

Catalyzing Sustainability Impact

A City-Led Process to Invest in High Impact Practices

The Urban Sustainability Directors Network (USDN) connects local government practitioners to accelerate urban sustainability in U.S. and Canadian communities, leading the way to a sustainable, low-carbon future. Local governments develop, adopt, and share practices that create equitable and prosperous communities and a healthy environment.

USDN is the primary network through which local government sustainability and climate practitioners access mission-critical resources, and is frequently sought as a trusted thought partner. USDN enables groups of cities and counties to project a collective voice to partners and key stakeholders. By bringing members and partners together, USDN is able to broaden, inform, and synthesize perspectives on crucial issues and catalyze new partnerships.

High Impact Practices (HIPs)

USDN member communities have led a process in 2017-18 to identify High Impact Practices (HIPs) to help USDN and its partners increase impact through more strategic investments.

High Impact Practices are:

- Practices with high aggregate impact potential across U.S. and Canadian cities (not a “must do” list for, nor necessarily even applicable to, every individual community).
- Practices where cities are ready to make on-the-ground change in the next three years. Some may represent cutting edge advanced practices; others may represent established best practices with potential to scale much more widely.
- Practices with high GHG reduction potential (members’ starting priority), each with potential to create other important benefits (e.g., resilience, equity, job creation).

Leveraging Collective Work to Date

The process of identifying HIPs began with research, supported by City Scale, which explored the findings of leading city climate action plans as well as USDN and partner analyses of decarbonization opportunities. This research clearly demonstrated that cities need to make significant GHG reduction progress in each of the following areas:

- Energy Supply Transformation
- Energy Demand in Existing Buildings
- Energy Demand in New Buildings
- VMT Reduction
- Electrification of Transportation
- Waste and Consumption

Note that this analysis excludes some significant sources of GHG emissions with less direct applicability to local governments (e.g., dairy methane, deforestation).

This research identified 61 practices that have been frequently identified as having high potential to reduce GHG emissions in USDN communities. *See appendix for full definitions of each practice.*

Energy Supply:

1. Renewable Energy (RE) for Municipal Operations
2. Solar on Municipal Facilities
3. RE from Municipal Utility
4. RE from Investor-Owned Utility
5. Community Choice Aggregation
6. Community RE
7. Advocacy for RE with State Public Utility Commission
8. On-Site RE
9. Group RE Procurement
10. Solar in New Construction
11. On-Site Energy Storage
12. Utility Municipalization
13. Waste-to-Energy

Energy Demand in Existing Buildings:

1. Zero Net Energy (ZNE) in Existing Municipal Buildings
2. Energy Management for Municipal Operations
3. LED Street Lighting
4. Commercial Building Benchmarking
5. Multifamily Building Benchmarking
6. Commercial Building Audits
7. Multifamily Building Audits
8. Energy Upgrades at Trigger Events
9. Deep Energy Upgrades in Large Buildings
10. Broad Energy Upgrades in Large Buildings
11. Home Energy Scores at Trigger Events
12. Deep Energy Upgrades in Homes
13. Broad Energy Upgrades in Homes
14. Home Energy Upgrades at Trigger Events
15. Financing for Retrofits
16. Electrification in Existing Buildings
17. Building Staff Training
18. Advocacy for Energy Efficiency (EE) with State PUC

Energy Demand in New Buildings:

1. ZNE in New Municipal Buildings
2. ZNE in New Private Buildings
3. Electrification in New Buildings
4. Market Incentives for New Buildings
5. Energy Code Compliance

Transportation Electrification:

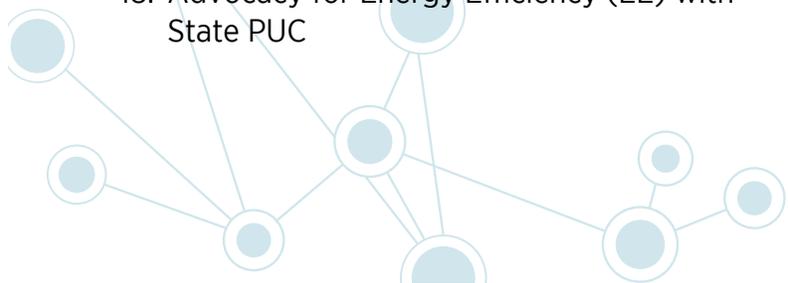
1. Electrification of Municipal Fleet
2. Electrification of Transit Buses
3. Electrification of Commercial Fleets
4. Community Electric Vehicle (EV) Adoption
5. Restrictions for Non-EVs
6. EV Charging in Building Construction
7. Public EV Charging

