LEBANON ENERGY ADVISORY COMMITTEE (LEAC)
JULY 21, 2022 - 4:00 PM
COUNCIL CHAMBERS, CITY HALL OR
REMOTE VIA VIRTUAL PLATFORM
LEBANONNH.GOV/LIVE

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1. Call to Order

2. Approval of Minutes

A. June 16, 2022

3. Old Business

A. Community Power Coalition of NH/Legislation/PUC Regulations

B. Landfill Gas to Energy Project & Solar

C. Updates to Building Codes

D. EV Charging RFI: Lebanon/Hanover/Hartford

E. Report on Rental Decarbonization Pilot

F. Microgrid

G. Strategies/Goals for 2022

4. New Business

A. Introduction - Nik Coates, new Deputy City Manager for Public Services

B. Master Plan Update - Discussion of Equity Issues in Energy Chapter

C. EV Subcommittee Report

D. Recent and Upcoming Conferences or Webinars of Note

E. EFM Report

5. Open to the Public

6. Future Agenda Items

7. Adjournment

Meetings are open for in-person and remote attendance. Members of the public that wish to attend remotely may do so by going to LebanonNH.gov/Live where you will find instructions on how to enter the meeting. Members of the public will be able to participate and ask questions through the City's virtual platform or by phone. Please note: Should technical difficulties occur during the meeting that disrupts virtual or phone connection(s), the meeting will continue without remote access capabilities.

AGENDA
LEBANON ENERGY ADVISORY COMMITTEE
JULY 21, 2022 - 4pm

AGENDA ITEM 2
APPROVAL OF MINUTES

JUNE 16, 2022

LEBANON ENERGY ADVISORY COMMITTEE MEETING MINUTES

Council Chambers, City Hall
June 16th, 2022
4:00 PM

MEMBERS PRESENT*: Jon Chaffee (Vice-Chair, acting Chair), Clifton Below (Council Representative), Woody Rothe, Sherry Boschert (remote), Devin Wilkie (Council Alternate, remote), Gene Homicki (alternate, remote)

MEMBERS ABSENT: Greg Ames

STAFF PRESENT: Tad Montgomery, Rebecca Owens – Planning Office (until 5:15),

GUESTS PRESENT: None

CALL TO ORDER: Meeting called to order by Jon Chaffee at 4:15 PM. Jon appointed Gene to fill Greg Ames' seat in Greg's absence.

ACCEPTANCE OF MINUTES
Woody moved to accept the May 2022 minutes; Clifton seconded. The minutes were approved unanimously without change.

OLD BUSINESS:
MASTER PLAN – ENERGY CHAPTER
Rebecca continued the work of leading LEAC members through a point-by-point evaluation of the Outcomes, Strategies, and Actions in the Master Plan's Energy Chapter. Woody proposed to develop new language, or a new section, for the Energy Chapter that would address issues of equity and present the proposed language at a future LEAC meeting. He will work with Sherry as he develops the drafts. All present affirmed that this would be good. The Planning Office will make revisions based on what has been discussed over the last few months and get a red line version back to LEAC members and relevant staff.

COMMUNITY POWER UPDATE
Asst. Mayor Below gave an update on the Community Power Coalition of NH (CPCNH), from the position of the organization's Chair. The PUC is going to adopt final proposal on rules for community power aggregations on 7/5/22. CPCNH just received RFP responses for their complete spectrum of services and credit support to launch CPA's and they are beginning to review them. One of the bills on CP has become law.

* QUORUM NOTE: When LEAC has five members, three need to be physically present to create a quorum.

LEGISLATIVE UPDATE

No new news.

LANDFILL GAS-TO-ENERGY PROJECT

No new news.

ELECTRIC VEHICLE SUBCOMMITTEE

Sherry Boschert gave a review of the EV Subcommittee's work:

- Tad gave an update on DCFC chargers at the Police Station. The City Electrician spoke with the Liberty Engineer who designed the transformer for the building 30 years ago, and learned that there is 13,000 Volts going to it that could easily feed an additional transformer nearby that could be dedicated to EV chargers. This greatly simplifies the design and installation process in light of the pending re-paving of the PD parking lot.
- The City Manager drove the City's Nissan Leaf in the Lebanon HS Alumni Parade on June 11th, along with Sherry in her Chevy Bolt and Greg in his Tesla.
- Greg said that the City's F150 is scheduled to be manufactured starting the week of June 20th.
- Sherry has been talking with Rebecca Owens in the Planning Office about how to have early EV infrastructure input in the planning process for new/proposed developments.
- Sherry has started a new state-wide EV drivers' coalition which already has 30 members. One plan is to develop a scorecard and ask legislators and political candidates where they stand on issues relating to EV's.
- Sherry led a quick discussion on goals for city-wide EV adoption and steps to achieve those goals.
- Sherry has been talking with City staff about how to get more publicity about EV's on City websites.
- Sherry gave a quick overview of a very good report on EV infrastructure development that was written by the city of Greenbelt, MD. One point she highlighted is their conclusion that for multi-family housing there should be one level 2 EV charging station for every 14 residents.
- Sherry mentioned that the Canaan Motor Club is hosting an EV 'Race Track Day' on Sept. 25th on the Canaan racetrack that is open to anyone with an EV. "A day of educational, high-performance driving! No timed racing, no trophies. Simply a focus on safety and fun on a legal road course." More info here.

NEW BUSINESS & OTHER NEWS:

RENTAL PROPERTY PILOT ENERGY RETROFIT

Jon and Woody are talking with landlords, financing organizations, etc. They went to Berlin and met with Tri-County CAP who agreed in principal that if they can find a privately-owned rental property with more than 66% of the tenants who qualify in 2022 for fuel assistance that Tri-County CAP will take on that property and weatherize it and take it all the way to heat pumps. Jon and

Woody are now talking with Liberty's residential sub-contractors to try to get the same agreement out of Liberty for their regular residential program. That would be the pilot for 2023.

ENERGY & FACILITY MANAGER'S REPORT

- Tad, Everett & LEAC members will be meeting with a company called TRC to discuss micro-grids next week.
- Liberty just announced major rate increase on the supply portion of their bill: from 11.11¢/kWh to 22.3¢/kWh that will take effect in August.
- CENH Energy Innovation Seminar – Tad will present on this next meeting.
- Tad has negotiated with Liberty to get un-registered solar production from the Valley Cemetery and Civic Memorial buildings recouped for the city if the installed meters have been functioning properly.
- City 2021 electricity accounting – there have been some glitches, but Tad is working with Liberty on them and hopes to have the data finalized soon.
- Winstanley has been very patient with the city as we try to resolve issues regarding solar on the LF Maintenance building with Liberty. Clifton & Tad are working with Liberty to get a resolution.
- Sharon Brown has approached the City to see how a 40-acre parcel of land might be used in a way that benefits future generations – Lot 24-13. Tad and Clifton walked the parcel last week and will follow up with her and members of the Planning Office who have also been involved in discussions with Sharon and the City Manager.

FUTURE AGENDA ITEMS

- LEAC work priorities for 2022-2023.
- REC discussion.
- More Master Plan discussion.
- Landfill Gas-To-Energy update.
- Solar Phase 3 update.
- CENH Energy Innovation Seminar.

NEXT MEETING

Is scheduled for Thursday, July 21st at 4 PM, City Council Chambers.

ADJOURNMENT

A motion was made by Clifton to adjourn the meeting at 6:05 PM. The motion was seconded by Sherry. The motion was unanimously approved.

Respectfully submitted,

Tad Montgomery

AGENDA
LEBANON ENERGY ADVISORY COMMITTEE
JULY 21, 2022 4pm

AGENDA ITEM 4
NEW BUSINESS

B: MASTER PLAN UPDATE – DISCUSSION OF EQUITY ISSUES IN ENERGY CHAPTER

Equity and Environmental Justice: Suggestions for the addition of this topic to the City of Lebanon Master Plan

Existing Plan:
Section #1 Introduction
Equity can be introduced as a Guiding Principle here. Perhaps in 1/A-3 as a new Sustainability Principle.

Chapter 13 Energy
13/A Executive Summary. Introduce Equity here, adding at the end of the sentence: …"with particular attention to the energy related needs and impacts on lower income and minority residents."

13/B Vision & Purpose. After first paragraph "aim to:" add another bullet point on Equity.

- Specifically involve and respond to the needs of lower income and minority residents who are disproportionately impacted by high energy costs and climate change disasters.

13/ key points. Add at the end:

- Reach out to low income and minority residents not usually involved with City planning to devise programs that could mitigate the impact of energy price increases and climate anomalies of this element of the community.

13/F-1 Regional Coordination & Leadership. Add a paragraph stating: The City of Lebanon is committed to being a leader in energy equity, reaching out to community members not usually represented or heard at the City level because of time of money constraints, who may be disproportionately affected by energy policy."

("Where climate (and energy) policy decisions are made, inequitable policy is to some extent a procedural problem: those with more money, time and historic representation are overrepresented."
https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1000&context=sabin_climate_change (p.13))

13/F-14 (new section to set forth the philosophy and approach of this topic) Equity and Environmental Justice The City of Lebanon will address the structural inequity in energy policy planning, that lower income and minority residents pay a higher proportion of their budget for energy costs, and may live in areas more exposed to climate change impacts such as extreme heat or flooding, yet these same residents are unlikely to participate or be represented in energy planning. Therefore, extra effort and attention must be given to involve and represent these residents who are "excluded" from processes that affect them greatly. LEAC, as the City committee most involved with energy planning, will establish an equity subcommittee creating liasons with organizations specifically serving low income and minority residents, such as LISTEN Community Services, and the Grafton County Senior Citizens Council and affordable housing providers such as Lebanon Housing Authority and Twin Pines Housing Trust, and,

through them, with low income and minority individuals willing to participate in energy policy planning. This committee will address education and publicity about the disproportionate effect of energy policy on low income and minority residents. The City Planning Department will add equity to its requirements for hearings on matters affecting low income and minority residents: Have specific outreach efforts been made to involve low income and minority persons?

Overall Long-Term Goal: Add a sentence here on sustainability with Equity as part of the definition of sustainability. (as stated above in the Introduction). Add at end of sentence: ."…with special attention to equity and environmental justice. "

Outcome 8: (new outcome) The City of Lebanon demonstrates to the region and to the State, a commitment to effective equity and environmental justice in Lebanon's energy future, including all residents.

Strategies: Actions:

Enclosed are some background materials that can be used as reference on the topic of Equity and Environmental Justice:
https://www.wypr.org/2022-05-13/a-low-income-energy-efficiency-program-gets-3-5b-boost-but-leaves-out-many-in-need

IMPLEMENTATION STRATEGY

Flagstaff has made progress in reducing emissions, developing innovative sustainability initiatives, and building community support for climate action. This Plan was developed to build on key climate action successes and provide a pathway to reach aggressive decarbonization targets. Making progress will require leadership and commitment from the City government and the community. The Implementation Strategy **identifies a responsible City department** for each strategy as well as a **timeline for taking action**. The **outreach strategy** outlines how to preserve momentum in the community while the **Community Action Guide** provides a set of strategies that individuals and households can use to take climate action.

To ensure that climate action and adaptation strategies meet the needs of the community and use resources efficiently, this section also lays out a series of tracking metrics and a reporting structure so that City staff can report progress to Council, update the community, and measure successes.

Kickstarting Implementation

A strong foundation of internal leadership and process will ensure that Flagstaff meets the goals of this Plan. Plan implementation will require strategic and coordinated actions among divisions, as well as leadership to ensure that mitigation and adaptation are priorities throughout the municipal organization. The first year of Plan implementation sets the stage and determines its relevance and success going forward.

STRATEGY 1. Reinforce organizational commitments to climate action.

Priority Actions

IM-1-A	Join the Global Covenant of Mayors.
IM-1-B	Update the City of Flagstaff greenhouse gas emissions goals to match the goals of this Plan.
IM-1-C	Develop a climate mitigation and adaptation decision matrix to be integrated into City plan creation and updates, including the regional plan, zoning code, and engineering standards.
IM-1-D	Establish financing systems that facilitate investments, emergency funds, and cash-flow availability to develop climate adaptation initiatives.

STRATEGY 2. Establish a foundation for successful Plan implementation.

Priority Actions

IM-2-A	Refine targets for all goals in the first six months of implementation.
IM-2-B	Create detailed blueprints for the implementation of each Plan strategy within the first six months of implementation.
IM-2-C	Host a community conversation on the *Global Warming of 1.5° C* special report by the Intergovernmental Panel on Climate Change, to identify if City goals should be refined.
IM-2-D	Identify how city codes complement this Plan and identify areas that may need minor and major modifications.

The Need for Aggressive, Global Action

Global Warming of 1.5° C, the October 2018 Intergovernmental Panel on Climate Change (IPCC) Special Report, highlighted the need to contain global temperature rise to 1.5 degrees Celsius or less. To achieve this, global carbon dioxide emissions need to fall to 45 percent of 2010 levels by 2030, and net zero global emissions by 2050. This Plan does not incorporate the heightened urgency for action due to the timing of the report's release. The Flagstaff community must discuss this report and determine an appropriate response.

Leadership

Flagstaff City Council

The success of this Plan is contingent on the Flagstaff City Council continuing to demonstrate leadership on climate change. Plan implementation also relies on continued public support for climate action.

The Flagstaff City Council will have oversight responsibility for the Plan. They will receive annual updates on Plan progress and make policy decisions, budgetary appropriations, and workplan approvals that will facilitate implementation.

STRATEGY 3. Include climate action in Council priorities.

Priority Actions

IM-3-A	Identify goals for the upcoming City Council term that will support Plan implementation.
IM-3-B	Identify City Council budgetary priorities to support Plan implementation.
IM-3-C	Identify state and federal legislative priorities that support the goals of the Plan and enable implementation of Plan strategies and actions.

Sustainability Commission

The City Council-appointed Sustainability Commission will provide ongoing assistance by supporting Plan implementation and public engagement.

The Commission will actively participate in Plan implementation by:

- Monitoring and tracking progress towards meeting Plan goals.
- Making recommendations to City Council on climate initiatives.
- Engaging with local organizations and community groups on climate action.
- Working with City staff to make recommendations on policies that further the goals of the Plan.

STRATEGY 4. Utilize the Sustainability Commission to oversee and promote the Plan.

Priority Actions

IM-4-A	Review the Climate Action and Adaptation Plan progress report annually to assess the effectiveness of Plan implementation.
IM-4-B	As part of the annual budget process, make recommendations to the City Manager's Office for areas to prioritize in the City Manager's proposed budget.

City Leadership

For a city to take meaningful action on climate mitigation and adaptation, it is critical for every aspect of the municipal organization to be involved in implementation. Leaders at the City of Flagstaff—from the City Manager's Office to division directors and individual supervisors—must proactively consider climate action and resiliency when conducting all City operations.

The City Manager's Office will actively support the Council's climate commitment by requiring the involvement of all City divisions in Plan implementation. Methods to ensure leadership across the organization include:

- Biannual City Manager's Climate Roundtables, which will foster a culture of climate leadership and sharing. Hosted by the City Manager's Office, these roundtables will provide an opportunity for each Division Director to share climate action successes and challenges in their division with City leaders.
- Forming an internal Climate Action Committee to ensure involvement from all City divisions in the Plan. The City Manager will work with the Sustainability Section to form this Committee, which will have a staff representative from each City division, with section-level representation as appropriate. The Committee will meet quarterly to review implementation responsibilities, report on progress, and discuss challenges.
- Renewing the City's commitment to the actions recommended in the City of Flagstaff Resiliency and Preparedness Study, adopted by City Council in 2012.
- Integrating climate action criteria and priorities into the budget process to ensure that climate action remains part of the conversation throughout the budget cycle. While there are many competing demands on a limited City budget, integrating climate action criteria into the budget process will:
    - Highlight opportunities where climate action can help meet the goals of other divisions.
    - Recognize deliberate steps to increase mitigation or adaptation efforts among City divisions.
    - Identify gaps and opportunities for alignment across projects.
- Recognizing that the annual budget is a reflection of City priorities, ensure that the annual City budget signals the City's commitment to climate action.

STRATEGY 5. Prioritize climate action across the organization.

Priority Actions

IM-5-A	The City Manager will host the first biannual Climate Roundtable.
IM-5-B	Form a Climate Action Committee to coordinate activities across the municipal organization, consisting of Climate Action Leads from each City division.
IM-5-C	Renew the City's commitment to the actions recommended in the City of Flagstaff Resiliency and Preparedness Study, adopted by City Council in 2012.

