CARE Committee

From: Calyn Hart <calyn.hart@iclei.org>
Sent: Tuesday, September 14, 2021 2:34 PM
To: CARE Committee
Subject: CARE-1(3) /CARE-49 presentation
Attachments: CARE_ICLEIUSA_915 (1).pdf

> You don't often get email from calyn.hart@iclei.org. Learn why this is important

Please see the presentation attached.

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ICLEI – Local Governments for Sustainability is a global network working with more than 2500 local and regional governments committed to sustainable urban development. Active in 125+ countries, we influence sustainability policy and drive local action for low emission, nature-based, equitable, resilient and circular development.

ICLEI
Local Governments for Sustainability
USA

Maui County Race To Zero

Climate Action, Resilience and Environment Committee

Agenda

1 The Race to Zero and ICLEI150

2 Science Based Targets (SBT)

3 High Impact Action Pathways

4 Circle Lab 4 Cities Pilot

The Race to Zero

Race To Zero is a global campaign (established by the UN Climate in June 2020) to rally leadership and support from businesses, cities, regions, investors for a healthy, resilient, zero-carbon recovery that prevents future threats, creates decent jobs, and unlocks inclusive, sustainable growth. The Cities Race to Zero is the local government engagement opportunity within the UN's initiative and is coordinated by city network partners:

Milestones on the Race to Zero

Pledge

to reduce GHG emissions to zero by 2050 and set a interim 2030 target.

Plan

the actions to achieve both the 2030 and 2050 targets within 12 months of joining

Proceed

with high-impact action to achieve the targets during 2021

Publish

and report Race to Zero targets, actions, and progress

ICLEI150 Technical Support

2030 Science-Based Targets (SBTs)

SBTs include a 2050 zero carbon goal and an interim 2030 goal.
To meet the Paris Agreement commitment of keeping warming below 1.5°C.

SBTs are significant because:

- It is important to have a short term goal.
- Most short terms goals aren't aligned with SBTs.
- Most analyses are outdated.

ICLEI's calculation methodology is based on the World Wide Fund for Nature's (WWF) One Planet City Challenge (OPCC) and uses inventories from between 2016 and 2019

Nationwide SBT Overview

Per Capita SBT

62.8-63.4%

Min-Max

63.3%

Average and Median

Absolute SBT

45.2-64.4%

Min-Max

60.7%

Average

62.2%

Median

High Impact Action Pathways

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Accelerating

Renewable Energy

Building Electrification (and Efficiency): New and Existing

EV Transition (and VMT Reduction)

It can't be done alone.
The High Impact Action Pathways include avenues for advocacy and collaboration for systemic change

Supporting

Waste and Methane

Nature-Based Solutions

Sustainable Food Systems

Circular Economy

Community Resilience, Health, and Equity (Just and Equitable Transition)

High Impact Action Pathways

General Categories:

1. Grid Decarbonization
2. VMT Reduction
3. Vehicle Electrification
4. Building Efficiency
    a. New and Existing
5. Building Electrification
    a. New and Existing

Growth		
Scenario 1	No Growth	Hold Current values
Scenario 2	Population Based Growth Scenario	Uses Population change from baseline to 2030 projection
Grid Decarbonization		
Scenario 1:	NREL BAU	NREL's Cambium Medium Scenario Forecast for each state.
Scenario 2:	Clean Energy Standard (CES)	80% Reduction in carbon intensity (kg CO2/MWH) by 2030.
Scenario 3:	NREL Low RE Cost	NREL's Cambium Forecast for each state (assumes RE cost is reduced).
Scenario 4:	Custom	Option to custom input % reduction
Transportation: High Level VMT Reduction		
Scenario 1:	BAU (5% VMT Reduction Annually)	5% Reduction in total VMT
Scenario 2:	Moderate (10% VMT Reduction Annually)	10% Reduction in total VMT
Scenario 3:	Aggressive (20% VMT Reduction Annually)	20% Reduction in total VMT
On-road Electric Vehicles Adoption		
Scenario 1:	US-BAU (3% Annual Growth)	15% of VMT is EV by 2030
Scenario 2:	Moderate (4.5% Annual Growth)	22.5% of VMT is EV by 2030
Scenario 3:	California-BAU (6% Annual Growth)	30% of VMT is EV by 2030
Scenario 4:	California + (9% Annual Growth)	45% of VMT is EV by 2030

