmental justice grant program.

VANCOUVER

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PATHWAY ACCELERATING THE RENEWABLE ENERGY TRANSITION

Roadmap

In 2020, the city of Vancouver adopted the Climate Emergency Action Plan, establishing a goal to reduce carbon emissions by 50% by 2030, along with 28 major actions. The city will focus on distributed micro grids and local generation to offset natural gas to help achieve this target.

Impact and Targets

Vancouver has committed to 100% renewable, zero carbon energy for all uses before 2050 and a 50% reduction by 2030 as per the Climate Emergency Action Plan.

Municipal Operations

British Columbia sources approximately 98% of its electricity from renewable sources, which includes electricity used for the municipal buildings' operations. The Renewable Energy Strategy for City owned buildings (2016-2040) sets out the city's commitments to zero emissions retrofits. It also requires all existing facilities and construction of all new facilities to adhere to zero emissions standards and be powered by renewable energy.

Action Highlights

There are 28 major city actions, which are summarised in the Climate Emergency Action Plan Summary 2020-2025. Key among them is the "big move 4", focusing on zero emissions space and water heating in the buildings sector. Switching from natural gas to electricity for space heating and hot water, transitioning from natural gas to renewable gas, and improved insulation to minimise air infiltration are the key strategies identified by the city under big move 4. The city aims to facilitate more access to renewable energy by working with utility BC Hydro and the provincial government to switch to electricity rates that support electrification, reduce the upfront costs for upgradation and transition to a 100% renewable electricity grid.

According to the Zero Emissions Buildings Plan, the city will focus on reducing the demand for fossil fuel-based natural gas used primarily for space heating and hot water and transitioning these functions to renewable sources such as electricity (including heat pumps), bio-gas and Neighbourhood Renewable Energy Systems (NRES). The city also plans to develop NRES throughout Vancouver to help fast track the city's Greenest City 2020 Action Plan, aiming to reduce dependence on fossil fuels and satisfy its energy needs through 100% renewable energy by 2050.

Equity, Inclusion and Collaboration

The city of Vancouver's report on the Climate Emergency Action Plan provides the principles of implementing ambitious policies, programmes and projects and engaging with the private sector in the renewable energy sector. The development of the city's Climate Emergency Action Plan is centred on equity considerations, with its climate and equity strategy being based on the principles of prioritising and securing investments for actions that benefit low-income and marginalised groups.

Vancouver's commitment to 100% renewable energy will also bring more green jobs, by including businesses as a part of its commitment, as highlighted in the Green Economy Report. As per the report, the city seeks to achieve a just transition while ensuring that the substantial benefits of a green economy are shared widely and supporting those who stand to lose economically.

The city also plans to work with the provincial government and FortisBC to grow the supply of renewable natural gas and enable higher blends of renewable gas as an additional means of meeting carbon pollution limits. The city plans to support private district energy utilities in their efforts to convert to renewable energy and will develop a roadmap to transition the city-owned Neighbourhood Energy Utility to 100% renewable energy by 2030.

Further readings

Climate Emergency Action Plan | City of Vancouver

Greenest City 2020 Action Plan

Climate Emergency Action Plan Summary 2020-2025 (vancouver.ca)

Report - Climate Emergency Action Plan (vancouver.ca)


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LATIN AMERICA

BUENOS AIRES

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PATHWAY MAXIMISING LOCAL RENEWABLE ENERGY

Roadmap

The Climate Action Plan PAC2050 highlights the city's commitment aimed at reducing carbon emissions. These actions include evaluating the feasible potential for implementing renewable energy systems. To do this, the city will publish an interactive solar map by 2025 to highlight and disseminate the potential of solar electricity generation both widely and individually for each building.

By 2023, the city will also produce a technical-economic feasibility analysis and a publication of the global energy potential of the city's roofs.

Impact and Targets

The city has set targets to help achieve its chosen pathway. By 2030, it aims to have: 40% of new buildings with solar thermal installed for sanitary hot water; 15% of residential buildings with PV solar installed; and 30% of residential buildings retrofitted to increase their energy efficiency.

By 2050, the city aims for these figures to stand at 30%, 70% and 80%, respectively.

Municipal Operations

The city plans to increase PV solar generation in buildings and public spaces and feed the surplus power back to the grid. By 2022, the city aims to complete 20 renewable energy installations in public buildings. The city is also developing PPAs for buildings with high energy consumption for purchasing renewable energy by 2024. A study of feasibility and regulatory requirements will also be undertaken by the city by the same year.

By 2025, the city has two targets: to have a public platform for monitoring and managing renewable energy installations in public buildings; and to use public buildings and spaces for the implementation of community solar energy installations.


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Action Highlights

The city will conduct the renewable energy census to understand the sector's opportunities and challenges by 2023 and will work on developing a PPP for solar PV systems. To understand the market for the renewable energy sector, the city plans to create a public registry of suppliers of goods and services in the sector.

The city has highlighted a series of actions to be undertaken to be in line with its commitment. To meet its renewable energy target, the city will develop the solar map to optimise the use of the power generation potential of solar by 2025. Additionally, the city also plans to reform the building code to gradually increase the renewable energy potential for new buildings and pass the regulation of the Law on Solar Collection Systems (4,024) to implement tax requirements and benefits in installations for solar thermal use during the same timeline.

Equity, Inclusion and Collaboration

The city plans to survey the training needs of the renewable facilities sector in order to adapt and implement study plans, favouring the inclusion of vulnerable social groups. The city will also use buildings and public spaces for the implementation of community solar energy facilities, with labour requirements that include social and gender inclusion.

Moreover, the city will work on the implementation of the energy multipliers programme, for the dissemination of clean and efficient technologies and the implementation of renewable energy systems in the urbanisation of vulnerable neighbourhoods.

C40
CITIES