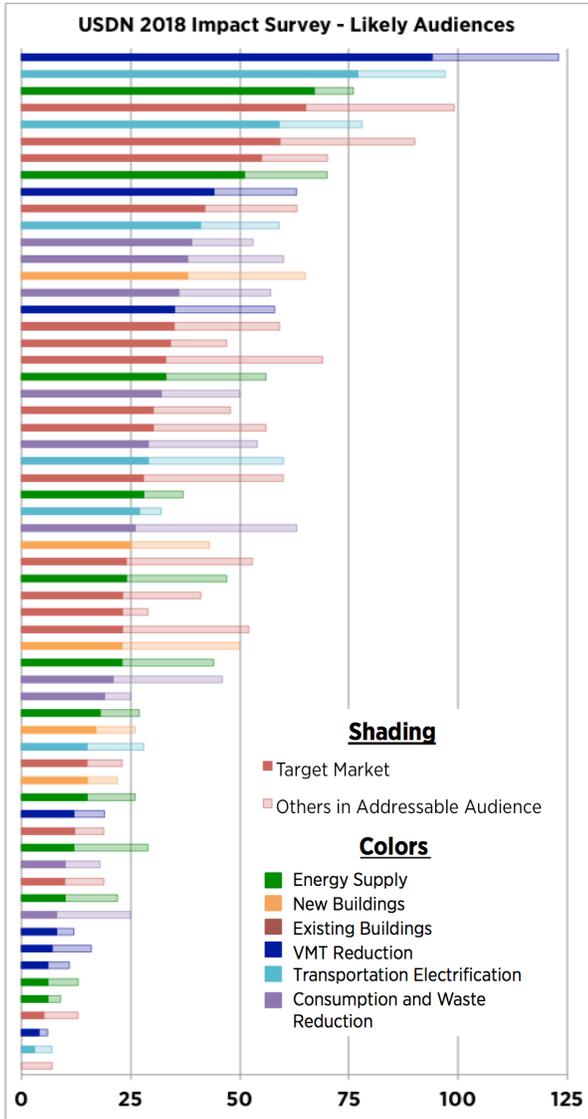
VMT Reduction:

1. Public Transit Investments
2. Bike and Pedestrian Facilities
3. Car-Free Zones
4. Parking Disincentives in Downtown
5. Regional Road Pricing
6. Optimize Freight Movement
7. Private Ride-Hailing Services
8. Autonomous Vehicles

Waste and Consumption:

1. Low-Carbon Food
2. Consumption Reduction Behavior
3. Organic Waste Separation
4. Food Waste Collection from Large Producers
5. Organic Collection in Single-Family Homes
6. Organic Collection in Multi-Family Homes
7. Recycling Construction Waste
8. Deconstruction Requirements
9. Landfill Methane Recapture
10. Zero Waste Operations and Events





A Data-Driven Process

USDN members are now working to identify specific practices within each of these areas where strong interest in taking action among cities converges with high GHG reduction potential.

Strong Interest in Taking Action

More than 150 cities and counties responded to a March 2018 survey designed to help USDN understand member opportunities and interests in pursuing these practices. Members provided information about their legal authority, degree of implementation to date, and interest in working on each of the 61 practices during the next three years.

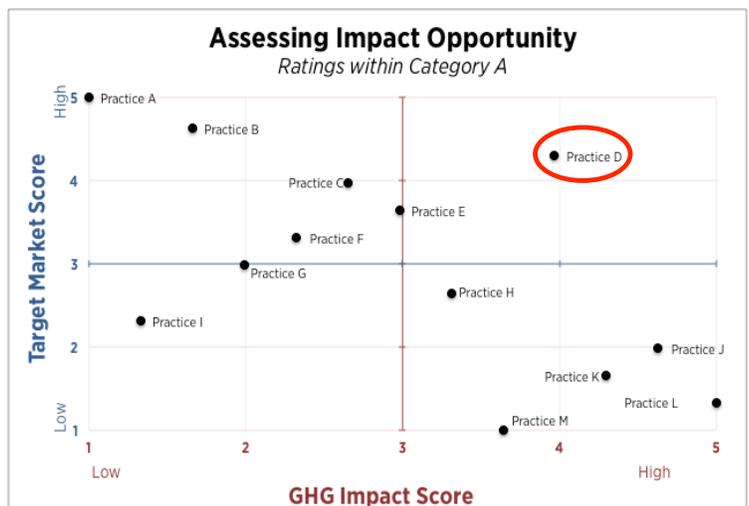
This data reveals how many and which members see themselves in the “target market” for each practice: *Communities with legal authority that are interested in adopting the practice and are already in the planning or implementation process.*