STRATEGY 6. Incorporate climate priorities into the budget process.

Priority Actions

IM-6-A	Each division will identify efforts that support resiliency and greenhouse gas mitigation during the annual budget review process, strategic planning, and workplan implementation.
IM-6-B	The City Manager's office will ensure that climate action is prioritized and used as a criterion in budget team decision making.
IM-6-C	The City Manager's proposed budget, presented during the annual budget review process, will incorporate a report on climate mitigation and adaptation projects that are funded in existing workplans or will be incorporated into workplans for the fiscal year.
IM-6-D	In preparation for the annual budget process, identify Capital Improvement Program projects that will mitigate the City's vulnerability to climate change impacts.
IM-6-E	To capitalize on existing programmatic infrastructure, take steps to expand existing programs such as residential energy efficiency rebates, Home Energy Efficiency 101 workshops, Neighborhood Sustainability Grants, and Climate Ambassador programming.

Municipal Organization Climate Action Planning

During the first year of Plan implementation, the City of Flagstaff will identify how its own activities contribute to the achievement of Plan goals, ensuring the City is incorporating both climate mitigation and adaptation into its operations.

- The City is committed to reducing its greenhouse gas emissions to reduce the pace of global climate change and contribute to the achievement of this Plan's overarching goals. The City must recognize how the activities of the municipality contribute to climate change.
- The City must prepare for how climate change will impact its ability to serve residents. Building local resiliency against risk from climate variability and climate change within the municipal organization will help ensure continued prosperity. To assist this process, the City will update the 2012 City of Flagstaff Resiliency and Preparedness Study to analyze how the municipal organization can be better prepared for anticipated climate changes.

These efforts will be centered through a municipal planning process, to build capacity within the organization. Each division will complete a three-part process:

- Education and capacity building: Review the potential impacts of climate change, analyze the division's impact on greenhouse gas emissions, and identify vulnerabilities.
- Climate action assessment: Describe how the division's activities relate to and align with the Plan; identify mitigation and adaptation actions that the division will take.
- Integration into division budgets: Provide a report detailing how each budget item will affect greenhouse gas emissions and align with the Plan.

STRATEGY 7. Develop a City-wide Climate Plan integration process.

Priority Actions

IM-7-A	Continue to track municipal greenhouse gas emissions and publish a greenhouse gas inventory, which will be widely disseminated among City staff.
IM-7-B	Update the City of Flagstaff Resiliency and Preparedness Study to recognize evolving scientific understanding of climate change risks and identify how City vulnerabilities have changed.
IM-7-C	Implement a municipal planning process that focuses on education and capacity building, climate action assessment, and integration into division budgets.
IM-7-D	Create a data management plan for the organization to integrate climate-related considerations into the work of all divisions.

The 2012 Resiliency and Preparedness Study

The seven recommendations of this study will help the City prepare for climate-related impacts.

1. Build, sustain, and leverage local and regional partnerships.
2. Consider how differential exposures to pollution, poverty, and access to resources exacerbate the effects of climate change.
3. Ensure that operational decisions integrate resiliency.
4. Take climate change into account when planning for new development.
5. Prioritize proactive education within City operations.
6. Incorporate resiliency as a priority during City planning efforts.
7. Allocate resources to adapt City operations to climate change, including ongoing assessment of vulnerability and risk.

Required Staff Capacity for Climate Action Coordination

Dedicated staff are required to ensure that climate action and adaptation efforts are continually incorporated into existing City operations, policy development, and community partnerships. This may include the creation of additional staff to manage the implementation, tracking, and reporting of the strategies and actions and to coordinate with City staff across divisions and external stakeholders.

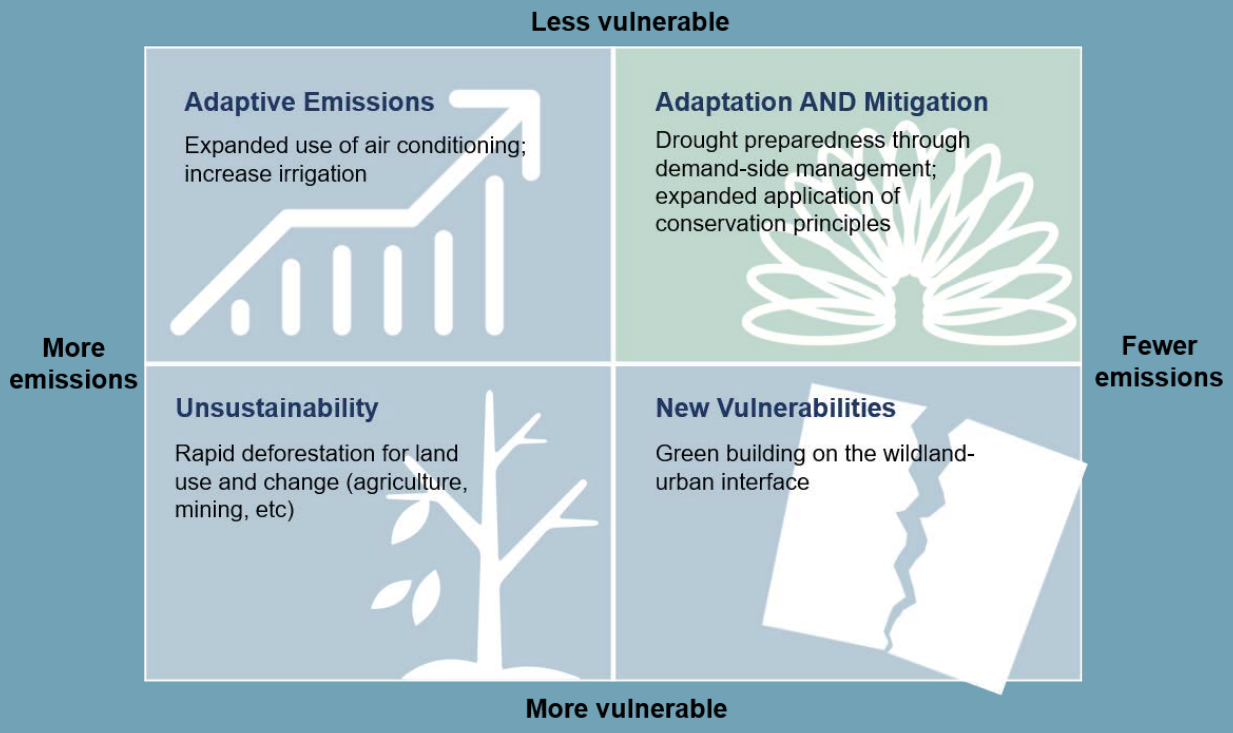
The Plan recommends enhancements—and in some cases staff positions—for various City programs, such as a permanent City of Flagstaff staff position for outreach and education related to forest health. These staffing decisions will be presented through the budget processes.

STRATEGY 8. Ensure staff capacity exists to implement the Plan.

Priority Action	
IM-8-A	Evaluate staffing needs to address the priorities identified in the Plan, and provide adequate resources to implement the Plan.

Incorporating vulnerability and emissions into decision-making

This matrix is a tool that can be used to support decision-making within the City of Flagstaff. The City should strive for actions that both reduce vulnerability and reduce emissions (top right quadrant).



Expanding Community Capacity

To reach more people, the City must foster climate change conversations throughout the community: at community gardens, schools, churches, and dinner tables. Climate leaders surround us in Flagstaff, whether they are formally recognized Master Recyclers or those who pass down traditions of produce canning, sewing, or walking with their family to school.

To expand the climate change conversation and inspire action, we need to support current and future climate leaders within the community, while celebrating those who take climate action daily.

The City will work with community partners to implement or enhance the following programs that encourage learning among neighbors:

- **Climate ambassadors**. The City will develop a Climate Ambassadors Program to equip Flagstaff community members with the skills and resources to discuss climate change and climate action with their neighbors. It will include a workshop series to review climate change resources, bring in guest speakers, and help participants practice their "pitch" for climate action. This program will be modeled after successful climate ambassador programs in other U.S. cities.
- **Youth climate education and action.** The City will continue to support climate education and youth climate action through climate curricula in schools, the Climate Action Challeng,e and the Flagstaff Youth Climate Summit. These programs ensure that students are knowledgeable about how climate change will affect Flagstaff and are equipped to deal with climate challenges, while encouraging and celebrating student-led climate action.
- **Climate leadership training.** This program will support individuals throughout the community in taking climate action. It will equip leaders to effectively discuss climate change, identify risks to their industries, and develop practical solutions. Potential partners include NAU and the Greater Flagstaff Chamber of Commerce. The training will have tracks for different audiences, including internal City of Flagstaff staff, business leaders, and City partners**.**
- **Neighborhood Sustainability Grants.** The Neighborhood Sustainability Grants seek to foster community partnerships that promote sustainable and healthy lifestyles. Grant projects focus on one of the following priority areas: promoting economic, environmental, and social sustainability; local food systems; alternative transportation; reducing waste, water, and energy conservation; or enhancing existing programs that build community knowledge and empowerment.
- **Climate Action Working Groups.** The City will establish working groups, made up of community members, City staff, or a combination of both, to tackle specific implementation topics. Examples include climate and equity, climate change and public health, building electrification, and accelerating electric vehicle adoption.
- **Resilient Neighborhood Groups.** Organizing within neighborhoods can help residents prepare for energy disruptions, disasters, and other emergencies. Resilient Neighborhood Groups build on the community's existing strengths, identify vulnerabilities, and bring neighbors together.

STRATEGY 9. Support community leadership on climate action.

Priority Actions

IM-9-A	Develop Climate Ambassadors and climate leadership training programs.
IM-9-B	Strengthen efforts to support youth climate education and action.
IM-9-C	Create community working groups as needed to tackle challenging implementation topics or undertake work where greater community collaboration is needed.

Operationalizing Equity

Considering equity when implementing climate action goes beyond merely distributing resources equally. Providing equitable access requires meeting community needs in the context of existing vulnerabilities and inequalities.

Equity will be considered throughout the Plan implementation process through the following practices:

- **Design policies and programs that serve disadvantaged communities first.** Target policies and programs at communities experiencing high pollution burdens, low-income, poverty, health issues, and exposure to climate hazards.
- **Engage with the community.** Proactively engage community leaders on an ongoing basis.
- **Use the "operationalizing equity checklist" when implementing actions.**

Ensuring that participation in climate action is accessible to the entire Flagstaff community will require considering equity in policy, outreach, and infrastructure development. City staff will work to involve diverse community voices from the start of any new initiative and will track progress towards advancing equity.

The most effective climate initiatives achieve greenhouse gas emissions reductions, reduce vulnerabilities, and serve disadvantaged communities. Taking climate action can create opportunities for underserved communities and accelerate the penetration of market-based solutions. For example, some cities have begun selling used electric fleet vehicles to members of their communities to ensure lower-cost electric vehicles are available to a wider spectrum of the community.

It is also possible that climate action strategies may lead to adverse, unintended impacts. For example, improving bike lanes and adding open space could increase the speed of gentrification and displacement, while additional City fees could add new burdens for low-income communities. The potential for other, unforeseen impacts to the community will be considered during Plan implementation, and efforts will be made to anticipate and address any such impacts or burdens as they arise.

Equity Implementation

The following steps will ensure that the above considerations are incorporated into Plan implementation.

STRATEGY 10. Integrate equity considerations into Plan implementation.

Priority Actions

IM-10-A	Establish a climate and equity working group to build partnerships in the community, identify community needs, determine barriers to participation, recommend ways to make climate action events more accessible to residents, and ensure that Plan implementation follows the nine key equity considerations in the operationalizing equity checklist.

IM-10-B	Conduct a community-wide needs assessment to understand how needs are being met and how climate change affects neighborhoods differently.
IM-10-C	Incorporate equity indicators into monitoring and evaluation processes.
IM-10-D	Create opportunities for youth to be actively involved in decision-making and climate action.
IM-10-E	Engage community members from all income levels, races and ethnicities, political persuasions, and neighborhoods in Plan outreach efforts.

OPERATIONALIZING EQUITY CHECKLIST

Below are **key equity considerations and questions** that Flagstaff will consider when implementing climate actions. These considerations are drawn from the City of Portland's *Climate Action Plan*, which is recognized as a leading document on integrating climate plans and equity.[1]

- **Disproportionate impacts:** Does the proposed action generate burdens (including costs), either directly or indirectly, to communities of color or low-income populations? If yes, are there opportunities to mitigate these impacts?
- **Shared benefits:** Can the benefits of the proposed action be targeted in progressive ways to reduce historical or current disparities? Are the benefits dispersed not only equally, but equitably?
- **Accessibility:** Are the benefits of the proposed action broadly accessible to households and businesses throughout the community—particularly communities of color, low-income populations, and minority-owned, women-owned, and emerging small businesses?
- **Engagement:** Does the proposed action engage and empower communities of color and low-income populations in a meaningful, authentic, and culturally appropriate manner? Are community stakeholders involved and engaged in implementation?
- **Capacity:** Does the proposed action help build community capacity through funding, an expanded knowledge base, or other resources?
- **Alignment and partnership:** Does the proposed action align with and support existing communities of color and low-income population priorities, creating an opportunity to leverage resources and build collaborative partnerships?
- **Relationship building:** Does the proposed action help foster the building of effective, long-term relationships and trust between diverse communities and local government?
- **Economic opportunity and staff diversity:** Does the proposed action support communities of color and low-income populations through workforce development, contracting opportunities or the increased diversity of City and County staff?
- **Accountability:** Does the proposed action have appropriate accountability mechanisms to ensure that communities of color, low-income populations, or other vulnerable communities will equitably benefit and not be disproportionately harmed?

Accountability and Reporting

ACCOUNTABILITY

Accountability will be ensured through consistent and transparent reporting to the community and the Sustainability Commission, which will monitor implementation progress.

To support Plan implementation and accountability, the City should join the Global Covenant of Mayors for Climate & Energy. The Global Covenant of Mayors is an international coalition of cities committed to climate change mitigation and resilience. Becoming a signatory would officially commit the City to greenhouse gas reporting, submitting a plan for climate action, assessing climate risks and vulnerabilities, and defining reduction targets. The Plan fulfills many of the Covenant's requirements. However, ongoing public reporting and disclosure requirements could help Flagstaff maintain momentum on implementation, regardless of staff or elected changes.

REPORTING AND EVALUATION

This section presents a structure for ongoing monitoring, evaluation, and reporting on Plan progress. Investing in data collection and consistent reporting is a key aspect of implementation and increases transparency. City staff will regularly track and report on Plan indicators, greenhouse gas emissions, and notable progress on implementing strategies.

Reporting

The City of Flagstaff has been annually monitoring and reporting both municipal and community greenhouse gas emissions since 2008. These inventories provide insight into Flagstaff's progress and trends in emissions. The City will continue to update the municipal and community greenhouse gas inventories on an annual basis.

Regular reporting will ensure transparency and continued progress. City staff will measure progress on key performance indicators and report to the community regularly. On an annual basis, the City Manager will request that City staff produce a Plan progress report that includes:

- Progress of each Plan action.
- Key performance indicator updates, including an annual greenhouse gas inventory.

Evaluation

The Sustainability Commission will evaluate the progress of Plan implementation on an annual basis, through review of the annual Climate Action and Adaptation Plan progress report. Informal progress reports will be provided by City Staff at regular Climate Action Committee meetings.

Plan Updates

The City will work with community partners to update the Plan every five years. This five-year update schedule will ensure that the plan can respond to changing circumstances, market factors, implementation challenges, and successes. This process will include updating Plan goals, adjusting indicators, and re-prioritizing actions based on local circumstances and new technologies.

STRATEGY 11. Report regularly to the community on greenhouse gas emissions and climate action.

Priority Actions

IM-11-A	Continue to update and publish greenhouse gas emissions inventories for both the City of Flagstaff municipal organization and the Flagstaff community.
IM-11-B	Develop a Climate Action and Adaptation Progress Report to report to the community on an annual basis, including progress on plan actions and key performance indicators.
IM-11-C	Create an online dashboard to illustrate progress on the Plan's actions. This dashboard will be updated annually, with indicators showing which actions have been completed, which are in progress, and which have not been started.
IM-11-D	Coordinate with the Community Development Division to ensure key performance indicators from this Plan are aligned with existing metrics used for annual reporting on the Flagstaff Regional Plan.
IM-11-E	Provide an annual update to the public on Plan implementation through an annual event held during the Flagstaff Festival of Science.

