

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.



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



**Your
Science-Based
Target**



**High-Impact
Action
Indentification**



**Personalized
Support
Package**



**Tech Assistance
To Proceed
on Action**

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- Most analyses are outdated.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

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

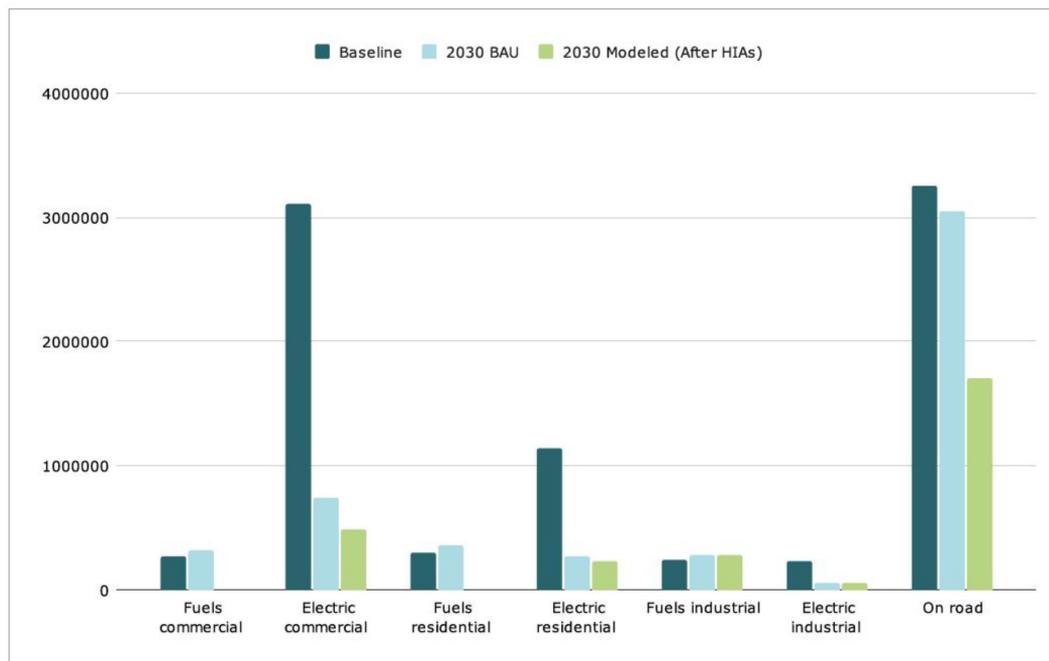
Growth Rates	Commercial	Residential	Industrial	On-Road	Grid Decarbonization
	Population Growth	Population Growth	Population Growth	Population Growth	CES
	18.74%	18.74%	18.74%	18.74%	-80.00%

	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 & Commercial buildings electricity 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 Commercial buildings electricity 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 electricity emissions.

HIA Summary Report (2/2)

2030 Outlook	2030 HIA Modeled Emissions + Other Scope 1	Reduction Achieved (Absolute)	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%



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.



CODES & POLICY RESOURCES

An increasing number of cities, counties, and states around the US are committed to reducing their greenhouse gas emissions. Here we provide a curated list of leading energy goals, policies, and energy stretch codes from states and local jurisdictions, as well as programs that support jurisdictions. Resources include legislation, strategic plans, energy and climate action plans, roadmaps, stretch codes, and more.

Policies, plans, programs, and energy codes can dramatically change the landscape for zero energy and zero carbon buildings. There is increasing market interest in getting to zero and policies and programs can foster and grow that interest through leadership, direct support, and the reduction of risks and uncertainties. Some states and cities are implementing mandatory zero policies while leading state and local governments are working to pursue goals via methods ranging from standards imposed on government buildings, to codes regulating all new construction within the state. National leaders include California, Washington State, New York, Massachusetts, and Vermont. Building policies for agencies within the federal government have also made large strides in recognizing the importance of zero and working toward this goal. Aggressive targets for building energy use and carbon reduction at all levels encourage architects and engineers to design for getting to zero.



Filter by Topic

Select one or more topics to filter the list of resources

CLEAR

- Codes
- Legislation
- Low And Zero Energy
- Resilience
- Carbon
- Climate Action

DO NO HARM: ACHIEVING NET ZERO BUILDINGS

This video presentation with speakers from ILFI, Kingspan, ZH Architects, and Building Energy Exchange features large-scale, real world projects and illuminates the power of urban zero energy targets to meet long-term climate action goals as well as term targets like New York City's carbon emissions limit for buildings (LL 97).

EXPLORING BUILDING PERFORMANCE STANDARDS

Fighting climate change at the local level means taking serious steps to reduce carbon emissions generated by buildings. Understanding this, leading-edge cities are shifting to mandatory policies - the most powerful of which is a building performance standard. The Institute for Market Transformation's explainer on building performance standards includes a fact sheet, a comparison of building performance standards across the United States, and targeted resources for local governments and building owners and tenants.

BUILDING ELECTRIFICATION INSTITUTE

City Playbooks for the Equitable Electrification of Multifamily Buildings

The *City Playbooks for the Equitable Electrification of Multifamily Buildings* were developed collaboratively with sustainability staff from Somerville, MA; and New York, NY, with input from Massachusetts Clean Energy Center (MassCEC), New York State Energy Research and Development Authority (NYSERDA), New York City Housing Preservation and Development (HPD), and Emerald Cities Collaborative.

The project was funded thanks to support from the [Urban Sustainability Directors Network](#).



CITY PLAYBOOKS FOR THE EQUITABLE ELECTRIFICATION OF MULTIFAMILY BUILDINGS

Playbook 1: Multifamily Electrification Background and Recommendations

This Playbook provides an overview of the City Playbooks on the Equitable Electrification of Multifamily Buildings project, its development, and recommendations for local governments.



CITY PLAYBOOKS FOR THE EQUITABLE ELECTRIFICATION OF MULTIFAMILY BUILDINGS

Playbook 2: Multifamily Electrification Retrofits and Considerations

This Playbook includes Retrofit Plans, including the types of electrification upgrades to retrofit multifamily buildings, and key considerations, in order to inform programs and policies.



CITY PLAYBOOKS FOR THE EQUITABLE ELECTRIFICATION OF MULTIFAMILY BUILDINGS

Playbook 3: Multifamily Guidance for Building Decision-Makers

This Playbook provides resources and recommendations for decision-makers in order to advance building electrification.



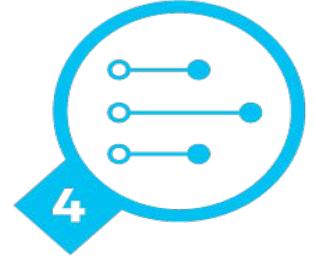
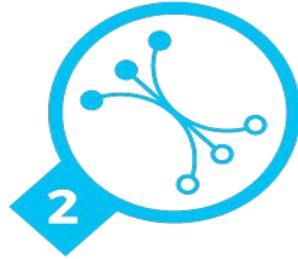
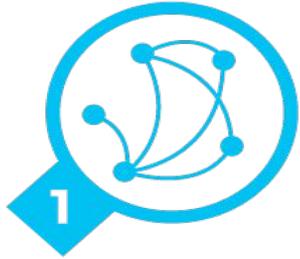
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- **Phase 1 - Socio-economic Analysis** considers the current economic and socio-political situation to ensure a focus on relevant and impactful sectors.
- **Phase 2 - Material Flow Analysis** provides insight into the magnitude and nature of the material 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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