

COP26 Position Statement Vivian Loftness

NAS Decarb and UNECE HPB and SSC

The built environment should be the most aggressive set of actions for decarbonization around the world because buildings and their activities are 40% of the problem (70% of all power production) and investments in demand reduction in buildings will remove significant percentages of our collective carbon footprint while dramatically improving the quality of life for populations around the world.

In the US we need to take our **total energy demand from 100 quads to 50 quads by 2050 – a 50% drop in demand in our built environment** that will enable renewables to achieve net zero.

14% of this needed drop in demand can be achieved by aggressive **investments in existing buildings** – their building enclosures (windows, roofs, walls, floors) and the smart control systems - that will ensure natural conditioning and human use patterns are “in the loop”.

12% can be achieved by aggressive low **energy standards for all appliances and equipment**, including the electrification of traditional gas and oil heating equipment - redefining the next generation of equipment and appliance purchases around the world.

10% can be achieved by **Net Zero Standards for all new buildings** – goals eminently achievable with existing professionals and technologies.

8% can be achieved through investments in **district energy, geothermal exchange for heating and cooling, and through innovative combined heating, cooling and power infrastructures** with renewable energy sources – especially in the denser cities and towns around the world.

Finally, the extensive network of hard surfaces that are created by building roofs, streets, sidewalks and parking lots (60-80% of 'soil sealing'! identified by the EU sustainable cities network) must be dramatically improved through **smart surfaces** with less cement, increased reflectivity to reduce urban heat island, increased porosity to reduce flooding, increased greenspace and tree canopy for biodiversity and carbon sequestration, and increased photovoltaic surfaces and canopies that offer shade and renewable energy.

Beyond the shift to renewable sources of energy, **buildings are the most cost effective and impactful investments we can make to dramatically reduce our carbon footprint worldwide** – while also addressing inequities, providing local employment and improving indoor and outdoor environmental quality.