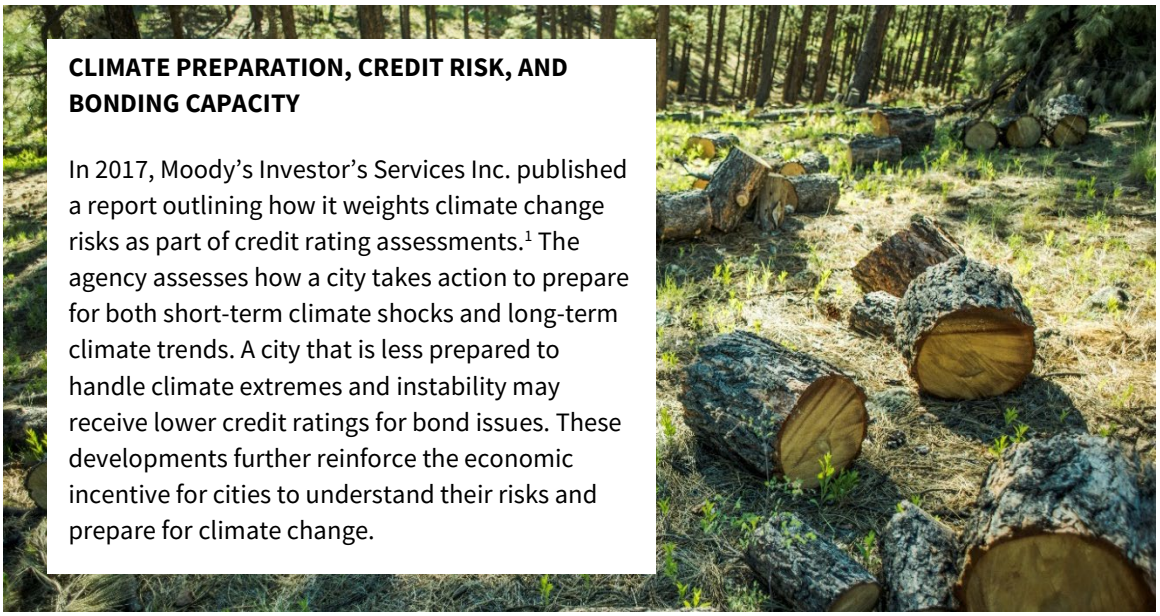
Funding

Financial investments are necessary to prepare Flagstaff for climate change. Investing in building resiliency throughout Flagstaff has many benefits, financial and otherwise. The benefits of adaptation include the costs we avoid by reducing or averting the negative local impacts of climate change, while mitigation helps us avoid damage from larger changes in the climate. Climate action can also be used to strengthen local businesses, support vulnerable community members, and improve quality of life.

Funding for the implementation of Plan strategies will need to come from within the City budget, agency grants, and new revenue sources. Some actions in the Plan require capital investment in City infrastructure and others will require increases in annual operating budgets. Some actions are good candidates for state, federal, or foundation funding.

Funding options include:

- **Renewable energy development savings**. The City of Flagstaff is committed to transitioning to 100% renewable energy for all City government operations. When the City moves forward with partnerships to develop renewable energy, the cost savings could be substantial. Cost savings could then be redirected to fund climate action within Flagstaff.
- **Revisions to the City of Flagstaff Environmental Management Fee (EMF).** The EMF, established in 2002 and authorized in the Solid Waste Code Chapter 7-04-001-0010 FEES, is a fee of $4 per month per utility bill charged to fund citywide environmental programs, including but not limited to sustainability, environmental management, and conservation education programs. The fee assessment structure could be revised to more equitably distribute the costs of community impacts and programming designed to mitigate those impacts. An assessment based on water consumption, for example, could generate significant funding while promoting water conservation.



CLIMATE PREPARATION, CREDIT RISK, AND BONDING CAPACITY

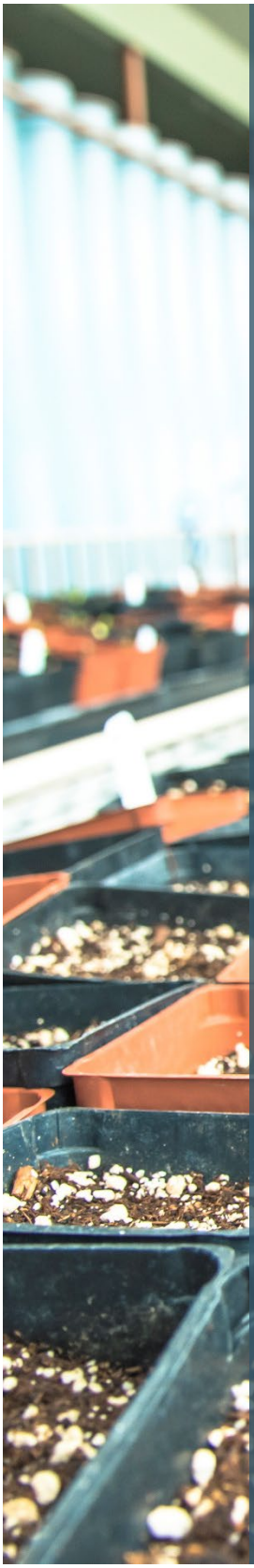
In 2017, Moody's Investor's Services Inc. published a report outlining how it weights climate change risks as part of credit rating assessments.[1] The agency assesses how a city takes action to prepare for both short-term climate shocks and long-term climate trends. A city that is less prepared to handle climate extremes and instability may receive lower credit ratings for bond issues. These developments further reinforce the economic incentive for cities to understand their risks and prepare for climate change.

- **Energy efficiency upgrade savings.** Energy efficiency retrofits can lead to significant savings for City operations. These savings could be allocated to a climate action fund for reinvestment into mitigation and adaptation actions.
- **Carbon pricing**. The City of Flagstaff was the first city in Arizona to call for revenue-neutral carbon fee and dividend legislation.[2] A carbon fee and dividend places a fee on fossil fuels at the source (a mine, well, or port). All revenue from this fee, minus a small administrative portion, is returned to households equally. Carbon pricing can be both a strategy to encourage positive environmental behaviors as well as a funding mechanism to support City climate work. Some leading cities are experimenting with carbon impact fees, and others with revenue neutral taxes. Strategies to price carbon and support City climate change goals could include:
  - Develop a local carbon offset program, collecting optional financial contributions from residents seeking to offset their carbon footprint. Proceeds would go to local climate action projects.
  - Establish a carbon impact fee on new building projects to support climate mitigation efforts.[3]
  - Implement a utility tax on fossil fuel energy that reflects the social costs of emissions.
- **A climate action tax.** A climate action tax, if approved by Flagstaff voters, would fund climate action. Climate action taxes are often modeled off the City of Boulder's landmark Climate Action Plan tax, passed by Boulder voters in both 2007 and 2015. Climate action taxes raise revenue for climate action programs. In Boulder, tax revenue funds energy advising services and rebates for residents, energy efficiency requirements for rental properties, and energy pilot programs, among other initiatives.
- **Collaborative projects**. City staff can identify projects that align with both climate goals and community investment goals, and work to maximize the adaptation and mitigation benefits. Economic Vitality currently supports projects that achieve both climate and economic goals such as the Innovate Waste Challenge and the adaptive reuse program.
- **External funding opportunities.** The City of Flagstaff, local businesses, and individuals should pursue state and federal incentives and external funding programs. A list of these programs is included in the Information Sources section on page 61.
- **Neighborhood Sustainability Grants.** These grants, funded by the City of Flagstaff and overseen by the Sustainability Commission, can catalyze climate action in the community. This small program could be expanded and linked more closely to climate action and mitigation.

STRATEGY 12. Create climate action funding proposals through the budget process.

Priority Action

IM-12-A	Develop a funding proposal that supports the success of Plan implementation, which will be considered by the City Manager's Office and the City Council as part of the annual budget process.



FUNDING TENSIONS

The strategies and actions of this Plan will require funding over the entire course of implementation, creating another competing demand on the limited City budget. Yet the costs must be weighed against the long-term consequences of inaction.

This Plan will not be implemented right away or all at once. It will take time, money, and ongoing work with the community. To ensure that this Plan does not add undue financial burdens for Flagstaff's low-income communities, Flagstaff must employ creative funding sources and take advantage of evolving markets and technology.

Much of Flagstaff's greenhouse gas emissions mitigation will be achieved by working *with* the solar and electric vehicle markets, and not against them. The City can help residents take advantage of tax credits, remove regulations inhibiting new technology, and help with up-front financing. Investing in change at key leverage points, such as during construction, reduces the cost of action. Many investments are low-cost or require only staff time, yet can have a significant impact. Flagstaff will need to embrace innovation and get creative.

This Plan overlaps with many other City plans; identifying common goals should be the highest priority. Close collaboration will highlight when seemingly unrelated projects have climate impacts, or where small investments can yield large returns. While climate action is a long-term, complicated endeavor, creative solutions will ensure that the benefits outweigh the costs.

Community Outreach

Individual actions and community engagement are crucial to reduce emissions and adapt to climate change. Over 300 Flagstaff community members have participated in the Plan development process, demonstrating the City's deep commitment to collaboratively address climate change. To continue leveraging community engagement, the City will sustain outreach efforts in person and online through the following methods:

- **The City of Flagstaff's Climate Programs webpage**. The "Climate Programs" page on the City website will be utilized to share information on climate change and efforts to reduce greenhouse gas emissions as well as case studies of businesses and homeowners exhibiting climate leadership. The City's website will also provide information on relevant rebates, incentives, and climate action programs.
- **Recognizing leadership.** The City can host a climate awards program to showcase businesses, schools, and homeowners that are taking innovative climate action. The Flagstaff community can also recognize elder wisdom embedded in communities and those community members who are unsung experts in resource conservation, whether by necessity or tradition. Promoting success stories demonstrates what is possible, increases awareness and provides recognition, accelerating community progress.
- **Online performance dashboard.** The City could develop an online dashboard to track building and City-wide sustainability performance, thereby providing accountability and increasing awareness. The dashboard would display energy and water use intensity of public buildings, schools, or businesses willing to participate in the program. The dashboard could facilitate friendly competition to see which building can reduce its energy intensity the most.
- **Social media.** Flagstaff can grow its social media presence on platforms like Twitter, Facebook, Instagram, and NextDoor to facilitate communication about climate change among community members and City staff and leaders. Social media can be effective for announcing events, soliciting feedback, and showcasing successes.
- **Collaboration and community group development**. Relationships with existing community groups are essential to effectively implement strategies, address equity, and spread awareness. The City will aim to partner with local community groups to implement Plan strategies. The City can also support the creation of new community groups focused on climate action. For example, the City could facilitate the creation of neighborhood block groups organized around energy efficient behavior, shared resiliency tools and resources, or renewable energy.
- **Partnership with the Flagstaff Climate Action Council and other organizations.** The City should identify groups focused specifically on climate action to partner with on Plan implementation. Groups such as the Flagstaff Climate Action Council can take responsibility for implementing various strategies and actions in the Plan that are best achieved by community groups. Certain community groups focused specifically on climate action can become powerful forces for Plan implementation, outreach, and achievement of community goals.
- **Community forums, meetings, and updates.** To maintain interest and participation in Plan implementation, the City will continue to organize public forums each year to share progress and

new initiatives. Convening spaces for public input and education will play an invaluable role in the ultimate success of all Plan strategies. Additionally, providing periodic public updates will hold the City accountable for completing action in a timely manner. For example, coupling Plan reports with a local climate action speaker series would be educational and support tracking the implementation of Plan strategies. Coffee and Climate sessions can continue to serve as an informal forum to discuss climate action with staff.

- **Community events.** Engaging with a wider audience of Flagstaff residents will require having conversations with people outside of climate-specific events. Climate advocates, City staff, and partners should utilize existing community events as an opportunity to discuss climate action with the general public and provide updates on the Plan. Examples include First Friday events, the Flagstaff Festival of Science, and the County Fair.
- **Monthly newsletter.** The City will continue to use the monthly Climate Plan newsletter to send updates on new action and upcoming events. This channel could also be used to highlight Plan implementation success stories or direct residents to new surveys.

STRATEGY 13. Communicate with the public and maintain momentum for implementation.

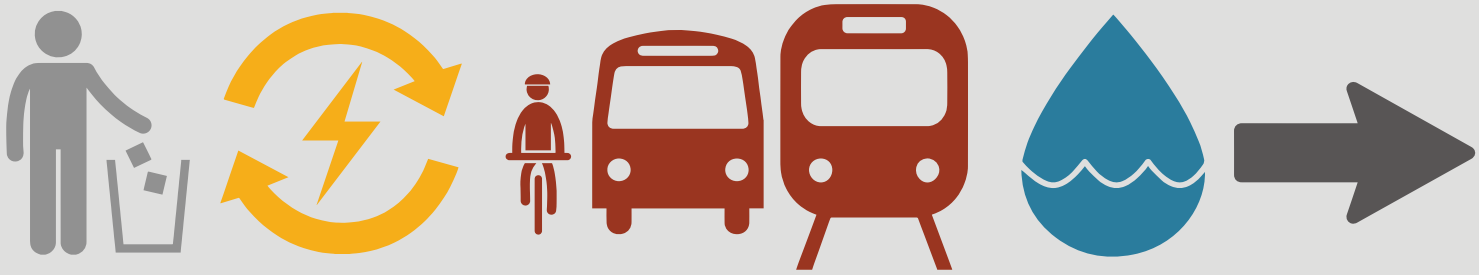
Priority Action

IM-13-A	Create a comprehensive framework that identifies diverse outreach methods.

FLAGSTAFF COMMUNITY CLIMATE ACTION GUIDE

Setting a goal is just the first step!

Making progress towards Flagstaff's ambitious climate action goals is going to take more than just action from the City itself—individuals and community groups all have a critical role to play as well. Through thoughtful and committed actions from all, Flagstaff can become a more resilient, healthier, and more equitable city for people to live in and visit for both current and future generations. **This guide highlights actions that individuals can take to reduce their carbon footprint or increase community resilience.**



WHICH ACTIONS WILL YOU TRY TAKING?

Reduce my garbage

- [ ] Reduce the amount of food my household wastes.
- [ ] Compost organic waste in my backyard or purchase compost pick-up.
- [ ] Fix things that are broken instead of buying new.
- [ ] Use the Hazardous Products Center and bulky item pick-up programs to properly dispose of old refrigerators, e-waste, and air-conditioning units.
- [ ] Talk with my contractor about alternatives to traditional building demolition, such as relocation, deconstruction, and salvage.
- [ ] Shop locally and support local businesses.
- [ ] Support efforts to reduce and limit single-use disposable plastics.
- [ ] Eat more low-carbon foods, such as minimally processed foods, fruits, grains, and vegetables.
- [ ] Encourage the creation of community gardens on public and private lands including school campuses, City lands, and church properties.
- [ ] Start a tool lending library in my community.

Embrace non-car travel

- [ ] Increase the number of trips I make by transit, carpooling, walking, or biking.
- [ ] Try out an electric bike for my commute.
- [ ] Organize a "walking school-bus" to walk a group of kids to school.
- [ ] Delay my next purchase of a new vehicle, if it's possible to get more life out of my current car. When I decide to make a purchase, I'll investigate electric vehicles and hybrids.
- [ ] Use alternatives to air travel when possible.
- [ ] Support development that creates vibrant, higher density, mixed-use areas to reduce the need for driving in Flagstaff.

Reduce my energy use

- [ ] Get an energy audit to find ways to increase energy efficiency at home and at work.
- [ ] Install energy conserving appliances and fixtures, such as on-demand tankless water heaters, Energy Star appliances, and LED lightbulbs.
- [ ] Install electric furnaces, water heaters, dryers, stoves, and more.
- [ ] Voice my support for City policies that reduce greenhouse gas emissions.
- [ ] Install solar PV and storage at my home—or sign up for the APS Solar Communities program to use my roof for solar.
- [ ] Replace a wood-burning fireplace with gas or electric.
- [ ] Install alternatives to air conditioning when renovating my home.

Conserve water

- [ ] Conduct a water audit at my home, and replace inefficient toilets and fixtures.
- [ ] Set a goal of reducing my household's hot water use by 15%.
- [ ] Consider efficient alternatives to traditional water heaters, like tankless water heaters, electric heat pump water heaters, or solar thermal hot water heaters.
- [ ] Install a rain barrel to harvest rainwater for outdoor use.
- [ ] Replace turf grass with drought tolerant landscaping or native plants; install smart technology on existing irrigation systems.