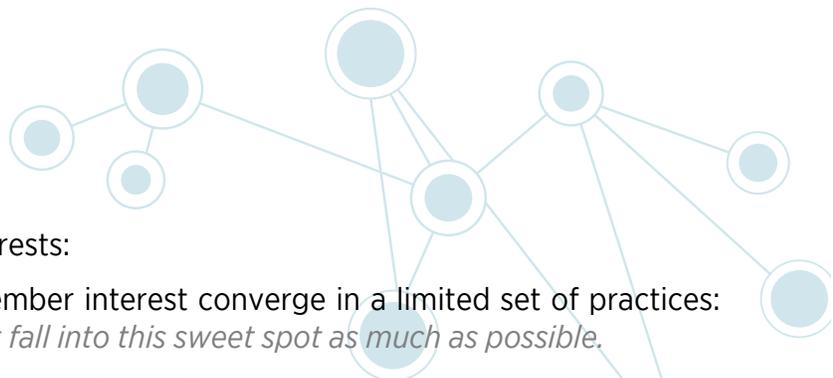
(See illustration of Target Market data at left.)

Considering GHG Impact Potential

The next phase of work, currently underway, will combine this data with estimates of the GHG reduction potential of each practice to support the selection of HIPs. USDN is currently seeking partners to help quantify the impact potential of each practice.

(See illustration of Analysis Chart at right.)





Findings to Date

Early observations about USDN member interests:

- High impact opportunity and high member interest converge in a limited set of practices: *USDN will prioritize selecting HIPs that fall into this sweet spot as much as possible.*
- Some practices are clearly preferred over others: *There are many ways to reduce vehicle miles traveled. Many local governments are interested in expanding and improving bicycle and pedestrian facilities, connectivity, convenience, and/or safety. By contrast, very few are currently interested in working on establishing car-free zones or regional road pricing.*
- Aggregate interest in leading by example is high: *Many local governments are ready to purchase green power for their municipal operations or add electric vehicles to their municipal fleets. These practices may not create community-scale impact, but they could help to foster leadership to catalyze bigger impact in the future.*
- Some practices with high impact potential are only possible in certain communities: *Some practices are inherently limited to a small number of communities in a particular context – like states where community choice aggregation is legal or cities that own their electric utilities. These may not have broad relevance but could have deep impact where enabled.*

Selecting HIPs and Collaborating with Partners

USDN members have committed to an ambitious timeline for 2018:

- *SPRING 2018*
 - Integrate GHG data into the analysis
 - Share initial findings with members and partners
- *SUMMER 2018*
 - Select initial HIPs
 - Convene members and partners to develop strategies for accelerating implementation and impact of each HIP
- *FALL-WINTER 2018*
 - Support strategic planning
 - Prioritize HIPs in new peer learning and collaboration programming within USDN
 - Begin launching new initiatives with partners to help members advance implementation of HIPs

USDN seeks partners with expertise, enthusiasm, and capacity to collaborate with and support members in advancing impact through all of the practices listed herein. USDN is happy to share partner resources and collaboration opportunities with members. USDN leverages data about member interests to connect appropriate members and partners to support win-win collaborations.

**Please contact Garrett Fitzgerald, USDN Strategic Collaboration Director,
for more information at garrettfitzgerald@usdn.org**

APPENDIX – Descriptions of All Practices Under Consideration

Energy Supply

- 1) Purchase renewable energy equivalent to ~100% of municipal operations energy use.
- 2) Install solar panels on ~all viable municipal facilities.
- 3) Require or otherwise direct municipally owned utility (e.g., via local renewable portfolio standard) to source ~50%+ of power from renewable energy sources by ~2030.
- 4) Require a privately owned utility (e.g., via franchise agreement) to source ~50%+ of electricity for the community from renewable energy sources.
- 5) Enact a community choice energy program delivering ~50%+ renewable energy to customers throughout the community.
- 6) Establish a community-shared renewable energy program (e.g., community solar) at a scale engaging ~5%+ of community members.
- 7) Engage in state public utility commission (or equivalent agency) proceedings to advocate for significant renewable energy requirements (e.g., via state RPS, net-metering tariffs).
- 8) Establish local incentives (e.g., solar rebates) and/or a bulk purchasing program (e.g., Solarize) for on-site renewable energy at a scale catalyzing major new local investment.
- 9) Establish a group renewable energy procurement effort by high-use customers.
- 10) Adopt a local requirement (through building code or similar) for solar-ready or on-site solar where viable in new construction.
- 11) Establish requirements or a voluntary program to support on-site energy storage (e.g., batteries).
- 12) Pursue municipalization of energy utility.
- 13) Invest in local waste-to-energy heat recovery, and/or clean district energy plants.

