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Trends in the United States of America

Facts from the *Renewables in Cities 2021 Global Status Report*

Key Renewable Energy Takeaways in 2020 from the USA

- The US remains a leader in the number of cities (not only large, but also medium and small-sized cities) with renewable energy targets and policies, including for 100% renewables. US cities represent around 37% of all cities where renewable energy targets and/or policies were identified (479 US cities from a global total of over 1,300 cities)
- However, only 28% of the urban population live in a city with a RE target or policy.
- Ever since the US withdrawal from the Paris Agreement in 2017, city governments, especially in California and Texas, have increasingly invested¹ in renewable power capacity, mostly through off-site solar and onshore wind PPAs; efforts to decarbonise heating and cooling in buildings and transport are also underway in some cities.
- Californian cities are at the forefront of adopting fossil fuel bans for heating in buildings, while also community choices aggregation remain a trend in the state.

Brand new data shows

- US cities are frontrunners in setting climate and energy targets and policies: 479 cities had renewable energy targets and/or policies, covering 76.8 million people, 28% of the urban population in the United States.
 - For a total of 419 city-level renewable energy targets (39% of the global total) and 532 policies (48% of the global total).
- US cities also leaders in the net-zero movement: 111 cities had net-zero² targets (from a global total of around 800 cities with net-zero targets)
- 127 cities in the US³ had declared a climate emergency by 2020 (up from 76 in 2019); globally a total 1,852 cities had such a declaration.

¹ The US is a leader in renewable energy capacity investment, which grew 28% in 2019 to USD 55.5 billion. Also, the majority of green banks worldwide are in the US (14 out of 21).

² Net-zero" emissions can be achieved, for example, by using natural sinks, such as reforestation or adopting agricultural best practices, or through a technological solution, such as carbon capture and storage. Net-zero targets also are referred to commonly as "climate-neutral", "carbon-neutral" or "zero-emission" targets, although technically these are not the same. Carbon neutrality refers to net-zero emissions of only CO₂, whereas climate neutrality indicates a broader focus on net-zero emissions of all greenhouse gases. There is no agreed-upon definition, and implementation of these targets also varies broadly.

³ The US has the third-highest number of city-level climate declarations, after Canada and Rep. of Korea.

Quote from Mayor Buddy Dyer of the City of Orlando (Florida, USA):

"The transition to a zero-carbon economy presents tremendous economic development opportunities for Orlando and the Central Florida region, some that we are already beginning to see stimulate our local economy, improve public health, reduce environmental impacts, and create meaningful high-wage jobs for our residents. In close collaboration with our hometown utility, OUC, and community partners, we remain committed to doing our part to advance a cleaner and more sustainable future for all."

Renewable Energy Developments in USA Cities

City renewable energy commitments and policies

- 300 US cities had 100% renewable energy targets (mostly for electricity) with at least 47 US cities having already achieved their targets.
 - In 2020, **Houston** (TX) met its target to power all municipal operations with 100% renewables, making it the largest US city to do so.
- **California** is the world leader in terms of bans on the use of fossil fuels in buildings, such bans were passed, proposed or planned in at least 35 Californian cities by the end of 2020:
 - In 2019, **Berkeley** was the first city to ban the construction and use of natural gas lines for new residential buildings.
 - Only a few cities have leveraged their new all-electric building mandates to require renewable energy generation and/or consumption in buildings, including **Palo Alto**, **Richmond**, **San Francisco** and **San Jose**.
- Most net metering policies have been adopted at the national/state levels and have come under pressure, while city-level policies are gaining ground in the US, including in **San Antonio** (TX) and **Springfield** (Illinois).
- **Community choice aggregation has rapidly gained ground in the US:** CCAs have grown from just three in 2000 to several hundred: In **California**, CCAs were present in 182 cities and counties (14 were supplying 100% renewable electricity) as of 2020, meeting the needs of more than 12 million electricity customers.

Scaling up renewables in buildings and transport

- **Scaling up production and procurement of electricity:** US cities are frontrunners for Power Purchase Agreements (PPAs): city governments have signed PPAs for increasing amounts of renewables which have helped achieve local renewable energy targets:
 - Off-site PPAs between cities and developers of large-scale projects accounted for 90% of new renewable power capacity supported by cities between 2015 and early 2020, mainly in CA and TX.
 - During 2019-2020, local governments in at least 11 states signed 57 PPAs for off-site projects, totalling more than 3,730 MW of capacity, mostly solar PV.
 - By 2019, **Los Angeles** had installed some 440 MW of grid-connected solar PV capacity, making it the top US city for grid-connected solar PV.