INFORMATION SOURCES

EXTERNAL FUNDING OPPORTUNITIES

Federal incentives and programs

- Residential renewable energy and efficiency tax credits: http://www.energystar.gov/taxcredits
- Business Energy Investment Tax Credit for renewable energy: https://www.energy.gov/savings/business-energy-investment-tax-credit-itc
- Federal Energy Management Program for federal agency energy efficiency (FEMP): https://www.energy.gov/eere/femp/federal-energy-management-program
- Fannie Mae Green Financing: https://www.fanniemae.com/multifamily/green-initiative-financing.
- Rural Energy for America Program: Renewable Energy Systems & Energy Efficiency Improvement Loans & Grants; Energy Audit & Renewable Energy Development Assistance Grants: https://www.rd.usda.gov/programs-services/all-programs/energy-programs
- FHA PowerSaver Loan Program: https://www.energy.gov/savings/fha-powersaver-loan-program.
- Federal Tax Credit for Electric Vehicles: https://www.fueleconomy.gov/feg/taxevb.shtml
- FEMA Hazard Mitigation Assistance: https://www.fema.gov/hazard-mitigation-assistance
- Natural Resource Conservation Service Programs: Conservation Stewardship Program; Environmental Quality Incentives Program; Water Bank Program and Agricultural Management Assistance: https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/

Arizona and APS programs

- Renewable Energy Production Tax Credit: https://azdor.gov/tax-credits/renewable-energy-production-tax-credit
- Multifamily Energy Efficiency Program: https://www.aps.com/en/business/savemoney/by-business-type/Pages/multifamily.aspx
- APS Residential Energy Efficiency Rebate Program: https://www.aps.com/en/residential/savemoneyandenergy/your-options/Pages/home.aspx
- Energy Star Homes Program for Builders: https://www.aps.com/en/ourcompany/doingbusinesswithus/constructioncorner/Pages/energy-star-homes-program-for-builders.aspx
- APS Business rebates: https://www.aps.com/en/business/savemoney/businesssolutions

External Funding Opportunities

- Keeling Curve Prize and the Urban Sustainability Director's Network micro-grant funding

REFERENCES

[1] Climate change is forecast to heighten US exposure to economic loss placing short- and long-term credit pressure on US states and local governments." *Moody's Investors Service. November 28th 2017. https://www.moodys.com/research/Moodys-Climate-change-is-forecast-to-heighten-US-exposure-to--PR_376056.*

[2] "Climate Programs." *The City of Flagstaff Arizona*. http://flagstaff.az.gov/1732/Climate City Council Climate Action section.

[3] See Watsonville's Ordinance creating a Carbon Impact Fee: Ordinance No. 1314-15. *City of Watsonville* . 30 March 2015. https://www.cityofwatsonville.org/DocumentCenter/View/196/Carbon-Fund-Ordinance-PDF

This Plan was created by the Flagstaff community, for the Flagstaff community. Meaningful conversations with residents helped shape the goals and strategies discussed in this Plan.

Equity and Inclusion Worksheet for Legislative and Policy Review [1]

Equity is a goal based on the idea that every person deserves to have a fair chance to succeed, and begins with the acknowledgement that this has not been the case for all of the many and varied communities that make up our city and our country. Seeking equity means taking into account historical and present-day disparities in privilege and access to resources in order to create a fairer outcome for all. In a system where the status quo privileges some communities over others, any policy or legislation that maintains the status quo will be inherently inequitable, and therefore sometimes (though not always) seeking equity requires that resources be shared preferentially in order to account for these past and present disparities.

In line with the ever-evolving nature of equity discussions, this worksheet does not include a set list of minoritized communities and identities. Instead, when answering the questions this worksheet sets out, you will be required to consider each time what it means to be a community traditionally not included or consulted in the development of policy and legislation. These communities may, for example, be based on race or ethnicity; culture, language, or religion; sex, gender, and sexual orientation; disability and/or neurodiversity status; socio-economic and marital/familial status; age; citizenship and immigration status; veteran status; criminal history; and educational attainment. Communities may be based on combinations of these, or on others not mentioned. The work of equity involves ongoing engagement, flexibility, and frequent re-evaluation.

Because equity is an ever-evolving target—and therefore must be sought on a continuous basis—this worksheet can only serve as a tool for seeking equity, not a guarantee of an equitable outcome. It is to be used as a part of an ongoing, conscious effort on the part of the City to foster a culture of seeking equity, and in doing so, to work toward a fairer outcome for all.

Lastly, please note that the questions included in this tool do not need to be answered in order. Discussions of equity often involve multiple iterations that feed back on one another. Seeking equity is a process, not a checklist. **A companion document has been provided that can act as both a primer and a companion to this worksheet, to help you in your efforts.**

[1] This is a draft of an Equity and Inclusion Lens Worksheet for the review and development of legislation, policies, and procedures for the City of Lebanon, New Hampshire. It was last updated 5 July 2022, and now includes a companion document after the worksheet.

Opportunities for Change. In order to use this worksheet, it is helpful to first put into words the situation or circumstance that is presenting an opportunity for greater Diversity, Equity, and/or Inclusion in the community.

What is the opportunity at hand? Describe the policy, procedure, practice, program, code, or ordinance (etc.) that is being explored. Is it new or a modification of an earlier policy (etc.)?

Addressing Community Concerns. Because all policies and legislation affect different communities in different ways, plans should be made to identify, include, and engage any and all affected communities.

Identify *the community or communities the proposed policy or legislation might have an effect on. If those communities are not known, explain the plan to identify them.*

Identify *those the proposed policy or legislation might leave out. If those are not known, explain the plan to identify them. Describe who could be left out by the proposed policy or legislation, and how this might be verified.*

Have those communities been reached out to? If not, what is the plan to ***reach out*** *to those communities to involve, engage, and collaborate with them regarding the proposed policy or legislation?*

What are the concerns these communities have in regards to the proposed policy or legislation? If those concerns are not known, what is the plan to discover those concerns?

If the concerns are known, what are the plans to address these concerns?

Setting Equity Goals. Because all policies and legislation intersect with equity considerations, they should all have specific, actionable equity goals and assessment plans that involve the affected communities.

What are the equity goals of the proposed policy or legislation, and what communities were consulted in creating them? If there are no equity goals, take some time now to brainstorm: What are the opportunities that present themselves? Do potentially affected communities have ideas? Are there plans to consult those communities (see Addressing Community Concerns section)?

How can the proposed policy or legislation be crafted in order to attain these equity goals?

How might the proposed policy or legislation be crafted to improve access to resources for traditionally minoritized and/or disadvantaged communities?

What is the plan to involve the affected communities in the assessment of progress toward those goals? Are they involved in the design of the assessment framework as well as the ongoing measurement?

Prioritizing Equity. Because resources are finite, concessions are often made when crafting policies and legislation, therefore plans should be made to ensure that equity considerations are prioritized.

Is there a plan to involve affected communities in determining priorities regarding the proposed policy or legislation? If not, take a moment to brainstorm ways to involve the affected communities.

In what ways do the priorities of different interests and communities overlap?

In what ways do the priorities of different interests and communities conflict?
What is the plan to address any conflicts that arise, while continuing to prioritize the affected communities?
What is the plan to involve affected communities in assessing whether those priorities are being maintained in an ongoing manner? What recourse do affected communities have if these priorities are not being maintained?

Companion to the Equity and Inclusion Worksheet for Legislative and Policy Review

Equality and Equity

We are often taught that **equality** is something we should value, and while this is certainly the case, it is also an idea that we need to look at more closely, because equality can mean different things in different situations. **Equal treatment** is not always the same thing as **equal access to resources** or **equal opportunity to succeed.** This is why we prefer to discuss **equity** rather than equality: **the goal of equity is to create a world in which everyone has an equal opportunity to succeed.**

Imagine a running race: if everyone starts at the same place at the same time, we think of it as fair when one person wins and the others don't. This is because everyone has an **equal opportunity** to run the race. But now imagine that one runner has to start fifty feet behind the others. The runners are treated equally in that they all start the race at the same time, but most onlookers would hardly call it a fair race. In this example, the extra distance is what we call a **systemic barrier to opportunity** (or **systemic barrier to access**). Equity seeks to remove systemic barriers so that everyone can start the race from the same starting line.

Image source: Advancing Equity and Inclusion: A Guide for Municipalities, City for All Women Initiative (CAWI), Ottawa.

That said, striving for equity is rarely straightforward. In the above image you see three people trying to watch a baseball game. In the first frame, we see the boxes distributed **equally**, each standing on one box. But in this scenario the person on the right still cannot see over the fence. In the second frame, we see a **more equitable** situation: the boxes are distributed

preferentially. Now all three people achieve their goal, which is to see the game. This is an improvement, but not the end goal of equity. For that, we need to look to the third frame, where the fence—the **systemic barrier**—has been removed from the equation, in this case by making it see-through. Now, no boxes are needed at all. This is the real goal of those working for equity, and it is often referred to as **justice**. Once this is achieved, equal treatment and equitable treatment are one and the same.

Let's take a look at a real-world example of inequity. According to a 2019 survey by SCORE (a non-profit focusing on small businesses), 66.3% of new entrepreneurs started their businesses using personal savings.[2] According to research by the Brookings Institute (a non-profit public policy organization), a typical Black family in America has only one tenth the wealth of a typical white family ($17,150 compared with $171,000).[3] Put together, these facts mean that—all other things being equal—a typical Black would-be entrepreneur has a significant disadvantage when it comes to starting a business. This wealth disparity is a **systemic barrier** to opportunity, in this case the opportunity to start a business.

There are many ways to respond to a situation of inequity. In this case, **equality** would be making a loan program equally available to everyone, whereas **equity** would require that extra steps be taken to help specifically Black entrepreneurs to get loans. This is a good solution, but it isn't the end goal. Returning to our running race analogy, this would be like the disadvantaged runner still starting the race from fifty feet behind, but being given better shoes and special training to be able to run faster. In the very best-case scenario, we would only distribute resources **preferentially** as a stopgap measure, while we addressed the cause of the situation of inequity, i.e., the systemic barrier itself: the Black-white wealth gap.

The Worksheet

As we saw above, in every situation of inequity, there are a range of possible responses. This worksheet is designed to help you to identify systemic barriers, to identify the range of possible responses, and to decide which responses to take in a process that involves those affected.

minoritized and/or disadvantaged communities and identities. As mentioned in the preamble to the worksheet, the worksheet does not include a set list of minoritized and/or disadvantaged communities and identities. This is because identities shift over time, and a community that may be minoritized today may either not be minoritized in the future, or else may be divided into several communities of varying types and degrees of marginalization and/or disadvantage. It is the responsibility of those in power to do the hard work of reaching out and listening, in order to

[2] SCORE, "Entrepreneurs Rely on Personal Savings, Second Jobs to Fund Critical First Year." 10 October 2019. https://www.prnewswire.com/news-releases/entrepreneurs-rely-on-personal-savings-second-jobs-to-fund-critical-first-year-300936339.html

[3] McIntosh, Kriston *et al.*, "Examining the Black-White Wealth Gap." *Brookings*. 27 February 2020. https://www.brookings.edu/blog/up-front/2020/02/27/examining-the-black-white-wealth-gap/.

learn which communities are experiencing barriers to access to resources and/or barriers to opportunity and make changes to address them.

Addressing community concerns. Because systemic barriers can vary widely in different communities, the worksheet begins with a section designed to help determine which (if any) minoritized communities might be affected by the proposed policy or legislation under consideration.

"What is the plan?" Many of the questions begin with the words, "What is the plan?" This is deliberate, and is meant to drive action: seeking equity can be a new and challenging experience, and breaking it into manageable, actionable steps is a helpful way to move the process forward.

Those the proposed policy or legislation leaves out. One of the challenges of equity work is seeing what isn't there—identifying communities who will be affected by policy or legislation is one thing, but identifying those who policy or legislation won't be able to reach is another. Policymakers need to ask "who won't this help?" as much as they ask "who will this harm?"

Identify, include, and engage. Those who are a part of a community will always have a better understanding of their own experiences than those who are not. Bringing affected parties into the discussion, including them in the decision-making process, and acting based on their priorities are all central to the work of equity. There is an important slogan from disability activism, **"nothing about us without us,"** that gets to the heart of this idea. It means that decisions that affect a disadvantaged or minoritized community should not be made on their behalf, but should instead involve them in the decision-making process.

Setting equity goals.
In an inequitable society, all policy and legislation has an effect on equity. Policies should be written to actively address inequities, because not doing so—however passively—has the effect of maintaining inequity. Because of this, every proposed policy or legislation should have stated equity goals that should be both specific and actionable. **Equity goals should not be set without the inclusion and engagement of affected communities.**

Assessment plans. Every equity goal should have an assessment plan that speaks to how policymakers, legislators, and community members will know whether the equity goals are being met or whether a new plan needs to be made. **Assessment should always be done with the inclusion and engagement of affected communities.**

Improving access to resources. Many situations of inequity arise out of barriers to accessing resources, be it education, private investment, social capital, or any other number of other things. In fact, many programs designed to help minoritized and/or disadvantaged communities by providing them with resources fail because they come with built-in barriers to access. For one example, a system of low-interest loans for lower-income entrepreneurs would be much less useful if it were only offered through banks that were only open Monday to Friday from 9 to

5; lower-income entrepreneurs tend to have full-time jobs and therefore would have no way to access the low-interest loan program.

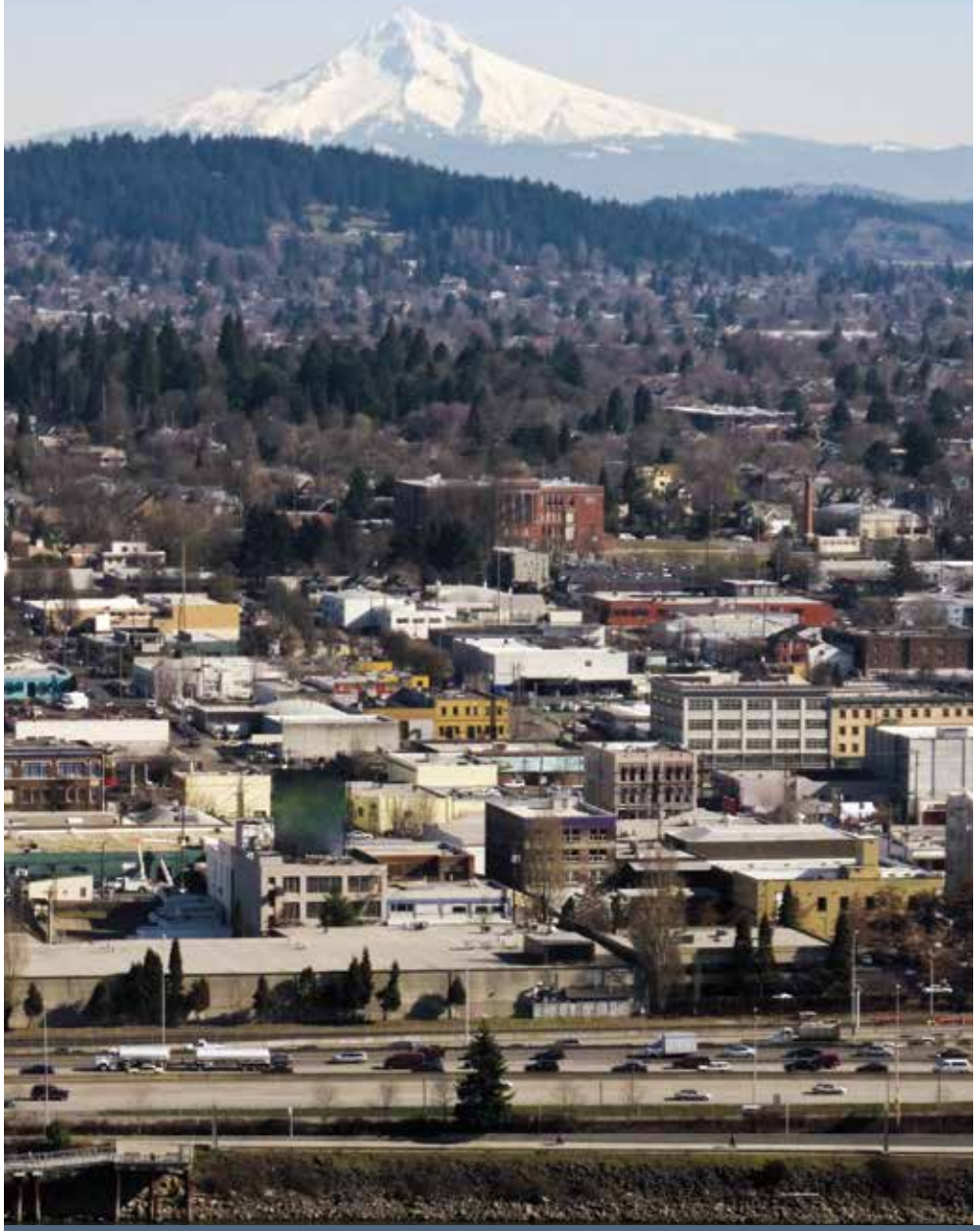
Prioritizing equity. Another way that attempts to create equity can fail is if they are not prioritized. Whenever work is done, items at the bottom of the list of priorities are sacrificed in the name of completing the project. If equity is not made a priority, it will inevitably fall by the wayside.

