WHITE PAPER BOOKLET

A Day for Cities, States, and Regions

A COP26 side-event series organized along The Royal Mile in Edinburgh.

SDCL

Environmental Justice & Just Transition

A White Paper Based on "A Day for Cities, States, and Regions" COP26 Side-Event

OVERVIEW

At SDCL's COP26 side-event "A Day for Cities, States, and Regions," one of our panel sessions discussed environmental justice and just transition within the context of transforming the energy sector to meet climate mitigation goals.

Our panel emphasized the importance of guaranteeing that everyone, especially lower-to-middle income citizens, ethnic minorities, and fossil fuel workers, are part of the transition to a net-zero economy and equally receive its benefits.

PARTICIPANTS

Facilitator: Keith Driver, Head of Investor Relations at SDCL

Panelist: Pittsburgh Mayor Bill Peduto

Panelist: Tom Shields, Member of Scotland's Just Transition Commission from 2019-2021

Panelist: Reverend Mariama White-Hammond, Chief of Environment, Energy, and Open Space for the City of Boston

Pre-Recorded Remarks: Bristol Mayor Marvin Rees

THE PROBLEM → THE SOLUTION

Mitigating the consequences of climate change will require a complete transformation of our energy system and global economy, a transition in which there will be both winners and losers. Positioned at the precipice of this transformation, we must find a way to include those in our local communities most impacted by climate change in mitigation and adaptation solutions.

In both sessions of the environmental justice and just transition panel, participants discussed approaches to create equitable climate mitigation and adaptation strategies. We organized these insights into three underlying themes: righting wrongs from the past, collective collaboration, and a new mindset.

1. RIGHTING WRONGS FROM THE PAST

Beginning in the early 1980s, the US and UK industrial revolution came to a grinding halt as coal, the fossil fuel that built the very foundation of many cities, began it's steady decline – causing poverty and debt in coal-heavy cities like Pittsburgh, and violent conflicts such as the 1984-85 UK Miners strike. As we move towards a renewable-based energy system, we have to learn from the mistakes of the 1980s and include fossil fuel workers in the transition.

Further, we must right historical wrongs that have consistently disadvantaged lower-to-middle income citizens and ethnic minorities. We must include everyone, equally, in our new resilient and green economy.

2. COLLECTIVE COLLABORATION

Achieving a just transition will mean extensive collaboration efforts between the public and private sectors, within federal and local governments, and among different cities and countries. Shifting the perspectives of those who have worked in fossil fuels will require unified messaging and environmental education from unions and governments.

The Marshall Plan for Middle America is working with the mayors of cities that have historically prospered due to fossil fuels to create an equitable framework for transitioning to a sustainable energy economy. The participation of private sector organizations is necessary to speed up the transition process and to fund initiatives in environmental justice communities.

3. A NEW MINDSET

As we transform our economy and energy system, we have the opportunity to reset societal and cultural values to be inclusive, fair, and supportive. One of our panelists extrapolated the term "ecological justice," which posits that we must look at the just transition within the context of human relationships with nature. To reach sustainability goals, we must protect and support nature instead of exploiting it.

We must also integrate social justice into every policy, initiative, and path to net-zero. Instead of thinking about environmental justice or just transition strategies as separate from overall climate mitigation plans, equality and justice must be fully incorporated into all projects.

CONCRETE EXAMPLES

The Boston Building Performance Standard

The recently passed Boston Building Performance Standard requires that all buildings larger than a certain size meet emission intensity targets beginning in 2025, and ending with net-zero by 2050. Different targets will be required each year depending on the building's use, and building owners who do not meet their targets will pay a fine per metric ton of CO2 emitted in excess. The resulting revenue will be used for an Equitable Emissions Investment Fund designed to help environmental justice populations by upgrading relevant buildings to improve energy performance.

Pittsburgh LED Street Light Plan

The city of Pittsburgh is upgrading its street lamps to LED and is specifically looking at areas that historically have had less lighting to make sure the program equally benefits all residents.