Building Efficiency		
Scenario 1:	IECC 2018	All new buildings including 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (37.30% reduction in building EUI)
Scenario 2:	5% EB Renovated	5% of all SF (existing) per year is reduced by 20% (energy)
Scenario 3:	10% EB Renovated	10% of all SF (existing) per year is reduced by 20% (energy)
Scenario 4:	IECC New + 5% Existing	All new buildings and 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (37.30% reduction in building EUI) & 5% Existing Sq FT (renovations and turnover) EUI is reduced by 20%.
Scenario 5:	IECC New + 10% Existing	All new buildings and 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (37.30% reduction in building EUI) & 10% Existing Sq FT (renovations and turnover) EUI is reduced by 20%.
Building Electrification		
Scenario 1:	New Buildings, All Electric	All new buildings & 1% Existing Sq FT per year are electrified
Scenario 2:	5% EB Electrified	5% of existing SF per year is electrified
Scenario 3:	10% EB Electrified	10% of existing SF per year is electrified
Scenario 4:	New + 6% EB Electrified	All new buildings & 6% Existing Sq FT per year are electrified
Scenario 5:	New + 11% EB Electrified	All new buildings & 11% Existing Sq FT per year are electrified

*EB = Existing Buildings

HIA Summary Report (1/2)

SBT and Emissions	2030 Per Capita	2030 Absolute	Baseline Scope 1 & 2	2030 Scope 1 & 2
	63.4%	56.6%	8,998,051	3,909,274

Growth Rates	Commercial	Residential	Industrial	On-Road	Grid Decarbonization
	Population Growth	Population Growth	Population Growth	Population Growth	CES
	18.74%	18.74%	18.74%	18.74%	-80.00%

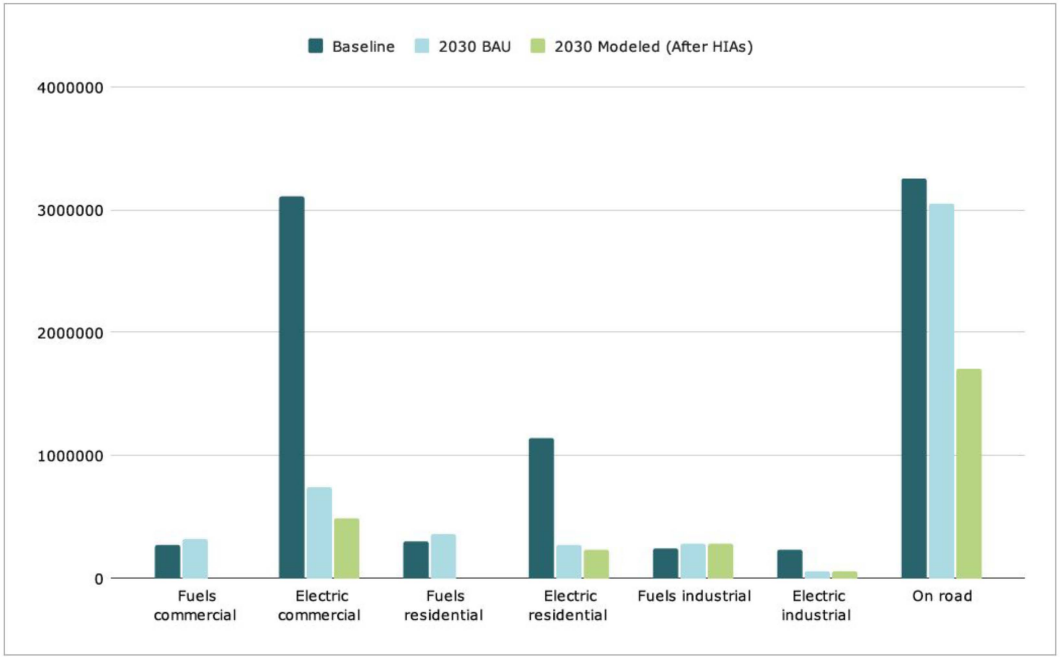
	Baseline & BAU 2030 Emissions			Modeled Emissions (After HIAs)	
	Baseline Emissions	% of total (Adjusted)	2030 BAU Emissions	2030 Modeled Emissions	Change
Fuels commercial	266,379	3%	316,300.64	0.00	-100.00%
Electric commercial	3,103,950	34%	737,131.86	480,375.41	-34.83%
Fuels residential	302,515	3%	359,208.72	0.00	-100.00%
Electric residential	1,140,428	12%	270,830.98	235,194.61	-13.16%
Fuels industrial	238,965	3%	283,749.52	283,749.52	0.00%
Electric industrial	232,642	3%	55,248.20	55,248.20	0.00%
On road	3,257,741	35%	3,047,320.78	1,706,499.64	-44.00%
Sum of Primary Sectors	8,542,620	93%	5,069,790.71	2,761,067.38	-45.54%
Inventory Total	19,040,657	-	-	-	-