Involve affected communities. As with goal setting and assessment, it is vital to include affected communities in setting priorities. If not all of the equity goals can be reached with a single piece of policy or legislation (as will often be the case), it is important to know what the affected community would prioritize so that the right choices can be made.

Conflicting priorities. All legislation and policy is a balance between the interests of various parties. It is necessary to be aware of the ways these interests conflict, so that it is apparent when the interests of advantaged parties are being prioritized over those of disadvantaged ones.

Recourse. Outcome and progress assessments, even when done with the involvement and engagement of the affected communities, can be of limited usefulness if there is no clear recourse if the assessment is negative. It is therefore important to set out clear steps to be taken in the event that a proposed piece of policy or legislation fails to meet its equity goals.

CLIMATE ACTION
THROUGH EQUITY



The integration of equity in the Portland/ Multnomah County 2015 Climate Action Plan

July 12, 2016

Multnomah County

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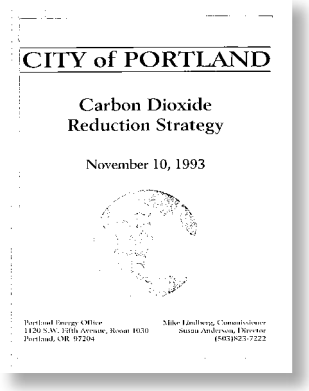
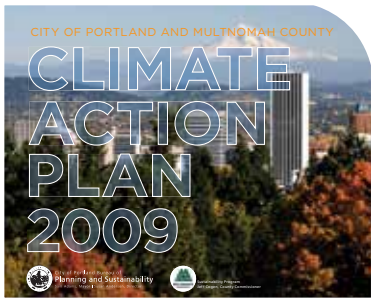
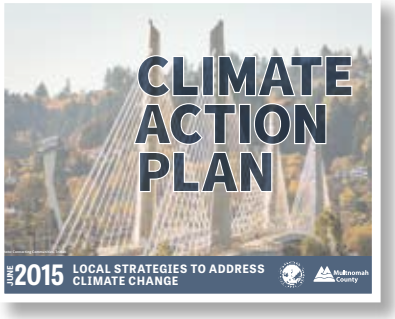
Our changing climate

Two decades of climate action are delivering results

The City of Portland has long been a global leader in addressing climate change. In 1993, Portland became the first city in the United States to adopt a local plan to address climate change. Since then, while carbon emissions have increased nationally, Portland and Multnomah County have achieved significant declines in emissions. In 2014, total emissions were 21% below 1990 levels.







But we still have a long way to go

As Portland increasingly contends with heat waves, droughts, flooding and other extreme weather events, awareness of the need to take action on climate change has grown, yet recognition of the connection between climate action and social equity has often been absent. The City of Portland and Multnomah County have a goal to reduce carbon emissions 80 percent from 1990 levels by 2050. In the face of projected population increases and changing demographics, the need for a more broad-based movement is apparent. Government action alone is not enough; everyone must be a part of the solution and all must benefit from the solutions created. Currently, however, not everyone has equitable opportunities to participate and benefit. The 2015 update to the Climate Action Plan seeks to remedy this.

The City of Portland and Multnomah County's prior climate action plans focused on reducing carbon emissions while lacking discussion of who benefits and who is burdened. The absence of such an assessment resulted in missed opportunities to share the co-benefits that can result from climate action efforts. Co-benefits are positive impacts other than carbon emissions reduction that occur as a result of climate change mitigation. Such positive impacts can include increased access to greenspace, more pedestrian and bike-friendly communities that encourage active transportation, and the creation of green jobs that can stimulate the local economy.

Furthermore, communities of color and low-income populations in Portland have been under-served by programs and investments and under-represented in decision making on climate policy. Lack of low-carbon, safe transportation options, inefficient housing and the inability to afford healthy food are examples of disparities experienced by these communities that result in fewer benefits from climate action opportunities.

These inequities primarily result from ongoing institutional racial bias and historical discriminatory practices that have resulted in the inequitable distribution of resources and access to opportunities.

> ***Climate equity ensures the just distribution of the benefits of climate protection efforts and alleviates unequal burdens created by climate change. This requires intentional policies and projects that simultaneously address the effects of and the systems that perpetuate both climate change and inequity.***
>
> 2015 City of Portland and Multnomah County Climate Action Plan

The Green Divide

Climate change, and other environmental issues are often viewed as issues that are not relevant to low-income communities and communities of color. Concern with the environment is frequently perceived of as being a concern of more affluent and less diverse communities. Yet this narrative paints a false portrait and obscures the real diversity that exists. While there may be a lack of representation of low-income people and people of color in mainstream environmental organizations, this does not then translate to a lack of concern with environmental issues. On the contrary, research has shown that people of color support environmental protection at a higher rate than whites. 68 percent of minority voters feel that climate change is an issue we need to be worried about right now, not something we can put off into the future.

The 2015 Climate Action Plan represents a step in this direction by connecting climate change with other community concerns of low-income communities and communities of color.

Source: Climate Change and Communities of Color, Key Poll Findings and Top Lines Report

Climate change impacts some people more than others

Low-income populations and communities of color will be disproportionately impacted by climate change

Low-income populations and communities of color are more likely to live in areas with less greenspace and to be more vulnerable to heat-related and respiratory illnesses.

Low-income populations and communities of color are more likely to be impacted by extreme weather events that occur as a result of climate change. This is due to reduced access to key information and available programs and services as a result of language, cultural, or geographic barriers. For example, community members may be unaware of the existence of resources such as cooling centers that may be open during heatwaves due to materials not being translated or available in areas that they traditionally access community information. Service boundaries and language restrictions can provide additional barriers in accessing programs and services.

Carbon reduction strategies can exacerbate existing disparities unless there is an explicit equity focus. Communities are not all starting from the same place. Low-income populations and communities of color often have less access to healthy and energy efficient housing, transit, or safe bicycling and walking routes. Consequently, any strategies to reduce carbon emissions must seek to remedy these deficiencies.

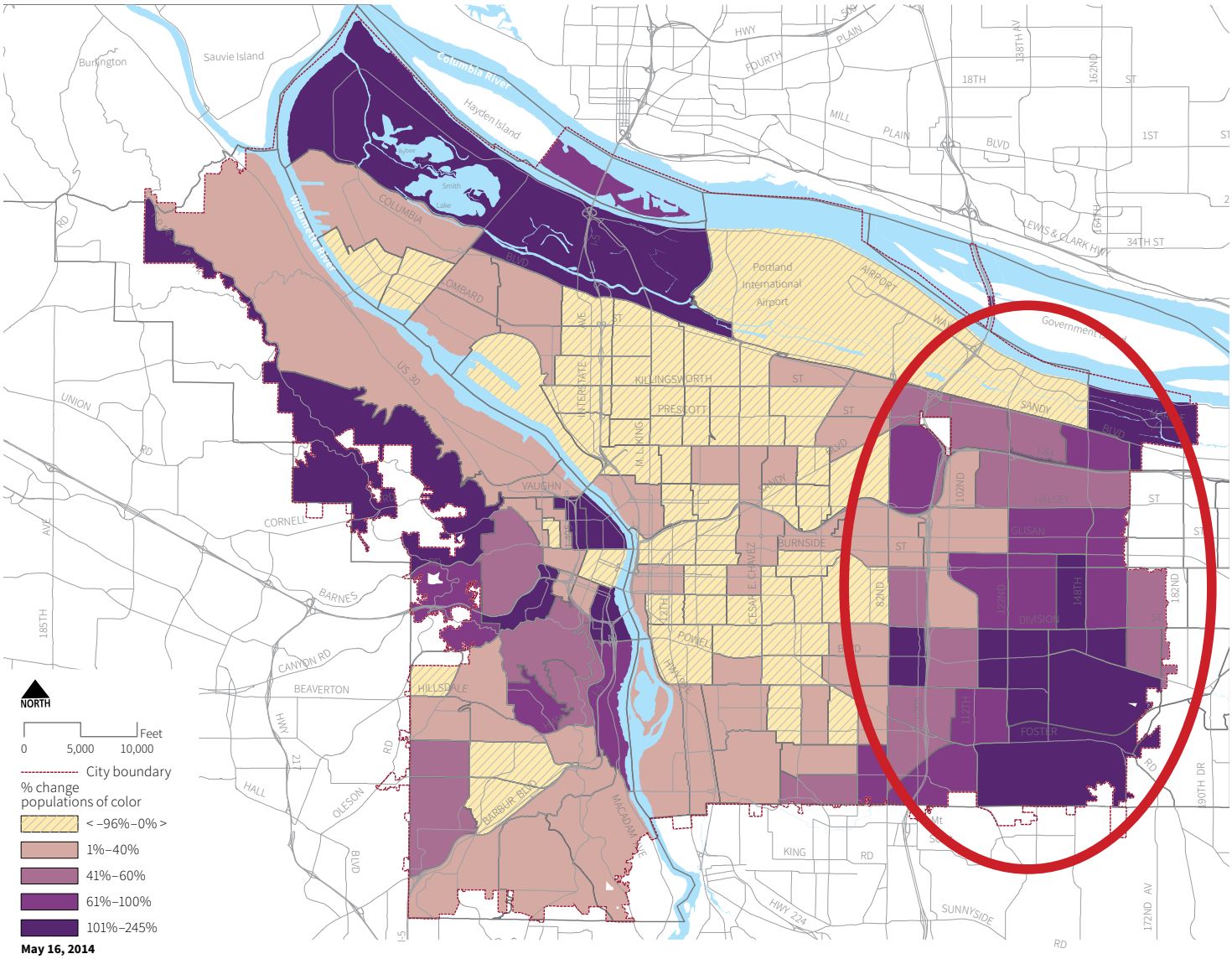
According to a 2014 report prepared for Green 2.0 that studied diversity in environmental organizations, a broadening of the movement must grow and embrace different perspectives to appeal to diverse communities.

Source: diversegreen.org

Mitigating for unintended consequences: investment and displacement

Successful implementation of the Climate Action Plan will include targeted investments, particularly in areas that have seen under-investment in the past. However, investment in some of these locations can be a catalyst for displacement. As areas gain amenities and become more desirable, property values rise and long-time residents who are no longer able to afford the area may be displaced.

This map shows that communities of color are growing in East Portland, an area of town that has less transit connectivity, sidewalks and other infrastructure. Many African-American residents have moved to East Portland from N/NE Portland over the past 20 years and have not benefited from the green investments that have taken place in their former inner neighborhoods. To address this, the 2015 Climate Action Plan emphasizes investing in people as well as infrastructure. Connecting community members with job opportunities that result from actions in the plan and providing training opportunities for local youth can build wealth and avoid displacement in communities.



"A targeted universal strategy is inclusive of the needs of both dominant and marginalized groups, but pays particular attention to the situation of the marginalized group … Targeted universalism rejects a blanket approach that is likely to be indifferent to the reality that different groups are situated differently relative to the institutions and resources of society."

-John Powell, Racing to Justice

Old problems require new thinking

Our vision for a climate-positive future cannot be achieved without advancing equitable outcomes and addressing existing disparities. These approaches must enlist a **targeted universalism** approach, where solutions begin with addressing the needs of those who are most vulnerable to climate change, or experiencing disparate outcomes. Doing so will produce benefits for everyone. For this reason, the 2015 Climate Action Plan used an equity lens that prioritized the needs of low-income communities and communities of color.

How is equity integrated in the Climate Action Plan?

Equity played an integral role in all phases of the 2015 Climate Action Plan, including an intentional community engagement process that included the creation of an Equity Working Group made up of representatives from six community-based organizations representing the interests of low-income populations and communities of color. The insights and local knowledge that these groups provided was invaluable. This work resulted in a plan that is inclusive and recognizes the unique strengths that exist in communities.

Equity is featured from the guiding vision for the plan through the implementation stage. This intentional integration throughout the plan seeks to ensure that the Climate Action Plan is more than just words on paper, but a plan for inclusive accountable implementation.

Equity Working Group Meeting

"A notable success is how the group was able to grapple with the potential negative impacts/missed opportunities for communities of color and low income populations for all topic areas, considering as many aspects as was possible in our short time together. By leading with equity, the recommendations and action considerations were stronger than they would be otherwise."

Vivian Satterfield, OPAL Environmental Justice Oregon, Equity Working Group Member

Vision

The City and the County's vision of equitable climate action is reflected throughout the plan's vision for 2050 for a prosperous, connected, healthy and resilient and equitable future. The 2050 vision specifically imagines a future where everyone has access to a walkable and bikeable neighborhood; employment and small business opportunities are led by and employing underserved and underrepresented communities; and communities of color and low-income populations are involved in the development and implementation of climate-related programs, policies and actions.

Equity Commitments

The City and County are committed to equitably implementing the actions in the Climate Action Plan in ways that address health, safety and livability, access, prosperity and inclusive engagement.

Actions

Strategies and actions to advance equity and reduce disparities are highlighted in the chapter narratives, as well as called out explicitly in several key actions. In addition, actions with a significant opportunity to advance equity are identified with an "E" icon.

Equity Considerations

City and County staff incorporated key equity considerations in the implementation of the actions contained in the plan.

Equity Implementation Guide

The Climate Action Plan Equity Implementation Guide provides support for City and County staff on best practices and tools for integrating equity into their work.

Climate-Equity Metrics

The City and County will develop climate-equity metrics to track the degree to which equity considerations are integrated into the decision-making processes and implementation of the Climate Action Plan, and will report on progress in a transparent manner.

Achieving equitable outcomes starts with new processes

Portland Plan set the stage

The process to update the Climate Action Plan began shortly after the 2012 adoption of the Portland Plan, the City's strategic plan. The Portland Plan established an overarching equity framework that articulated the citywide need to prioritize racial equity and established an intentional action plan to work towards the elimination of racial and other disparities experienced in Portland. Borrowing from this framework, the Climate Action Plan prioritized the needs of communities of color and low-income populations in its approach to applying an equity lens. The Climate Action Plan equity project included three primary goals and project deliverables:

1. An updated Climate Action Plan that better integrates equity to maximize benefits and reduce barriers for communities of color and low-income populations.
2. A set of climate equity metrics that can be used and refined to track progress on 1) ensuring Portland's climate actions are more equitable, and 2) furthering equity goals as defined in the Portland Plan through climate actions.
3. A plan to continue to build relationships with diverse communities, and diverse membership within these communities, around climate change.

Funding identified for community engagement

In 2013, the Portland Bureau of Planning and Sustainability received a grant from the Bullitt Foundation and Partners for Places, a partnership between the Funders' Network for Smart Growth and Livable Communities and the Urban Sustainability Directors Network, to support community engagement and equity integration into the 2015 Climate Action Plan.

- $5,000 for an equity scan of Portland's 2009 Climate Action Plan.[1]
- $5,000 for an equity intern to support staff.
- $20,000 for community engagement.

Community invited to design community engagement process

The budget for community engagement was not enough to support a large engagement effort, but it did provide a unique funding opportunity. Community partners who had been part of the Portland Plan process and new partners who serve low-income populations and communities of color were invited to join staff in a preliminary meeting to design the community engagement process.[2]

Participants explored what was meaningful and feasible to accomplish with $20,000 for community engagement. Feedback from that meeting included:

- Climate change is not a lead issue for most local community-based organizations, and engaging in this effort would be taking away from existing priorities. Having access to new funds could bring attention to the climate action effort.
- There is a need to attract new community leadership to the table. This process could be an opportunity to cultivate new leaders.
- This effort should be a partnership with staff and community members.

As a result of the meeting, a sub-grant process was established. Community organizations were invited to apply for a $4,000 grant to support an organizational representative to participate in the Climate Action Plan Equity Working Group.

[1] The Equity Scan was performed by Dr. Greg Schrock, and Jamaal Green from Portland State University. This report can be found online at: http://www.portlandoregon.gov/bps/article/463573.