The new LED streetlights will provide a 70% reduction in energy consumption and over one million dollars in utility savings.

Scottish Just Transition Commission

The Scottish Government recognizes that the process of transitioning to a green economy must be undertaken in partnership with those impacted by pathways to net zero.

To do so they have created the Scottish Just Transition Commission, which brings together communities, businesses, unions, and workers to co-design and co-deliver key just transition plans.

Energy Efficiency & Buildings

A White Paper Based on "A Day for Cities, States, and Regions" COP26 Side-Event

OVERVIEW

At SDCL's COP26 side-event "A Day for Cities, States, and Regions," one of our panel sessions discussed strategies for attaining energy efficiency in public and private buildings. Our panelists pointed out that energy efficiency solutions are often undervalued in conversations around sustainability, overshadowed by "hot" technologies such as solar or hydrogen power.

Further, the panel emphasized the importance of including underserved communities in energy efficiency solutions, and facilitating collaboration between sectors and regions.

PARTICIPANTS

Facilitator: Lolita Jackson, Executive Director of Communications & Sustainable Cities at SDCL

Panelist: Alan Hendry, Director of Sustainability for Mott MacDonald

Panelist: Munish Datta, Director of Membership & Partnerships at UK Green Building Council

Panelist: David Hourihane, Managing Director at SDCL

Virtual Panelist: Mark Chambers, Senior Director for Building Emissions & Community Resilience at White House Council on Environmental Quality

Virtual Panelist: Anthony Fiore, Chief Energy Management Officer for NYC

THE PROBLEM → THE SOLUTION

We globally waste 2/3rds to 3/4ths of our energy through inefficiencies on the supply and demand side. The International Energy Agency's net-zero by 2050 pathway identifies energy efficiency as representing over 40% of the emissions abatement needed by 2040, yet energy efficiency solutions remained in the background of COP26 negotiations. We must not only bring energy efficiency to the forefront of environmental planning and initiatives, but we must facilitate the flow of funding from private institutions to make them happen.

In both sessions of the panel, our participants discussed strategies for overcoming these obstacles to attain energy efficiency in public and private buildings. Our panelists stressed the importance of changing the narrative around energy efficiency, as well as ensuring public-private collaboration, regional support, and initiatives that target underserved communities.

1. CHANGING THE NARRATIVE

Although energy efficiency represents almost half of the emissions reduction needed in the next few decades, energy efficiency solutions are often left off the table. There must be an effort to educate the public and policymakers that millions can be saved on energy bills through energy efficiency solutions.

Furthermore, we must position energy efficiency solutions as a "quality-of-life upgrade," as they save money, create jobs, and contribute to a safer, less polluted environment.

2. INTERSECTORAL & INTERREGIONAL COLLABORATION

In order to enact energy efficiency solutions on the required scale, we will need to share data, exchange knowledge, and collaborate across sectors. Cities across the world are scaling up carbon abatement measures and should share successful energy efficiency initiatives. One potential avenue to do this would be utilizing climate networks that connect cities motivated to act on climate to share data and knowledge.

The public and private sectors will also need to work together in order to transform infrastructure to be more energy efficient on a massive scale. While the government can send policy signals and create monetary incentives, the private sector will provide much-needed funding for these initiatives.

3. INCORPORATING ENVIRONMENTAL JUSTICE COMMUNITIES

While creating energy efficiency initiatives, we must guarantee that people from disadvantaged backgrounds are at the center of these policies as opposed to an afterthought. One of our panelists pointed out that much of energy waste occurs while heating homes, and specifically when heating lower-income homes.

We must guarantee that environmental justice communities benefit from the monetary savings and pollution reductions associated with energy efficiency solutions. While we must create initiatives that take into consideration the needs of all, we must also make sure there are consequences for excluding low-to-middle income communities and ethnic minority groups.