- **Purchasing electricity via green tariffs:** As of 2019, consumers in more than 80 US cities were purchasing renewable electricity via green tariff programmes (8.6 billion kWh annually):
 - Share of US households with access to green electricity purchasing increased from 14% in 2016 to 20% in 2020; share of households buying green electricity increased from 6% to 11%.
 - In early 2020, **Charlotte** (North Carolina) became the most populous US city to procure renewable electricity through a green tariff programme.
- **Partnerships to enable on-site generation:** The US has been a pioneer in solar leasing programmes. In 2019, **New York City**'s transit authority started to lease its rooftops and parking lots for solar projects, part of a goal to install 100 MW on public buildings by 2025.
- **Renewables in district heating in US cities are lagging behind:** There are over 6,000 district energy networks in the US, but only 9% of district heating in the country is renewable.
- **Electrification of urban transport is gaining ground in the US:** 10 US cities have EV targets and more are shifting to EVs, some targets are linked to renewable electricity. **New York City** added 50 solar-powered EV charging stations in 2018.
 - China has led the electrification of heavy-duty transport, but there have been significant advances in US cities: **Los Angeles** and **Sacramento** operate small fleets of electric refuse trucks.
 - In 2020, the Port of **Houston** became the first US port to agree to purchase renewable electricity for port-wide activities.
- **Interest remains for the use of biofuels in municipal** with growing interest for local production: **Oakland** partnered with Neste since 2019 to fuel the city's fleet with renewable diesel made from used cooking oil from businesses in the area.
- **Interest in green hydrogen is high** in US cities, especially in California:
 - A hydrogen plant was being built to supply renewable hydrogen to Toyota's facilities and vehicles at the port of **Long Beach**.
 - The hydrogen car market remains concentrated in California, particularly in **Greater Los Angeles** and the **San Francisco Bay Area**.

Financing renewables in cities

- In 2019, the US (along with China) led in the total value of green bonds issue. Some local renewable electricity projects have been financed using municipal green bonds:
 - In **Sacramento**, the community-owned electricity provider issued a USD 400 million green bond in 2020 to fund solar PV, hydropower and infrastructure projects.
 - **Richmond** (Washington) aims to use a USD 3 million green bond issued by the state in 2019 to build a solar energy and battery storage system.
- The main source of finance in the transport sector is federal, state and municipal grants or budget allocations, or the private sector through public-private partnerships:
 - In **Los Angeles**, a USD 400,000 grant is supporting two EV car-sharing projects, an EV charging station and an e-bike project charged with solar PV.

Citizen engagement to achieve energy and climate goals

- US city governments have increasingly partnered with public bodies at higher levels of governance (and other stakeholders) to remove barriers restricting RE deployment and use:
 - Between 2019 and 2020, at least 24 US cities took at least 27 actions – including submitting comments on public utility commission proceedings, launching CCAs and formally partnering with utilities – to advance renewables in the power sector.
 - Local officials in **Los Angeles** and **San Jose** have protested against exit fees paid to incumbent utilities, which disincentivise citizens from participating in CCAs.
- **Community energy is increasing, particularly for solar PV:** community solar projects in the US has increased, with an estimated 297 new projects operating in 2019 and another 43 projects operating in 2020, for a total capacity of 566 MW-peak among these 340 projects.

USA's Energy Profile: <https://www.iea.org/countries/united-states>

Regional Trends: North America

- Key drivers for renewables in North America include local ambition to decarbonise and diversify energy supplies while increasing economic competitiveness and boosting resiliency.
- 445 city-level renewable energy targets in North America, 331 of which for 100% renewables.
- Main trends in the region included: procurement of renewables for municipal operations, support for distributed renewable energy generation projects, community solar models, mandates and incentives for energy efficiency upgrades and building electrification, municipal green bonds, and federal and state funding.

Questions? Please contact press@ren21.net or +33 1 44 37 50 99.

All report materials, figures, case studies and the full data pack can be downloaded here: <http://ren21.net/rec2021press>