HIA Overview

Type	Name	Net Reduction (MT CO2e)	Description
Grid Decarbonization	CES	1,009,973.31	80% Reduction in carbon intensity (kg CO2/MWH) by 2030.
High Level VMT Reduction	Aggressive (20% VMT Reduction Annually)	609,464.16	20% Reduction in total VMT
On-road Electric Vehicles Adoption	California-BAU (6% Annual Growth)	663,030.82	30% of VMT is EV by 2030. This action influences an increase in Residential & Commericial buildings electricty emissions.
Commercial Building Efficiency	IECC New + 10% Existing	282,213.30	All new buildings and 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (37.30% reduction in building EUI) & 10% Existing Sq FT (renovations and turnover) EUI is reduced by 20%.
Residential Building Efficiency	IECC New + 10% Existing	103,688.51	All new buildings and 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (37.30% reduction in building EUI) & 10% Existing Sq FT (renovations and turnover) EUI is reduced by 20%.
Commercial Building Electrification	New + 11% EB Electrified	304,509.03	All new buildings & 11% Existing Sq FT per year are electrified. This action influences an increase in Commericial buildings electricty emissions.
Residential Building Electrification	New + 11% EB Electrified	345,817.51	All new buildings & 11% Existing Sq FT per year are electrified. This action influences an increase in Residential buildings electricty emissions.

HIA Summary Report (2/2)

2030 Outlook	2030 HIA Modeled Emissions + Other Scope 1	Reduction Achieved (Abosolute)	Percent To Go (Absolute)	2030 Modeled Emissions (Per Capita)	Reduction Achieved (Per Capita)	Percent To Go (Per Capita)
	3,216,498.82	64.3%	-7.7%	5.73	69.9%	-6.5%



Past High-Impact Action Workshops

Covering practical local actions within various scenarios and regulatory landscapes

Building Decarbonization - July 28, 2021 1pm ET

Decarbonizing the Grid - August 12, 2021 12pm ET

Vehicle Electrification - August 24, 2021 1pm ET

Upcoming Resources

Resource guides (curation of existing resources) for grid decarbonization, EV transition, and building electrification.

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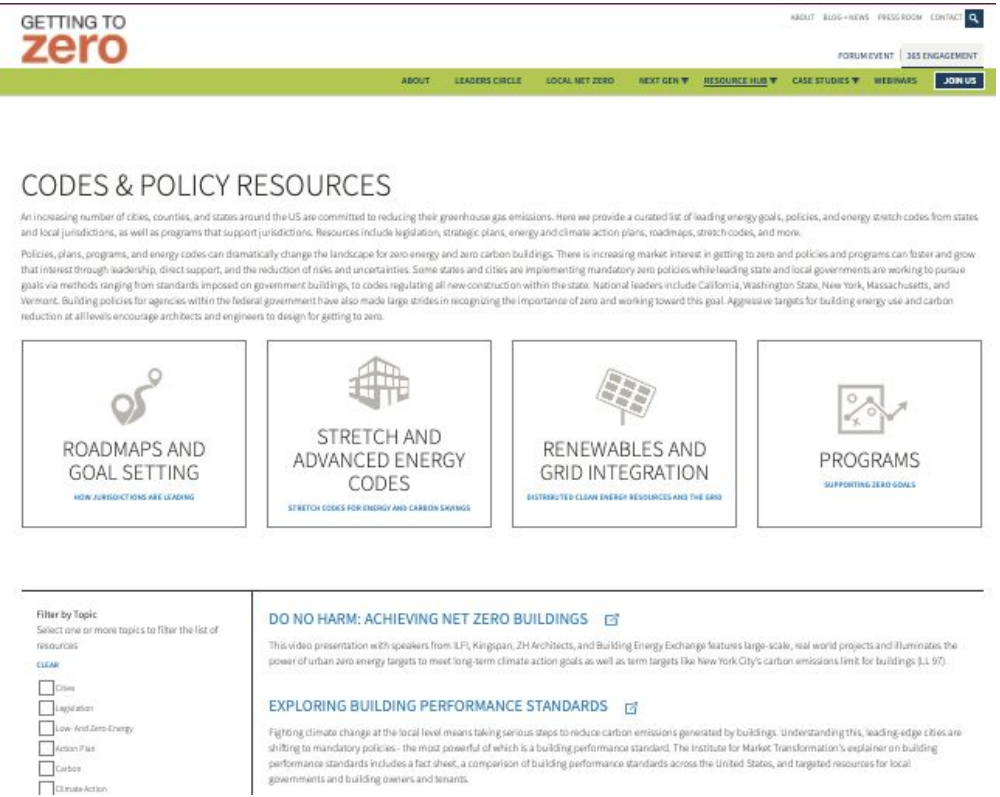