CONCRETE EXAMPLES

Justice40

Justice40 is an effort to ensure US Federal agencies work with states and local communities to deliver 40% of the overall benefits from Federal investments in climate and clean energy to disadvantaged communities.

In July, the Office of Management and Budget, the Council on Environmental Quality, and the White House Office of Domestic Climate Policy launched a Justice40 Pilot Program that identified 21 priority programs to increase benefits for disadvantaged communities.

China & Energy Efficiency

In 2006, China emphasized the importance of energy efficiency and considered why they were wasting 50% of their energy through inefficiencies. The country began introducing energy conservation measures, and in the following two years, 5,000 Energy Service Companies (ESCOs) came to market. By focusing government efforts on energy efficiency, China sent a signal to a private sector that rapidly responded.

Dublin Hospitals

St. James' Hospital signed a new Energy Performance Contract (EPC) with Veolia in partnership with the Carbon and Energy Fund Ireland (CEFI). Under the 20-year contract, Veolia will install and operate energy-efficient equipment in the hospital, delivering €26 million in guaranteed energy and operational savings.

The hospital's carbon footprint will be reduced by approximately 118,380 tons, cutting electrical consumption by 26% per year, and reducing dependency on Dublin's electrical grids. This project perfectly highlights the power of collaboration between sectors.

Extreme Heat & Cooling

A White Paper Based on "A Day for Cities, States, and Regions" COP26 Side-Event

OVERVIEW

At SDCL's COP26 side-event "A Day for Cities, States, and Regions," one of our panel sessions focused on cooling solutions for extreme heat. Our panelists discussed ways that cities, states, and regions can begin initiatives that maintain a vital level of cooling without emitting more greenhouse gases. The session emphasized the importance of taking care of populations highly vulnerable to extreme heat, and the need for equitable access to cooling solutions. Our panelists explained that both data-driven and holistic solutions will be needed to handle the impacts of extreme heat events.

PARTICIPANTS

Facilitator: Clare Wildfire, Global Practice Lead for Cities at Mott MacDonald

Panelist: Mariama White-Hammond, Boston Chief of Environment, Energy & Open Spaces

Panelist: Anant Jani, Honorary Fellow at the Oxford Martin Programme on the Future of Cooling at the University of Oxford

Virtual Panelist: Laura Jay, North America Director at C40

Panelist: Jim Maguire, Managing Director at SDCL

Pre-Recorded Remarks: Phoenix Mayor Kate Gallego

THE PROBLEM → THE SOLUTION

In late June, during the deadly heat wave that swept over Oregon and Washington, about 600 more people died than what has been typical, according to a *New York Times* review of the mortality data. In September, Hurricane Ida flooded New Orleans precipitating a huge power failure; at least 10 deaths were connected to the heat that resulted from the lack of air conditioning. Not only will extreme heat events increase in intensity and frequency, by 2050 the IEA predicts that 70% of people will live in cities due to continued mass urbanization, which means higher levels of heat and a greater need for cooling.

Our panelists, all of whom come from a wide range of disciplines and organizations, discussed potential and implemented solutions to the problem of cooling in extreme heat.

The discussion culminated in three main strategic themes: data-driven initiatives, plans that target vulnerable populations, and holistic, innovative solutions.

1. HOLISTIC, INNOVATIVE SOLUTIONS

When planning for extreme heat events, regulators and policy experts need to utilize a wide range of strategies, including nature-based solutions, social initiatives, and innovative technologies. Governments must look towards collective, not individualistic, solutions, and work with the private sector to create them.

Building the social infrastructure to check on elderly populations will be integral on heat islands, which are urbanized areas that experience higher levels of heat than neighboring regions. Potential solutions can also include painting roads, roofs, and schoolyards white, incentivizing wide-spread use of opaque shades, and even creating chairs with embedded fans to prevent the loss of cooling.