[2] The work of Center for Earth, Energy, and Democracy (CEED) and the staff of the City of Minneapolis in the development of the Minneapolis Climate Action Plan provided inspiration for a straw man proposal that was presented to the community in the meeting.

"Although, environmental justice (EJ) communities have historically carried the burden and effects of climate change, funding CBOs and organizations of color to work on EJ issues is new because it's been vastly underfunded. Being on this project, I see the commitment to bring us to the table. I would like to see our perspectives and work materialize in the update of the plan to really highlight this funding model to identify and prioritize the engagement of EJ communities as common practice."

Demi Espinoza, Coalition of Communities of Color, Equity Working Group Member

JUNE 2013

First meeting of the Equity Working Group

JULY 2013

Weekly meetings begin for the Equity Working Group to apply an equity lens to CAP actions

AUGUST 2013

Equity Working Group finalizes nine equity considerations for staff to use in conducting equity assessments of CAP actions

2013

Organizations selected and form the Equity Working Group

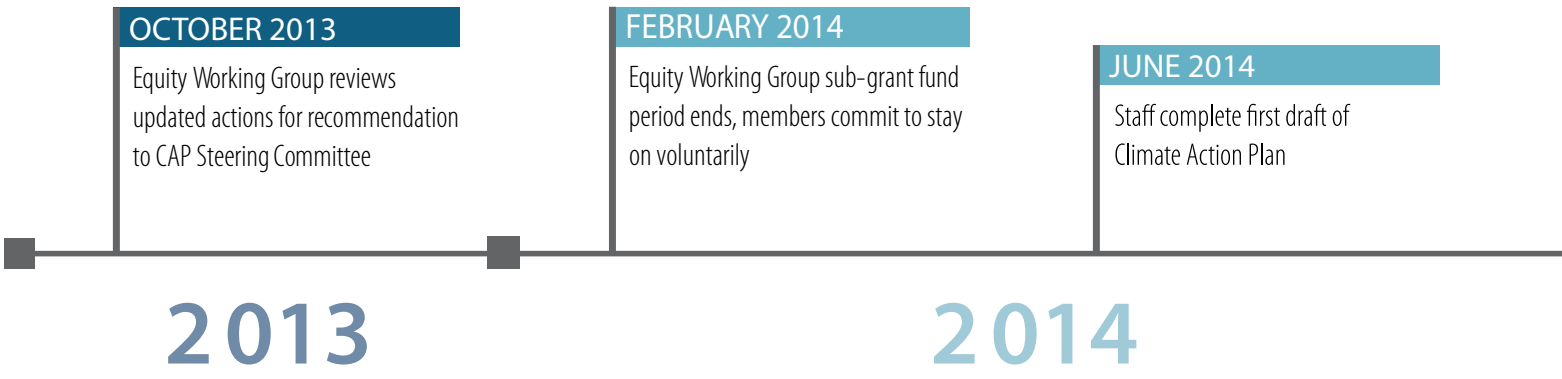
Eight organizations applied, and five were initially awarded sub-grants. Because a sixth was identified as a strong candidate, Multnomah County, the City's partner in the Climate Action Plan, contributed an additional $4,000. Verde, a community partner that is focused on sustainable economic development within the Latino community participated in the process as a grant reviewer. The Equity Working Group community membership consisted of representatives from Groundwork Portland, Upstream Public Health, the Coalition of Communities of Color, OPAL Environmental Justice Oregon, Wisdom Council of the Elders and the Asian Pacific American Network of Oregon (APANO).

Members of the Climate Action Plan Steering Committee were also invited to participate in the Equity Working Group. Their role was to facilitate cross-over communication between the two groups and facilitate the advocacy of policy ideas from a non-staff perspective. To bring in professional perspectives on planning, community engagement and public health, staff from the Bureau of Planning and Sustainability and Multnomah County Health Department also joined the Equity Working Group.

Effective partnership requires a common vocabulary and shared goals

The Equity Working Group began work in June 2013 with a two-part orientation. The first meeting focused on getting to know the participants and staff, as well as establishing shared understanding of the working group's role and the expected outcomes. Because participants were not expected to have a background in climate change, staff provided an overview of both the scientific context and the policy framework for large-scale carbon emission reduction. The second meeting was focused on developing a shared concept of "equity." For this, the group enlisted the help of a tool developed by Multnomah County, the 4-P Analysis, which helps groups develop their own equity lens for a particular policy issue.

[3] The analysis is now called the 5-P Analysis and is available at https://multco.us/diversity-equity/equity-and-empowerment-lens.



Best laid plans go astray

Initially, each chapter (e.g., energy, transportation, solid waste, etc.) of the draft Climate Action Plan was presented to the Equity Working Group via a conference call. Participants were then given a worksheet outlining all of the proposed climate actions for that chapter and were asked to identify the equity implications of each action (e.g., benefits, burdens, unintended consequences). The following week the completed worksheets were due at the in-person meeting where Equity Working Group members were asked to share their feedback directly with the City and County staff that had authored that chapter. This process was to be repeated every two weeks until all nine chapters of the draft Climate Action Plan had been assessed.

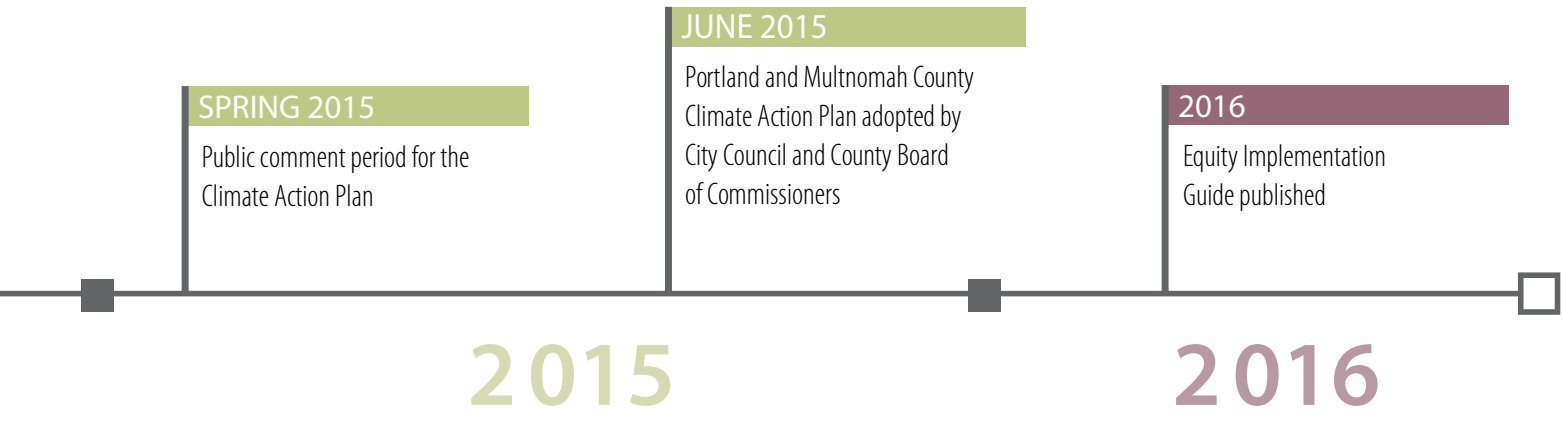
Project staff checked in weekly with the grantee organizations to get feedback on the process. A month into the process staff learned that Equity Working Group members found this approach to be constraining the creativity of the group and creating an imbalanced power dynamic between chapter authors (staff) and grantee organizations (community). So, based on this feedback, staff changed the entire meeting process and structure.

To foster better dialogue, the in-person meetings were scheduled first and used to introduce a topic and to create the opportunity for the grantees to share relevant experiences from their community related to the topic area. Only then did participants review the actions and ask follow-up questions of staff. Participants were given an additional week (per chapter) to review the proposed actions in more detail and provide additional feedback in writing and during a conference call.

The process changed from grantees being tasked with identifying the equity implications of an action such as "adopting context sensitive street design standards for residential streets" to being asked "what are the transportation related challenges and opportunities in your communities," and tasking staff with figuring out how the group's feedback should inform street design standards.

This group process change was sizable and required more time for a project that was already behind schedule. But the time and effort was worth it as it ultimately ensured the process was both accessible and meaningful for all participants.

> ***"I found the responsiveness of staff to issues around process to be commendable. It actually shifted the group from being constrained by existing silos and processes of government to a more broad conversation of 'what kind of outcomes/shifts/changes do we want to see?' and then have the government process fundamentally change the way it approaches the solutions to those problems."***
>
> **Vivian Satterfield, OPAL Environmental Justice Oregon, Equity Working Group Member**



Feedback was molded into 9 equity considerations

Staff summarized the feedback from these work sessions and finalized them after review by the Equity Working Group. (See Equity Considerations text box for more details).

Staff then used the Equity Considerations to conduct a basic equity assessment of every action proposed in the draft Climate Action Plan. Actions were revised based on that assessment and the updated actions were shared with the Equity Working Group to determine if their feedback had been adequately integrated.

"For the community-based grantees, we learned how to better navigate the government bureaucracy while developing our own internal leadership around the issues of climate change. This small investment in our organizations had great returns in terms of building new capacity within various groups that are often ignored in the civic process due to cultural or language barriers. Moving forward, this grant could be a great model for future meaningful community engagement in a policy making process."

Duncan Hwang, Asian Pacific American Network of Oregon (APANO), Equity Working Group Member

EQUITY CONSIDERATIONS

1. Disproportionate impacts

Does the proposed action generate burdens (including costs), either directly or indirectly, to communities of color or low-income populations? If yes, are there opportunities to mitigate these impacts?

2. Shared benefits

Can the benefits of the proposed action be targeted in progressive ways to reduce historical or current disparities?

3. Accessibility

Are the benefits of the proposed action broadly accessible to households and businesses throughout the community — particularly communities of color, low-income populations, and minority, women and emerging small businesses?

4. Engagement

Does the proposed action engage and empower communities of color and low-income populations in a meaningful, authentic and culturally appropriate manner?

5. Capacity building

Does the proposed action help build community capacity through funding, an expanded knowledge base or other resources?

6. Alignment and partnership

Does the proposed action align with and support existing communities of color and low-income population priorities, creating an opportunity to leverage resources and build collaborative partnerships?

7. Relationship building

Does the proposed action help foster the building of effective, long-term relationships and trust between diverse communities and local government?

8. Economic opportunity and staff diversity

Does the proposed action support communities of color and low-income populations through workforce development, contracting opportunities or the increased diversity of city and county staff?

9. Accountability

Does the proposed action have appropriate accountability mechanisms to ensure that communities of color, low-income populations, or other vulnerable communities will equitably benefit and not be disproportionately harmed?

How actions are implemented is critical to achieving more equitable outcomes

During the process, the Equity Working Group provided considerable feedback about how to implement actions. Their feedback was rich in content but difficult to place in a policy document. This eventually resulted in the development of an Equity Implementation Guide, a companion document to the Climate Action Plan that captures the specific recommendations as well as an overall approach to incorporating equity as actions are implemented. The guide serves as a tool for building staff capacity to effectively implement the policy guidance in the Climate Action Plan.

Building partnerships for the long haul

The committee initially set a timeline to complete the Equity Working Group process within three months and to draft the Climate Action Plan update by the end of 2013. It became clear that effectively incorporating equity into the plan would require more time. When the Equity Working Group finished its meetings in October 2013, it had provided staff with feedback on the chapters and actions, but also a direction for integrating equity throughout the content. Staff set to work on developing the rest of the content of the *Climate Action Plan*, but this process took longer than anticipated.

The grant fund period ended in February 2014, which meant that the Equity Working Group process would end before the Climate Action Plan was completed. At the closing meeting, all organizations that had participated expressed a willingness to continue in a partner role to advise on the content and process even though continued funding was not available. To respect the time of the organizations, they no longer met regularly but were instead reconvened at key times to review the recommended draft and then later the proposed draft of the plan.

When the 2015 Climate Action Plan was ready for adoption, Equity Working Group members testified at Portland City Council and the County Board of Commissioners to communicate the importance of the process, the value of integrating equity into the Climate Action Plan, and the need for public agencies to hold themselves accountable to communities most vulnerable to the effects of climate change through an ongoing commitment to measure progress.

"I believe again the other notable success was having that nine point action statement around equity issues. I think that's very great and I think that as I deal with folks in the community I look forward to sharing that with them just as part of the thing that the city is trying to do as far as bringing citizens in. I personally think that's a great statement in itself and really a nice kind of big picture thing to look forward to and I look forward to just kind of educating folks about some of those issues."

Les Shannon, Groundwork Portland,
Equity Working Group Member

Sharing the lessons we learned

"I felt genuinely valued as a community partner. I also thought that the city staff were very responsive and bent over backwards to accommodate us. I was very impressed by that.

I wish the timeline had been a little less tight. With more time, I might have enjoyed engaging in some more dialogue and learning with city staff and grant partners about some of the ideas that came out of the process."

Claudia Arana Colen, Upstream Public Health,
Equity Working Group Member

Meeting the needs of participants. Learning to recognize and meet the needs of participants was an important component of the process. Rather than strict adherence to a predetermined process, flexibility regarding the form, content and logistics of the engagement was necessary. Notable modifications to the process include:

- Meetings were moved from a downtown location to a more convenient location for Equity Working Group members.
- Printed handouts were provided rather than electronic files.
- Meeting agendas were restructured to foster more productive discussions by focusing on the experience and wisdom of members instead of line item feedback on each action.
- Separate meetings were organized with individual Equity Working Group members to solicit feedback if schedule conflicts prohibited their attendance at the regular meeting.
- The timeline was extended several times to allow time to cover more complex topics.

Facilitating with awareness of power and privilege. Creating a space of mutual learning requires intentional creation of space that acknowledges the inherent power dynamics between community members and government employees, people of color and white people, and socio-economic class differences. Some of the tactics used included creating and reinforcing ground rules, prepping staff for what to expect before coming to Equity Working Group meetings, and frequent one-on-one check-ins with the Equity Working Group participants.

Building capacity and relationships. Successful integration of equity issues into climate planning requires the development of new relationships between staff and community. City and County staff provided technical and logistical support throughout the process to facilitate learning by both staff and organization representatives. For example, the Equity Working Group orientation included an introduction to climate change and an exploration of equity and social justice language to begin building a bridge and shared goals between staff and community representatives and to honor the collective wisdom and experience in the room. Later, Equity Working Group members invited City and County staff to their organizations to meet with and further develop relationships within their communities.

Funding matters. All organizations reported the importance of funding, and for some it was the decisive factor that made it possible for them to participate.

Implementation and metrics. Through discussions with the Equity Working Group it became clear that the potential equity implications (positive or negative) of a given Climate Action Plan action had more to do with how that action was implemented than the action itself. For example, the Climate Action Plan action to plant more trees does not necessarily have equity implications, but decisions about where those trees are planted and who is planting those trees do.

Community members also identified the importance of "being able to see the needle move toward equity outcomes." This proved difficult to solve for within the update period of the plan. The Equity Implementation Guide provides a framework for measuring equity in the implementation of actions, but staff were not able to develop equity indicators or metrics during the planning period. Instead, this became an action of the plan.

This work takes time. The original timeline anticipated completing the update of the Climate Action Plan by the end of 2013. The Equity Working Group, along with City and County staff, worked rigorously from May to October 2013 to complete their initial equity review of the proposed actions for the updated plan. Coordination of the multiple components of the update project, including the significant overhaul of the previous plan to integrate equity (as well as other key topics like consumption and climate preparation) resulted in extending the overall project timeline considerably. The updated Climate Action Plan was adopted in June 2015.

" As a result of the grant, my organization had the opportunity to share our community's concerns and questions dealing with climate change and to understand how the Climate Action Plan may impact/benefit our community. This grant gave us the funds to have our staff on the Equity Committee, justifying our involvement and time on the Climate Action Plan with our board. As well, these meetings were a great opportunity for our organization to connect and partner with other communities on environmental, climate, and health issues."

Amanda Kelley-Lopez, Wisdom of the Elders, Equity Working Group Member

Outcomes

Meaningful partnerships continued beyond the project period

The final 2015 Climate Action Plan update was not completed within the grant period, but the organizations that participated in the Equity Working Group remained engaged with the project beyond the grant period, with several Equity Working Group members testifying before City Council in support of the plan's adoption.