Energy Demand in Existing Buildings

- 1) Upgrade major existing municipal facilities to achieve ~zero net energy performance through energy efficiency upgrades and on-site renewable energy.
- 2) Implement a strategic energy management program for all major municipal operations.
- 3) Convert ~90%+ of street lights and traffic signals to LED technology.
- 4) Require large commercial buildings to benchmark and report their energy performance.
- 5) Require large multifamily buildings to benchmark and report their energy performance.
- 6) Require large commercial buildings to conduct audits and/or retro-commissioning.
- 7) Require large multifamily buildings to conduct audits and/or retro-commissioning.
- 8) Require large commercial and/or multifamily buildings to perform energy upgrades achieving an average of ~15%+ energy savings by a certain date or at certain trigger events (e.g., time of sale, change of occupancy).
- 9) Create voluntary large commercial and multifamily energy upgrade program(s) (e.g., offering incentives, tech assistance) that achieve deep energy savings (~25%+) in ~20%+ of large buildings.
- 10) Create voluntary large commercial and multifamily energy upgrade program(s) (e.g., offering incentives, tech assistance) that achieve lighter energy savings (~10%) in ~50%+ of large buildings.
- 11) Require homes to obtain a home energy score (analogous to benchmarking) by a certain date or at a certain trigger event (e.g., time of sale, major renovation).

- 12) Create voluntary home energy upgrade program(s) that will achieve deep energy savings (~25%+) in ~20%+ of homes.
- 13) Create voluntary home energy upgrade program(s) that will achieve lighter energy savings (~10%) in ~40%+ of homes.
- 14) Require homes to perform energy upgrades achieving an average of ~15%+ energy savings by a certain date or at certain trigger events (e.g., time of sale).
- 15) Establish PACE or other convenient financing options for multifamily, commercial, and residential retrofits.
- 16) Develop a local strategy and enact programs to drive thermal decarbonization/electrification (e.g., replacement of fossil fuel-fired furnaces, boilers, and domestic hot water systems with electric heat pump technologies or other renewable options) of existing buildings over time.
- 17) Develop a building staff training program for large privately-owned commercial and multifamily buildings and/or require building staff be trained in energy efficiency best practices.
- 18) Engage in state public utility commission (or equivalent agency) proceedings to advocate for major new energy efficiency funding, programs, or standards (e.g., building electrification).

Energy Demand in New Buildings

- 1) Require major new municipal buildings to achieve ~zero net energy/carbon performance.
- 2) Require new private development of certain size/building type in the community to achieve ~zero net energy/carbon performance.
- 3) Require ~all new construction and major renovation to use high efficiency electric/fossil fuel-free technologies for heating, cooling, and hot water.
- 4) Enact market incentives (e.g., zoning or financial) that achieve ~25%+ better energy performance than existing local code in new building space.
- 5) Increase enforcement of energy code requirements to achieve ~100% compliance for new construction and substantial renovations.

VMT Reduction

- 1) Make public transit investments that significantly enhance coverage, service quality, frequency, and/or speed (e.g., bond for major transit infrastructure).
- 2) Expand and improve bicycle and pedestrian facilities, connectivity, convenience, and/or safety in a manner that significantly increases the % of trips taken by walking or biking.
- 3) Enact car-free zones or cordon pricing in core areas.
- 4) Enact higher parking prices in core locations and/or eliminate parking requirements in dense areas of the community.
- 5) Establish regional road pricing (e.g., toll roads, dynamic pricing, congestion pricing).
- 6) Establish policies to optimize urban freight movement (e.g., time of delivery, location consolidation).
- 7) Regulate private ride-hailing services such as Uber and Lyft (e.g., collecting revenue from, vehicle efficiency standards).
- 8) Establish strategy and/or policy to improve GHG impacts of autonomous vehicles.

Transportation Electrification

- 1) Require ~50%+ of all new municipal fleet vehicles be EVs.
- 2) Establish a transition plan to convert transit bus fleets to ~100% electric.
- 3) Partner with major local commercial fleet operators to transition to EVs.
- 4) Create voluntary program(s) capable of significantly accelerating community EV adoption (e.g., via incentives, technical assistance).
- 5) Restrict non-EVs from certain areas of the city and/or traffic lanes.
- 6) Require EV charging infrastructure in new construction and major renovation and/or integrate charging requirements in zoning codes.
- 7) Significantly expand EV charging infrastructure in publicly accessible locations.

Waste and Consumption

- 1) Promote consumption of low-carbon food choices.
- 2) Promote consumption-reduction approaches such as sharing and re-use.
- 3) Invest in waste management infrastructure capable of separating ~all organics from the waste stream.
- 4) Implement food waste-reduction and collection programs that capture ~80%+ of organics from all high-volume locations (e.g., restaurants).
- 5) Implement curbside organics (food waste, yard waste) collection for single-family residential properties.
- 6) Implement organics (food waste) collection for multi-family residential properties.
- 7) Require recycling of a significant percentage of construction and demolition waste.
- 8) Require that structures that meet certain requirements (e.g., age, size, condition) be deconstructed rather than demolished.
- 9) Significantly improve methane recapture at landfills.
- 10) Require significant municipal operations and community events to achieve ~zero waste.