The Future of Cooling program at Oxford takes a holistic approach to tackle the issue of extreme heat. The program found that physical exercise and high-quality diets can reduce the expenditure of healthcare systems. While temperatures may increase, populations could become more resistant to negative health effects by focusing on their health.

2. DATA-DRIVEN, STRATEGIC INITIATIVES

The first step of adapting to extreme heat from climate change is assessing the threats and most-vulnerable populations through accessible data. The city of Boston began a process of red-lining areas and assessing their level of heat based on available data. The process revealed that underserved communities were often experiencing the highest level of heat. Boston's Heat Resilience Study is now focusing on areas where heat islands overlap with historically underserved communities to find creative and community-driven solutions.

The City of Phoenix is similarly relying on data-driven strategies to deal with extreme heat, notably in their partnership with Arizona State University to decrease the city's heat using foliage coverage and natural landscaping. Synthesizing existing data on which areas will be subject to the most extreme heat, and modeling projected temperature rise, is a critical first step to handling severe weather.

3. PLANS TARGETING VULNERABLE POPULATIONS

Governments must create plans that focus on helping the most vulnerable populations, of whom are older generations, lower-to-middle income communities, and ethnic minority groups. Extreme heat has varying impacts, but most of them are significantly worse for these vulnerable communities.

For example, lower to middle-income neighborhoods tend to have less green space and foliage due to decades of inequitable policies, meaning that those who struggle to afford cooling solutions also live in the hottest areas.

Recognizing, planning for, and adapting to the patterns of inequality in extreme heat events is integral to creating solutions to this increasingly complicated consequence of climate change.

CONCRETE EXAMPLES

"Breathe Easy at Home" Program

The City of Boston has worked with its Health Commission on a program called 'Breathe Easy at Home' to provide AC units for asthma sufferers. These extremely vulnerable individuals cannot wait for the tree canopy to lower the temperature on the streets and must have individualized solutions that meet their needs.

Kigali Cooling Energy Efficiency Program

The Kigali Cooling Efficiency Program (K-CEP) is a philanthropic collaboration launched in 2017 to support the Kigali Amendment of the Montreal Protocol and the transition to efficient, clean cooling solutions for all. The IEA is a key partner organization in K-CEP, providing analytical insights and hosting the program's "one-stop-shop" for cooling-related policy and technology data, known as the Kigali Tracker.

Mapping Tools

There are a few tools that policymakers can use to map vulnerable populations, including Climate-Smart Cities, Google's Environmental Insights Explorer, and America Force's Tree Equity Score. These mapping tools can help cities with the first step of identifying the populations and areas most vulnerable to extreme heat.

NYC's "Be a Buddy" Program

NYC has a 'Be a Buddy Program' where local community members and healthcare workers check on vulnerable members of the community during peak heat waves where mortality rates are the highest. Cities must attempt to combine physical and social interventions if we are to protect vulnerable people and address the climate crisis.

Water

A White Paper Based on "A Day for Cities, States, and Regions" COP26 Side-Event

OVERVIEW

At SDCL's COP26 side-event "A Day for Cities, States, and Regions," one of our panel sessions delved into strategies to deal with water shortages and extreme water-related weather events, such as floods, droughts, and hurricanes. Our panelists discussed both adaptation measures and mitigation strategies, such as reduced consumption and behavioral changes.

Overall, our panelists emphasized the importance of understanding water as part of a global system, instead of looking at the issue based on political boundaries.

PARTICIPANTS

Facilitator: Jazmin Burgess, Green New Deal Manager for C40

Panelist: California State Senator Bob Wieckowski

Panelist: Fiona Barbour, Global Practice Lead for Water Resources and Flooding At Mott MacDonald

Panelist: Gordon Reid, General Manager for Zero Emissions at Scottish Water

Virtual Panelist: Alan Cohn, Managing Director of Integrated Water Management at NYC Department of Environmental Protection

Pre-Recorded Remarks: Gary White, CEO of Water.org

THE PROBLEM → THE SOLUTION

In July 2021, record precipitation caused deadly floods in Europe, particularly in Germany and Belgium where about 220 people were killed. A study by the World Weather Attribution (WWA) project found these floods were made 1.6 - 9 times more likely to occur because of climate change, in addition to extreme water-related events such as droughts or hurricanes.