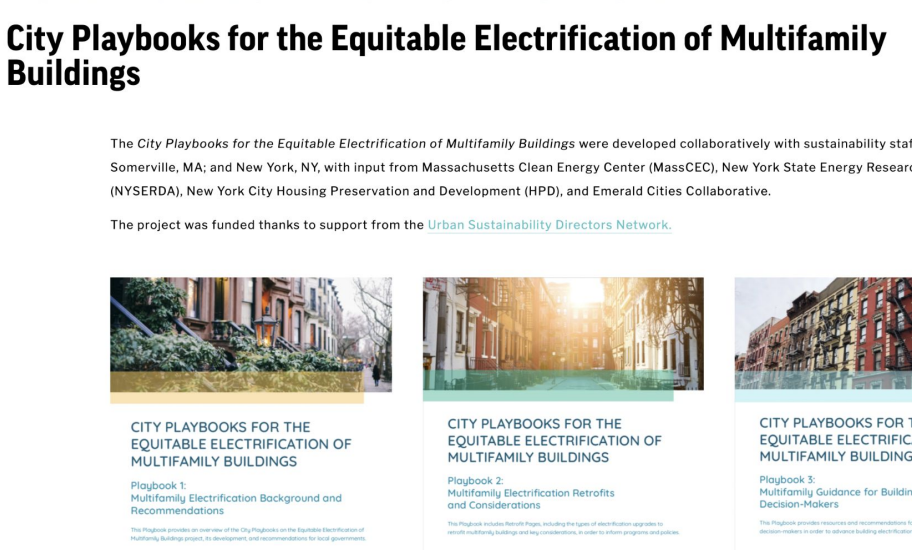

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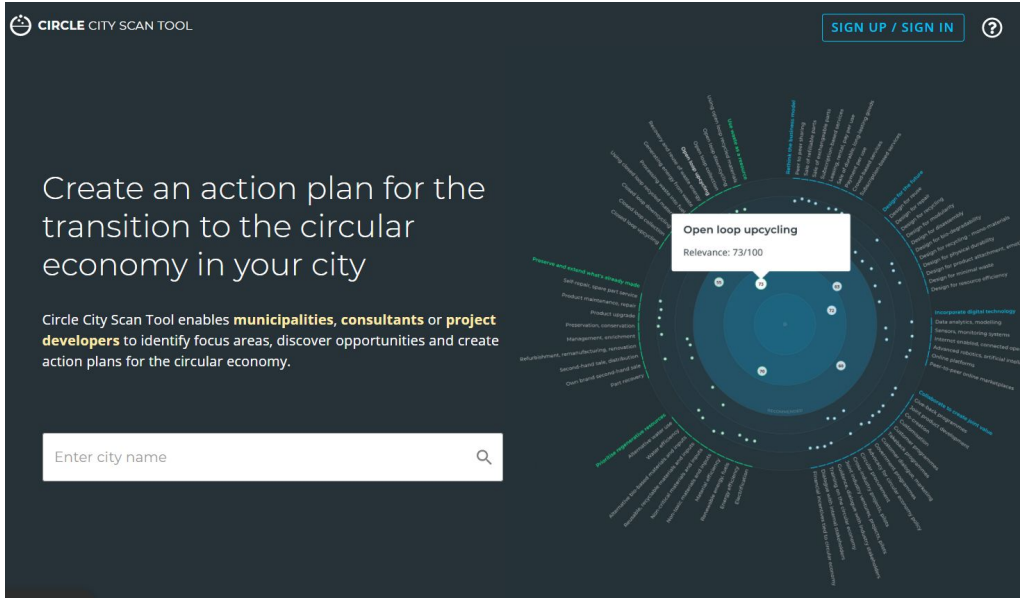
Maui County Circle Lab 4 Cities Pilot

Climate Action, Resilience and Environment Committee

2021 U.S. Pilot Four Cities / Counties

- **Regenerate**: **In synergy with nature**
  - Example: Japan water capture models or NEXUS project in South America
- **Rethink**: **Share**
  - industrial symbiosis, sharing schemes, as a service model
  - Example: Industrial symbiosis project in China
- **Reduce**
- **Reuse**: **Keep in use**
  - Baltimore´s Deconstruction and reuse program under Waste to Wealth
- **Recover**: **Make waste history**
  - Panaji 100+ composting and biogas stations



- **Phase 1 - Socio-economic Analysis** considers the current economic and socio-political situation to ensure a focus on relevant and impactful sectors.
- **Phase 2 - Material Flow Analysis** provides insight into the magnitude and nature of the material flows in the key sectors, in order to identify the most significant opportunities for circularity and positive impact.
- **Phase 3 - Circular Strategies** explores an array of possible circular strategies (e.g. pilot projects, infrastructure investments, policies) and estimates their potential impacts to facilitate choice between them.
- **Phase 4 - Action Plan** develops a plan for the implementation of the circular strategies, and elaborates on next steps needed in the short and medium term to ensure implementation.

General/Timeline Updates

- The Circle City Scan tool is being updated to be more user friendly
- The tool will not be ready for US communities until early next year (end of ~January, early February)
- Early November, we will have the first workshop for the Circle Lab 4 Cities Pilot.

Thank you!

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