



## CNCA Game Changers | Decarbonizing Buildings & Renewable Energy

**Topic.** Renewable Energy Funding Priorities

**Leadership.** The Carbon Neutral Cities Alliance (CNCA) members guiding this effort are Amsterdam, DK; Hamburg, DE; Melbourne, AU; and Yokohama, JP.

**Problem statement.** Renewable energy has long been a cornerstone of carbon neutrality, yet cities struggle to: (1) justify the space and capital needed for investment in renewable energy generation when other local needs are competing for the same limited funding pools; and (2) influence their power suppliers to integrate renewable energy sources into the grid. Key issues are:

- Better communicating that the long-term savings generated by renewable energy sources pay back the high upfront cost over time
- Educating and maintaining a larger, more competent and diverse workforce in renewable energy technology
- Identifying and assessing local energy availability, grid connectivity, and renewable energy sourcing to increase renewable energy access
- Addressing the imbalance between siting renewable energy generation systems and where the greatest energy demand exists
- Balancing supply and demand in real time on the grid, which is important for renewable energy to be able to scale in all cities
- Addressing the need for space to host renewable energy generating equipment, and that urban settings face this challenge
- Making a renewable energy portfolio consisting of a variety of generation types a standard practice for advancing carbon neutrality goals

**Theory of change.** In the renewable energy space, CNCA members identify three main game changing strategies that would green the grid and make better, more equitable use of renewable energy:

- Large-scale solar, wind, and geothermal energy production to green the grid will:
  - Be a grid asset that allows for more consumer engagement, especially for priority communities
  - Be a potential revenue sources for communities, especially for priority communities
- Building a green hydrogen economy will:
  - Open up for full decarbonization of large-emissions sectors like transportation
  - Allow for more storage of surplus renewable energy
- Increasing distributed energy resources (DER) will:
  - Shift production, distribution (flexibility in production and demand), and management of renewable energy to accommodate micro and macro sales. Allow for more storage of surplus renewable energy, especially with sector-coupling technologies.



- Do not harm priority community groups in the transition to decentralized energy supply
- Make use of new technology in solar and electric vehicles (EVs) so that smart solutions can optimize supply and demand chains

To work towards these strategies, cities need to:

- Divide the social costs and the gains of renewable energy in a just way that engages residents around renewable energy
- Acknowledge that heating and cooling systems are a critical link to scaling renewable energy in cities
- Have proper assessments of how much renewable energy can be produced, transmitted and distributed
- Require new business models, new regulation to allow for more solar and wind, and the exploring of creative visual opportunities to allow for more solar in historic city centers
- Consider the use of hydrogen as an energy carrier to unlock its full potential
- Learn from good peer examples that illustrate the potential to increase political will for renewable energy production and DER

**Funding priorities.** The CNCA Game Changer Fund seeks to support city efforts that advance renewable energy. Table 1 outlines funding priorities and targeted outcomes of successful renewable energy efforts. As funds are raised, CNCA will call for projects that advance these priorities in measurable ways.

**Table 1. Renewable Energy Funding Priorities and Targeted Outcomes.**

<b>Funding Priorities:</b>	<b>Targeted Outcomes:</b>
<ul style="list-style-type: none"> <li>● Initiatives to better understand how cities can support the advancement of distributed renewables in the built environment</li> <li>● Initiatives to integrate renewable energy, sector coupling, and flexibility into heating and electric systems</li> <li>● Initiatives that focus on solving the transmission losses associated with renewable energy</li> <li>● Initiatives that promote scaling battery storage</li> <li>● Initiatives that address grid integration of renewable energy scale</li> <li>● Initiatives to increase renewable energy technical expertise, workforce diversity, and capacity</li> <li>● Initiatives that demonstrate job creation in the renewable energy field</li> <li>● Projects that advance green hydrogen infrastructure and use in large-emissions sectors like transportation or industry</li> <li>● Policies to ensure there is access where there is the highest need, and that installations are not disproportionately placed in low-income neighborhoods</li> </ul>	<ul style="list-style-type: none"> <li>● Large-scale investment and deployment of renewable energy is advanced in partnership with state / regional agencies</li> <li>● Political support is advanced for renewables at all levels of government</li> <li>● The private sector is able to contract directly with renewable energy suppliers</li> <li>● Use of renewable energy sources continue to lower reliance on foreign energy sources</li> <li>● Projects where cities can innovate are identified and funded, even when they have no direct control over grid</li> <li>● General livability is improved including air quality, safety, and public health</li> <li>● The benefits and burdens of renewable energy are equitably distributed</li> </ul>