Cities, states, and regions must prepare and plan as climate change makes dangerous water-related weather events increasingly extreme and frequent.

In both sessions, panelists and audience members discussed strategies to handle and plan for extreme water-related weather events. Overall, our panelists emphasized the importance of approaching water-related solutions by looking at the entire watershed.

Our discussion also underscored the importance of behavioral changes and nature-based solutions in initiatives to deal with water-related weather events.

1. BEHAVIORAL CHANGES

One of our panelists reiterated: "use less and use smarter." They referred to the countless ways people all around the world waste water, from running the shower for twenty minutes before getting in, to incessant sprinklers on golf courses in the desert. By emphasizing the value and shortage of water, we can cause behavioral changes that will limit water usage.

Further, being more efficient with our water will decrease usage. Leakage is a problem globally, and focusing on limiting water consumption by being smarter about how we use it will be vital to dealing with droughts.

2. NATURE-BASED SOLUTIONS

A big focus of discussion during this panel was retrofitting strategies for existing infrastructure, but some of the more innovative suggestions were for nature-based solutions. Nature has many existing defenses against extreme-weather events but they have been limited as cities, agriculture, and industry have grown.

Cement, for example, does not absorb water and thus exacerbates flooding during heavy precipitation. Poor soil quality and deforestation make the land unstable and more susceptible to mudslides, landslides, and erosion.

By incentivizing and funding nature-based solutions, we can restore the natural landscape while adapting to the consequences of climate change. Options include reconnecting floodplains to give rivers more room to flood, or restoring reefs, marshes and dunes to protect coastal communities. In cities, increasing the amount of green space can limit the effects of intense storms, such as flash floods.

3. A WATERSHED APPROACH

Instead of dealing with water-related extreme weather on a state-by-state or even country-by-country basis, we must approach the problem by understanding the system as a whole. Each region will have different stresses and priorities, but we must recognize the overall balance of the water system and understand how climate change will affect it as a whole. For regions that share bodies of water or a watershed, they must work past political boundaries to conserve and manage it.

Further, we need to have a basic understanding of the water system, as it will affect agriculture, biodiversity, landscapes, and more. As we work together to gain appreciation for the entire system, we must also work together to share resources. Areas with more water will need to share, regions with more money must help those with less, and all countries and organizations must exchange their scientific data and research. One panelist brought up the idea of integrating different region's water resources on a sort of "grid" to make sharing easier when one region is in distress.

CONCRETE EXAMPLES

Flood Risk Management Act

In 2009, Scotland passed the Flood Risk Management Act which supports a risk based, evidence led, collaborative approach to managing flood risks across Scotland. Part of the act legally requires actors to talk about mitigation strategies, collaborate around water-related initiatives, and share data to help predict flooding.

Water Utility Climate Alliance

The Water Utility Climate Alliance (WUCA) was formed to provide leadership and collaboration on climate change issues affecting US water agencies. The organization comprises 12 of the nation's largest water providers who supply drinking water for more than 50 million people throughout the United States. This national collaboration will monitor and improve resilience to issues around water.

NYC DEP Apps

The NYC Department of Environmental Protection has created apps, both published and in development, to help New Yorkers understand water usage and change behaviors.

"My DEP" allows consumers to pay DEP water and sewage bills, as well as track their water usage. NYC Water allows citizens to locate temporary drinking water fountains open during the summer.

Finally, "Waste," an app in development, would inform New Yorkers of when their sewage system is full and encourage them to wait to do water-intensive activities, such as showering.