Catalyst for further work

As an outcome of relationships built during this project, Wisdom of the Elders is working to create a Native American Tribal Council on Climate Change. The Asian Pacific American Network of Oregon (APANO) hired a full-time staff person to build out a new program to work on climate change and climate resilience following their experience with the Equity Working Group. Another initiative, informed by the experience of working on this project, was a joint effort by the Coalition of Communities of Color, Verde and the Oregon Environmental Council to begin a process of building relationships between leadership of organizations focused on equity and organizations focused on environmental issues. This effort held its first gathering in February 2014 with participation from many of the organizations involved in this grant, including the Bullitt Foundation and the City of Portland Bureau of Planning and Sustainability, both project funders.

Catalyst for City and County learning

The process proved invaluable for City and County staff involved. Many staff members noted that attending Equity Working Group meetings and hearing community concerns enabled them to see their work differently and better understand its equity implications. This resulted in rethinking actions and modifying them accordingly. The process highlighted that while City and County staff have expertise, there is also tremendous knowledge and expertise at the community level. This model of engagement can be replicated to foster mutual learning.

> ***"I personally feel more committed to environmental and climate changes issues. I benefited from being at the table with my peers to learn about how this issue affects their community. We are prioritizing environmental justice in our organization and hope that we can build more partnerships with community-based organizations and government in the future."***
>
> Demi Espinoza, Coalition of Communities of Color,
> Equity Working Group Member

New Actions for a Better Plan

City and County staff, with guidance from the Equity Working Group, incorporated equity throughout the plan. A few specific examples are outlined below:

New 2030 Objectives:

- **17)** Engage communities, especially impacted under-represented and under-served populations, in the development and implementation of climate change-related policies and programs. (Page 120)
- **20)** Build City and County staff and community capacity to ensure effective implementation and equitable outcomes of climate action efforts. (Page 133)

Added specificity to how actions are implemented:

- **1G)** Small Commercial – Support energy efficiency improvements to small commercial buildings, especially in under-served communities. (Page 64)
- **3C)** Community Solar – Support the development of community solar projects that benefit all residents, particularly communities of color and low-income populations. (Page 68)
- **4Q)** Affordable Housing Access to Transit – Use regulatory and voluntary tools to promote affordable and accessible housing development along…transit routes and in opportunity areas. (Page 81)
- **4EE)** Car Sharing – Partner with car sharing companies ... Consider programs to expand use of car sharing among low-income households. (Page 82)
- **13A)** Tree Programs – Continue tree planting and expand tree preservation and maintenance programs and incentives. Focus on low-canopy neighborhoods and neighborhoods with populations at higher risk of adverse outcomes of urban heat island effects. (Page 104)
- **13B)** Canopy Targets – Revisit urban forest canopy targets: Take into consideration ... equitable distribution of tree-related benefits across the city. (Page 104)
- **17A)** Alignment with Community – Identify and seek resources to support community-based initiatives, especially from low-income areas and communities of color, that align with climate change preparation priorities, carbon emission reduction efforts and low-carbon lifestyles. (Page 120)
- **20D**) Workforce Development – Create cross-bureau initiatives… to strengthen the capacity of firms owned by people of color and nonprofits serving underrepresented and under-served adults and youth to help implement Plan actions. (Page 133)
- **20E)** Career Development – Maximize career development opportunities, especially for low-income populations, communities of color and youth, in the fields of energy, green building, transportation, etc... (Page 133)
- **20L)** Metrics – Develop comprehensive qualitative climate action metrics to measure progress…that incorporate an evaluation of benefits and burdens to low-income populations and communities of color. (Page 134)

Frequently asked questions

1. What was the equity scan and how was it used to support the work of equity integration? Was it duplicative to the work of the Equity Working Group?

The City of Portland hired Greg Schrock, a professor at Portland State University's Toulan School of Urban Planning, to perform the equity assessment of the 2009 Climate Action Plan. This became known as the equity scan and its purpose was to identify gaps and missed opportunities in addressing equity in the City's previous climate plan, to research best practices from around the country and to develop equity metrics recommendations. Dr. Schrock, along with his research assistant Jamaal Green, produced the report and met with staff at length to share their findings and discuss opportunities to better integrate equity into the 2015 plan.

It was not duplicative to the Equity Working Group as their work was about the experience of the community. The Equity Scan provided a comparative analysis, and became a helpful tool for both staff and community members in their application of an equity lens.

2. How will the Climate Action Plan Equity Implementation Guide be used?

The Climate Action Plan has over 150 actions, but not every action is built the same. The manner in which an equity lens is applied varies depending on the type of action. Whether the nature of an action is regulatory, programmatic, policy or an investment shifts the questions staff should ask in applying an equity analysis to their climate work. Programs need to understand who is being served, while regulations should equitably distribute the burdens and benefits—intentional and unintentional—on various communities. This approach helped to structure the Equity Implementation Guide, which is intended to support staff in applying an equity lens. The nine equity considerations were condensed into six objectives that will be assessed in the Climate Action Plan annual progress report. The Equity Implementation Guide is scheduled to be released summer 2016.

3. How were you able to pay community members to participate in an advisory process? Did participants need to have a minimum set of qualifications? Was there a job description?

The City of Portland awarded subgrants from the Bullitt Foundation. The funds were provided to organizations and not individuals. Each organization signed a grant agreement which provided guidance, but did not restrict how funds could be spent to support an organization's involvement in the Equity Working Group. The Equity Working Group was not regarded as an advisory process, but rather a panel of paid community experts working in partnership with government staff on a project. The grant agreement outlined expectations for the participant, the organization, as well as government staff.

Each organization was responsible to identify a representative that would meet specific qualifications as outlined in the terms of the grant agreement. Representatives varied across the participating organizations and included a board member, an intern, program staff and an executive director.

4. Why didn't you have the Equity Working Group members participate as part of the Steering Committee?

Equity Working Group members did participate in Steering Committee meetings and vice versa, however they were managed as two separate processes to ensure the development of a focused work environment for grantee organizations. This was important as the Equity Working Group's task was more intensive in both timeline and topic than the 2015 Climate Action Plan Steering Committee, which had a more general focus.

Creating opportunities is the essential first step

This project enabled the City of Portland and Multnomah County to establish relationships and identify strategies to target climate action efforts that will help 1) achieve equity goals, and 2) reduce existing disparities facing communities of color and low-income households. Importantly, this project has established or strengthened relationships with diverse community organizations that are already generating positive impacts.

Creating the space, time and trust to identify shared interests and opportunities for mutual benefit has proven to be of immeasurable value. The reason that equity is an issue today is that past decisions, deliberate or not, created deep inequities in Portland and nearly every city in the country.

An essential step to addressing these inequities is to create opportunities for the people most impacted to be at the table for today's decisions. That can happen only if policymakers and members of impacted communities know each other and trust each other. This project has made a small but important contribution to that effort.

Additional information

Visit:

www.portlandoregon.gov/bps/cap

Or e-mail:

climate@portlandoregon.gov

CLIMATE ACTION THROUGH EQUITY

Multnomah County

RFB: Consider introducing equity in the Executive Summary. This could be as simple as adding "in a fair an equitable way" to the last sentence.

13 | # Energy

13 | A ## Executive Summary

The City of Lebanon spends about $1 million of taxpayer money on energy per year. This Energy Plan explains how the City is well positioned to save money by reducing energy use, support the local economy by diversifying energy sources, and improve the quality of life for its residents and surrounding communities.

13 | B ## Vision & Purpose

The long term vision for Lebanon's energy future is to increase energy savings for residents, businesses, and municipal functions, to ensure a robust and stable energy economy, and to reduce the impacts of greenhouse gas emissions that result from a fossil fuel-dependent economy. The purpose of the Energy Plan is to develop near-term outcomes, strategies, and actions that lay a strong foundation for Lebanon's energy future, for the fiscal and environmental benefit and security of the City and its taxpayers. The Energy Plan and planning process aim to:

- Prioritize specific recommendations focused on increasing municipal energy efficiency to save taxpayer money and reduce municipal energy demand, and recommend policies that promote energy efficiency over the long term in the municipal, commercial, and residential sectors.
- Provide a strategic direction for the Lebanon Energy Advisory Committee and build the committee's capacity to advocate and implement initiatives in the public interest.
- Involve citizens in shaping Lebanon's energy future.

Visions for energy savings:

- The City of Lebanon shall be a regional leader in energy efficiency, innovation, and fiscal responsibility.
- The City shall improve the energy efficiency of municipal buildings, municipal vehicles, and streetlights, and it shall promote similar efficiency measures for the commercial and residential sectors in order to significantly reduce the City's overall energy use.
- The City shall explore renewable energy options for purchase and development such as hydro, wind, solar, geothermal, biomass, and methane, within the City's control, to reduce reliance on non-local and foreign sources of energy, and promote similar projects in the commercial sector.
- The City shall address energy-related employee behaviors, such as commuting, turning off lights, waste management, etc., through social marketing and incentives.
- The City and the Lebanon Energy Advisory Committee shall involve the greater Lebanon community in a social marketing campaign that engages citizens in reducing their energy use. Educational techniques could include the following: holding topical community forums; developing visual, easily understood illustrations of the City's energy use; and giving more attention to current and recently completed municipal and commercial energy related projects.

key points | vision & purpose

- Increase energy and cost savings for the City, residents, businesses, and institutions.
- Build a robust and stable local energy economy.
- Improve energy efficiency of municipal buildings, the municipal fleet, and outdoor lights.
- Explore several promising renewable energy options in the City.
- Increase community security by becoming more reliant on local energy sources.
- Partner with businesses, institutions, and residents to significantly reduce Lebanon's overall energy use, improve efficiency, and explore alternative energy options.
- Comply with the goals of the statewide New Hampshire Climate Action Plan

RFB: Create additional bullet point in Vision & Purpose: "Consider equity and access to resources when advocating and implementing initiatives."

RFB: Consider incorporating equity into the Visions for Energy Savings. This might mean, for example, in exploring renewable energy options, the City would think about ways new development could have a positive impact on people of low socioeconomic status. It could also mean considering the different costs to different groups of changing energy-related behaviors (e.g. low-income families might not be able to afford to change to greener options or install solar, or might not have the time and energy to research energy savings when trying to make ends meet. Programs could be envisioned to address these inequities.)

- The City shall comply with the New Hampshire Climate Action Plan, which aims to reduce greenhouse gas emissions 80% below 1990 levels by 2050.

This Energy Plan seeks in part to fulfill these visions by recommending direct actions the City can take to reduce energy use, save money, and improve public and environmental health.

13 | C

Background & Process

The energy planning process closely follows the Lebanon City Council's Principles for a Sustainable Community (2009). Most relevant to this Energy Plan are three of the seven guiding principles:

- **Environmental Responsibility and Energy Ef fi ciency.** This is categorized as care for environment, improve energy efficiency of city and reduce carbon footprint, engage community in conservation and sustainable practices.
- **Intelligent, Coordinated Development and Transportation.** This can control urban sprawl, develop walkable neighborhoods with access to businesses and homes, create balanced/multi-modal transportation systems.
- **Fiscal Responsibility.** This can strengthen tax base and enhance property values, reduce taxpayer burden, diversify revenue, meet current needs and long-term goals.

RFB: It might be worth mentioning climate migration in the Local, Regional, and Statewide Context section, given that experts are predicting our area as one to which people will be moving toward as the effects of climate change take greater hold (reference: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0227436). Not sure if this is an equity thing per se, but it feels contextual.

13 | C-1

Local, Regional and Statewide Context

Energy efficiency and renewable investment in Lebanon will help the state of New Hampshire reach its ambitious energy savings goals. Therefore, the goals and strategies of this energy plan are aligned with those of the New Hampshire Climate Action Plan (NH CAP). The NH CAP has chosen a mid-term goal of reducing greenhouse gas emissions 20% below 1990 levels by 2025. Overarching strategies of the Climate Action Plan that are most relevant to Lebanon are to:

- Maximize energy efficiency in buildings
- Increase renewable and low-carbon sources of energy in a long term manner
- Encourage appropriate land use patterns that reduce vehicle miles travelled
- Protect natural resources
- Lead by example in government operations
- Stay connected to larger efforts

Opportunities to stay connected at a state level include two annual conferences: the Local Energy Solutions conference in New Hampshire held each spring and the Vermont Energy and Climate Action Network conference held each winter. At the regional level, several organizations work to strengthen the Upper Valley's energy independence, such as Sustainable Energy Resource Group (SERG), COVER Home Repair, and Vital Communities. Every May, SERG, Vital Communities, the Upper Valley Lake Sunapee & Southern Windsor

County Regional Planning Commissions, and the Two Rivers Ottauquechee Regional Commission organize a roundtable event for local energy committees.

13 | C-2

Lebanon Energy Advisory Committee

At the local level, the Lebanon Energy Advisory Committee (LEAC) was formed in 2007 by the City Council with the following charge: to identify opportunities and make recommendations to the City Council with regard to reducing energy use, increasing energy efficiency, exploring alternative energy usage and reducing pollution, to the environmental and fiscal benefit of the City. The charge was modified in 2009 to include energy conservation measures for City residents and businesses, thereby cutting greenhouse gas emissions and reducing energy costs for taxpayers.

13 | C-3

Public Input & Community Support

The issues and priorities for the Lebanon Energy Plan were established through a number of channels: a public forum on energy in Lebanon, a public survey about Lebanon's most pressing energy issues, and six months of bi-weekly Lebanon Energy Advisory Committee public meetings, in which attendees discussed the information from the forum and survey. The priorities established in the updated Lebanon Master Plan (2012) and Lebanon City Council's Principles for a Sustainable Community (2009) also helped the Lebanon Energy Advisory Committee and consultants establish the issues in this Energy Plan.

Fiscal responsibility and regional leadership are two key themes addressed throughout the Energy Plan. Data from the survey and comments from the community forum indicate that nearly 75% of the survey respondents believe that energy efficiency improvements should save money. At the public forum, citizens and City staff agreed that the City of Lebanon should lead by example and be the leader in the Upper Valley for energy savings for residents and businesses.

Nearly 50 people attended the public forum in November 2011 and provided hundreds of oral comments and 37 written comments. The public and City staff completed a survey that provided additional written comments, prioritized actions, and generated ideas of other issues to address in the energy plan. The intended outcomes for the community forum and survey project were to involve the public in the energy planning process, articulate broad visions for Lebanon's energy future, give more publicity to Lebanon's existing energy projects, and solicit specific strategies to achieve the broader visions. The public ranked the following energy topics as the most important to address in the Energy Plan:

- Energy efficiency of municipal buildings & operations
- Renewable energy potential
- Transportation- fuel & commuting
- Commercial sector energy efficiency
- Policies promoting energy efficiency and investment

Full survey results and public comments are included in the Implementation Plan.

key points | background & process

– Public input established priorities for the City's energy future and include improving energy efficiency of municipal buildings, exploring renewable energy options in the City's control, addressing transportation costs, working with the commercial/institutional sector to save energy, and exploring policies that promote investment in energy efficiency

RFB: Is it worth explicitly mentioning equity in the renewable energy section here? Perhaps a statement that the shift to renewables is also an opportunity to use the price stabilizing and emissions reducing features of green energy to address equity in the community? The sudden price rises in consumer energy (oil-based and green, both) have been hitting the lowest income households the hardest, after all.

13 | D Issues & Priorities

13 | D-1 Energy Efficiency

Improving the energy efficiency of municipal buildings and operations is a great opportunity to save energy and money, as efficiency projects are often less capital intensive and more cost effective than renewable energy projects and usually have a shorter return on investment. Investing in municipal building energy efficiency improves the comfort and function of municipal buildings and public spaces, contributes to a positive environmental legacy, and reduces operating expenses immediately. Transportation – including municipal vehicle fleet and employee commuting - is the second most energy intensive sector in Lebanon, and opportunities for employees and the Department of Public Works to save energy, fuel, and money are abundant.

13 | D-2 Renewable Energy

The price of fossil fuels will continue to f uctuate and destabilize budgets while perpetuating the City's reliance on non-local, non-renewable sources of energy. To stabilize the price and supply of energy and reduce the environmental impacts of fossil fuels, the City of Lebanon should actively pursue opportunities to develop renewable energy sources such as hydropower, wind, solar, biomass, geothermal, and methane regeneration. The City could also purchase renewable energy from utility providers, essentially investing in the development of new, more local renewable energy projects throughout the New England ISO region.

The state of New Hampshire has no natural sources of fossil fuels. Lebanon, similar to the rest of the state, is largely reliant on nuclear (44%), natural gas (27%), coal (14%), and conventional hydroelectricity (8%) to meet its electricity demands. Nuclear and conventional hydro electricity are sourced in New Hampshire at the Seabrook Nuclear Power Plant and dams on the Connecticut and Merrimack Rivers. However, natural gas and coal are purchased by utilities from Canada and other US states. Locally, the Wilder Dam on the Connecticut River produces 41MW of electricity in Lebanon. Until the 1950s and, in the case of West Lebanon up until 1969, nearly all local power needs were met through smaller hydropower turbines along the Mascoma River.