Transportation

A White Paper Based on "A Day for Cities, States, and Regions" COP26 Side-Event

OVERVIEW

At SDCL's COP26 side-event "A Day for Cities, States, and Regions," one of our panel sessions considered ways to decarbonize the transportation sector. We asked our participants to provide insight on how the public sector can collaborate with private organizations to build low-carbon transportation solutions. Our panel discussed how to both incentivize and allow citizens, from all backgrounds and economic statuses, to participate in this transportation transition.

PARTICIPANTS

Facilitator: Mark Watts, Executive Director of C40

Panelist: Mairi Joyce, Sustainability & Net Zero Lead for Mott MacDonald

Panelist: Reza Shaybani, CEO & Co-Founder of the EV Network

Virtual Panelist: Michael Replogle, Former Deputy Commissioner for Policy for NYC Department of Transportation

THE PROBLEM

In 2019, transportation made up 29% of U.S. Greenhouse Gas emissions, coming ahead of the following sectors: electricity (25%), industry (23%), agriculture (10%), commercial (7%), and residential (6%). Transportation not only represents one of the highest-emitting sectors but one that's extremely costly and difficult to decarbonize. Our panelists and audience members reflected on how to facilitate a quick and equal transition to low and zero-carbon transportation solutions in light of these obstacles.

THE SOLUTION

In both sessions on decarbonizing the transportation sector, we discussed both theoretical and enacted solutions to mitigating climate change by decreasing transportation emissions. These solutions fall into three main categories: controlled consumer choice, public-private collaboration, and a holistic, equality-driven approach.

1. CONTROLLED CONSUMER CHOICE

To successfully engage consumers with transportation solutions, they must choose the low-carbon option due to economic viability and convenience. People are at the heart of the transportation sector, so we must consider them in its decarbonization solutions and think through when we travel, why we travel, where we travel, and how we decide to travel.

A mix of economic pressures and incentives can help the public choose low carbon transportation options. Panelists explained that offering economic incentives for personal electric vehicles, creating accessible low-carbon public transportation, and maintaining higher prices for fossil fuels will guide consumers towards a net-zero path.

It must be easy for citizens to choose the decarbonized option, by providing charging infrastructure or options for low-carbon shipping and flying.

PUBLIC-PRIVATE COLLABORATION

Both panel sessions emphasized the importance of multilateral collaboration between public and private sectors to enact this transportation transition. While private organizations hold the ability to fund transportation infrastructure, governments must facilitate this flow of money to make it as smooth and equitable as possible.

Specifically, government policies that provide subsidies and incentivize the private sector to invest in electric vehicle infrastructure will be critical. One of our panelists pointed out the importance of governments helping to accelerate infrastructure on the logistical end, by promptly granting planning and construction permits. Governments must welcome investment from the private sector, helping them to identify electrification opportunities and providing them with stable policies that will protect their assets.

EQUALITY-DRIVEN APPROACH

As we strategize across sectors to decarbonize transportation, we must strive for a holistic and equality-driven approach that looks at all possible solutions and prioritizes equal accessibility. We must make sure our solutions make sense for everyone equally, which means making sure low-carbon options are affordable and widely spread.

Further, we cannot limit our policies to new technologies and electrification, but instead include urban planning, local solutions, and distribution of vehicles on the road. Introducing safe bike lanes and sidewalks will incentivize zero-carbon transportation. Shifting the share of vehicles on the road from ones that quickly accelerate to slower options will also save energy.

CONCRETE EXAMPLES

NYC's Transportation System

NYC has a robust public transport system, meaning that only 20% of trips in the city happen by car. The city has limited driving subsidies and decided not to expand the road system despite the growing population. To accommodate a growing population, NYC has instead expanded public transportation, cycling, and walking options. Manhattan has increased the number of biking lanes, adopted city bikes, and is creating a congestion charge for specific areas in the city.

Free Bus Travel for Those Under 22 in Scotland

Starting in January 2022, the Scottish Government announced that all residents under the age of 22 will be eligible to ride the bus for free in Scotland. This program will incentivize more public transportation use.