By investing in local renewable energy production, the City of Lebanon will reduce its reliance on foreign fuel sources, improve air quality for residents, stabilize the price and supply of energy for its many robust businesses, and reflect strong regional leadership. Additionally, investment in local power generating projects fulfills citizens' desires to maintain small town character and quality of life by gradually returning to the small scale, sustainable power sources that propelled economic development and commercial prosperity in Lebanon since its founding.

13 | E Existing Conditions & Trends

13 | E-1 Energy Projects & Commitments

The City of Lebanon is already committed to energy efficiency and renewable energy exploration. One can see this commitment in a number of well-established initiatives, such as the Lebanon Energy Advisory Committee, Lebanon's Principles for a Sustainable Community (adopted by the City Council and endorsed by the City

Manager), and the array of energy and cost saving projects supported and implemented by both the Lebanon Energy Advisory Committee and the Department of Public Works. However, a vision for long term success and greater coordination will be beneficial to existing efforts. Current and past projects are detailed below:

- Mayor's Climate Action Agreement: in 2009, then-Mayor Karen Liot Hill signed this agreement, which encourages the City to strive to meet or beat the Kyoto Protocol by achieving a 7% emissions reduction from 1990 levels by 2012.
- New Hampshire Municipal Energy Assistance Program (MEAP): the MEAP project partners, Vital Communities, SERG, and Clean Air- Cool Planet, produced a detailed inventory and report of all energy use, costs, and greenhouse gas emissions of municipal buildings, streetlights, and vehicles for 2009. The program supplied an energy audit of the Lebanon Library by SDES consulting group.
- Streetlight Map: the LEAC and City Staff are diligently mapping all streetlights in Lebanon in order to make informed recommendations for which lights to remove and which to upgrade to LED or other energy efficient models.
- Energy Technical Assistance and Planning Program (ETAP): the City of Lebanon signed up for the American Recovery and Reinvestment Act (ARRA)-funded ETAP program in the summer of 2011. A building engineer conducted walk-through energy assessments of the 11 most energy-intensive municipal buildings in September 2011. Specific actions to improve the energy efficiency of municipal buildings can be found in Appendix B.
- Smart Commute: the City of Lebanon is enrolled as an employer in the regional Smart Commute program (administered by the Upper Valley Transportation Management Association and the Upper Valley Trails Alliance), which helps employers promote commuting and mobility options to employees, including carpooling, taking the bus, biking, walking, and telecommuting.
- Landfill Gas Project: the Lebanon Solid Waste department is currently working with Carbon Harvest on a project to capture methane gas emitted from waste deposited at the landfill. The electricity produced will be sold to the grid, and the heat by-products will pass under NH 12A in pipes to supply heat to Car- roll Concrete.
- Performance Contract: the Lebanon Department of Public Works has expanded its contract with Honeywell in order to better monitor the HVAC and other energy use systems of more municipal buildings. This contract may provide opportunities to implement a number of energy efficient upgrades suggested in the MEAP and ETAP reports.
- Wastewater Treatment Plant (WWTP) Energy Audit: the WWTP had an energy evaluation done in July 2010, which revealed energy saving opportunities for processes, pumping, and HVAC systems. Decision-makers and designers are using the report's findings integrate energy efficiency improvements during the planned WWTP upgrade.
- Airport: the Lebanon Municipal Airport is working to address a number of projects that would increase its energy efficiency, including upgrading its boiler. In the long-term, Airport Management is interested in solar options, and the City is currently exploring green airport technology.

key points | issues & priorities

- Reduce the City's operating expenses by improving energy efficiency of municipal buildings, the municipal fleet, and outdoor lights.
- Reduce reliance on foreign oil and all fossil fuels, improve air quality, stabilize the price and supply of energy, and show regional leadership.
- Explore alternative energy sources such as hydropower along the Mascoma River, biomass heat and power for buildings, methane gas to energy, and liquid natural gas.
- Maintain small town character and quality of life by transitioning to small scale, sustainable power sources that once propelled economic development and prosperity in Lebanon.

key points | Existing Conditions & Trends

- The City of Lebanon spends about $1 million on energy costs per year.
- Municipal operations emit about 8 million pounds of CO2 per year.
- Commercial operations (including commuters) emit about 1 billion pounds of CO2 per year.
- The City of Lebanon is already committed to energy efficiency and alternative energy sources, seen through a number of well-established initiatives such as the Lebanon Energy Advisory Committee, Lebanon's Principles for a Sustainable Community, the landfill gas project, two LEED certified municipal buildings, and an anti-idling policy for DPW vehicles.
- Businesses and institutions within Lebanon are committed as well, for example Kleen Laundry's transition to liquid natural gas, and numerous large employers in Lebanon are enrolled in the Smart Commute workplace commuter trip reduction program.

- LEED Certifications: the Kilton Library in West Lebanon and the Department of Public Works Administration Building in Lebanon are both LEED-certified buildings. LEED-certified buildings have increased energy efficiency, increased patron comfort, and lowered energy costs.
- Anti-Idling Policy: this policy states that no City vehicle/equipment is left running when the driver is not present after proper start procedures occur, nor is idling for more than 10 seconds permitted unless specifically exempt. This policy reduces City operating expenses, lowers emissions, and improves air quality for residents and employees.
- Lebanon School District: the school district uses biodiesel in the school bus fleet, installed a wood pellet boiler at Mt Lebanon School, and the new Lebanon Middle School will follow the Northeast Collaborative for High Performing Schools Protocol.
- Lebanon Energy Plan: this document is Lebanon's first ever energy plan. The plan reflects the City's existing commitment to a sustainable energy future, and is a resource for all of the City's existing and potential energy uses, projects, and resources.

13 | E-2

Energy Use & Cost Inventory

The 2009 New Hampshire Municipal Energy Assistance Program saw Vital Communities and SERG conduct a comprehensive municipal energy inventory for Lebanon. This included municipal buildings, vehicles and streetlights. The City spends approximately $1 million on energy costs annually. Lebanon's total yearly energy use is the equivalent of about 2,000 cords of hardwood.

13 | E-3

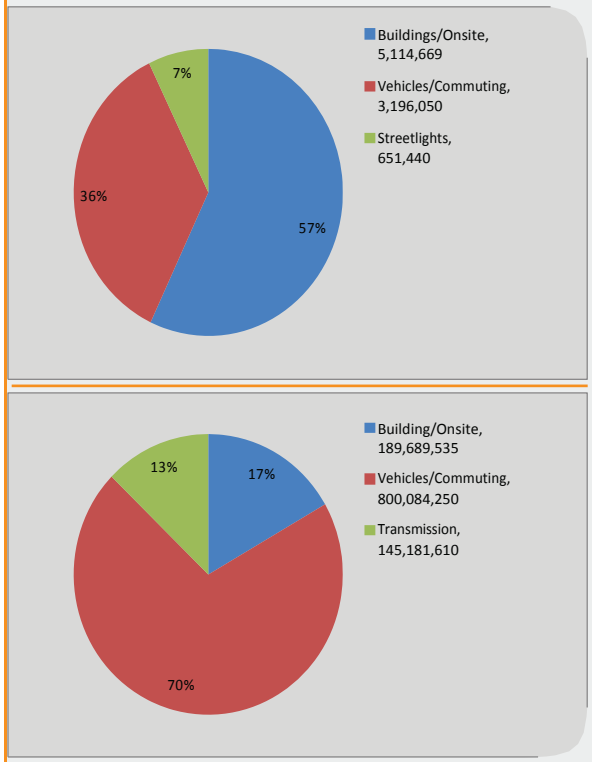
Municipal Building Energy Inventory

The energy use data (consumption of electricity and fuel) is entered in EPA Portfolio Manager for years 2009-2011 for 12 municipal buildings. It behooves the City and the LEAC to maintain this building energy inventory to measure and track reductions in energy use over time. This tool converts different energy sources to a common measure: the British Thermal Unit (BTU) measured in thousands of BTUs (kBTU) or millions of BTUs (MMBTU). One BTU is the amount of energy required to heat one pound of water by one degree.

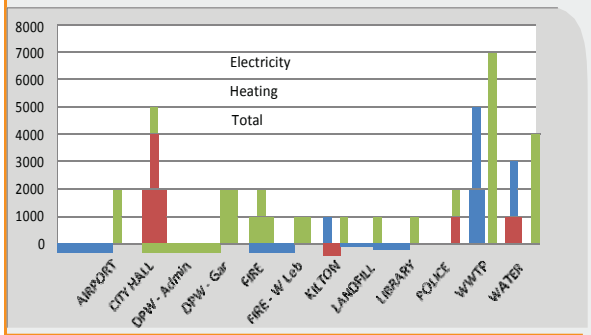
The chart at lower right provides a comparative energy use analysis of 12 municipal buildings. Electricity use, fuel use, and total energy use figures are displayed for each building in millions of British Thermal Units per year. The following recommendations are based on these charts:

- City Hall should be targeted for near-term energy efficiency projects. Recommendations for building efficiency upgrades can be found in a 2009 audit in the energy implementation plan.
- Energy use per square foot gives a good sense of which buildings are most and least efficient. Dividing the total energy use of the buildings in the chart by the square footage of the buildings, places three buildings as the highest use, lowest energy efficiency: City Hall, the Police Station, and the West Lebanon Fire Station. These buildings should be targeted for near-term energy efficiency improvement projects.
- The Water Treatment Plant and Wastewater Treatment Facility both use a lot of electricity to power their processes. Both facilities recently received energy efficiency audits and the City should implement recommendations from those audits to save money and reduce energy use.

Several of these buildings were included in the ETAP building assessment program, which lists prioritized energy efficiency improvements. Full details of the assessments are included in the energy implementation plan.



estimated CO2 emissions (lbs) from municipal (above) and commercial (below) activity from 2009
Lebanon Planning Office



selected municipal buildings: annual energy use (MMBTU)
Lebanon Planning Office

WR: Regional Coordination & Leadership. Add a paragraph stating: Lebanon is committed to reaching out to community voices not usually represented or heard. "Where climate (and energy) policy decisions are made, inequitable policy is to some extent a procedural problem: those with more money, time and historic representation are overrepresented." https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1000&context=sabin_climate_change (p.13)

13 | F

Future Challenges & Opportunities

13 | F-1

Regional Coordination & Leadership

The City of Lebanon has a strong commitment to leading-by-example in areas such as energy efficiency to demonstrate cost-effective solutions to citizens, businesses, and other municipalities. As the regional center for the Upper Valley, Lebanon has a tremendous opportunity to benefit from energy savings by residents and businesses. The City of Lebanon should coordinate with the Lebanon School District on energy projects and participate in the many local, regional, and state initiatives underway.

As a regional leader, the City of Lebanon should promote private-public partnerships, and inspire the commercial sector to invest further in efficiency and renewable technology by paving the way.

The City should consider an "energy coordinator" position that would manage energy projects, measure savings over time, leverage the work done in different departments throughout the City, and coordinate with regional and state efforts to make Lebanon a model for other municipalities. This position or contract could be paid for by savings incurred through energy efficiency projects.

13 | F-2

Energy Efficiency

In conjunction with the Energy Plan project, the Upper Valley Lake Sunapee Regional Planning Commission enrolled the City of Lebanon into the New Hampshire Energy Technical Assistance Program (ETAP). This American Recovery and Reinvestment Act funded program supplied the City with an engineer who did two days of valuable walk-through assessments of eleven municipal buildings. The engineer worked with City staff on the assessments and submitted a report to the City and LEAC that details many opportunities for energy savings in low-performing municipal buildings. The report estimates potential energy savings, cost avoidance, and simple payback.

The ETAP Project Action List provides the City with opportunities to invest in the energy efficiency of municipal buildings to save money over time, improve air quality inside the building, improve occupancy comfort, reduce carbon emissions, and preserve the historic character of buildings and landscape. The Project Action List and full report is available in Appendix B.

13 | F-3

Renewable Energy Opportunities

The City shall actively pursue opportunities to develop and purchase renewable energy sources such as hydropower, wind, solar, biomass, methane, and geothermal.

13 | F-3a Hydropower. Like many New England towns, Lebanon was born on hydropower. Many dams, wheels, and turbines powered economic development for decades. When grid electricity became widely available and inexpensive in the 1950s, it was often more economical for businesses to tie into the grid rather than produce their own electricity. Most turbines, wheels, and hydromechanical pumps were abandoned. The two existing hydropower stations on the Mascoma River in Lebanon are privately owned, one by Rivermill Hydroelectric, Inc. and the other (on the Glen Road Dam) by Enel North America Inc. The City should encourage the Rivermill complex to improve maintenance of the facility and onsite power generating capacity. The Department of Energy's Virtual Hydropower Prospector identifies a number of environmentally sound sites that could be

developed for hydropower without building any new dams, using damless diversions, which the City should investigate further by conducting feasibility studies.

There are a number of opportunities for small hydroelectric and hydromechanical projects at the Water Treatment Plant. Until the 1950s, the Mascoma River provided the energy to hydro-mechanically pump treated drinking water to the top of Reservoir Hill for next to no cost. Since abandoning the hydromechanical pump in favor of an electric grid-powered pump, the City incurs nearly a $10,000 per month electric bill onsite at the Water Treatment Plant. Three pump stations throughout the City have been identified to have the potential for making onsite power by installing small Cla-val turbines. Details are located in Appendix C.

The Upper Valley Lake Sunapee Regional Planning Commission completed a mapping exercise for renewable energy resources for the Lebanon Energy Plan. The maps and analysis provide an initial City-wide inventory of existing dam sites and assessments of the potential for solar and wind projects. For more detailed analysis and to view the City-wide maps of the dam inventory and solar and wind potential, refer to the end of Appendix C for hydro, Appendix D for solar, and E for wind.

13 | F-3b Solar PV. The City-wide solar analysis identifies locations in the City that may have the highest potential for solar energy production, either for on-site power generation or for distribution through the grid. The analysis and maps show potential for solar production in both January and July, but site-specific solar power feasibility analyses should be conducted by a solar energy specialist if the City decides to investigate candidate locations further.

13 | F-3c Wind Power Potential. The wind power potential map shows limited opportunity for a municipal or small scale commercial wind energy project in Lebanon. Some of the higher elevations in east and northeast Lebanon have moderate to fair wind energy production potential, but likely not sufficient to warrant commercial scale wind energy projects. There is a specific economy of scale for wind turbine projects, which is why utility scale units are so large. However, small-scale residential projects in these areas may be explored further. Location, scale, cost, environmental impacts, yield and sustained wind patterns are important factors to consider potential sites for residential wind energy production. The City could encourage small-scale residential projects through permissive land use regulations or by purchasing an anemometer to test potential sites.

13 | F-3d Biomass. Biomass is a relatively untapped renewable energy resource in the Upper Valley for producing heat and electric power. Biomass plants are fed by forest byproducts, agriculture byproducts, and other sources. Properly designed biomass heat and power projects promote sustainable forestry policy, extend the life of local landfills by diverting waste, emit little carbon into the air, and support the local economy. Nearly 80% of the Upper Valley is wooded, and 75% of Lebanon is undeveloped land. The City should explore biomass potential on a small scale, and coordinate regionally to explore the potential for biomass power production in the Upper Valley.

key points | future challenges & opportunities

- The City needs to monitor and manage its energy use in order to prioritize actions and measure progress over time.
- As a regional leader, the City should pave the way for more public-private partnerships such as the Lebanon landfill energy project, and inspire the commercial/institutional sector to invest in energy efficiency and renewable technology.
- The City can make well informed energy efficient upgrades based on information provided by the professional grade energy audits of four municipal facilities, and the walk through energy evaluations of eleven municipal facilities.
- The City shall actively pursue opportunities to develop and purchase alternative energy sources such as micro hydropower along the Mascoma and at the Water Treatment Plant, and liquid natural gas and biomass for heating buildings.
- Transportation and commuting accounts for the most significant portion of Lebanon's overall energy use and should be addressed collaboratively with employers and surrounding municipalities.
- Lebanon needs more energy efficient land use patterns and should coordinate regionally to reduce vehicle miles travelled for residents, commuters, and visitors, and encourage mixed use and infill development.
- Develop an ordinance that requires energy efficient lighting for all new developments.
- Adopt more stringent energy efficient building codes for new developments.
- Adopt a tax-neutral property tax exemption for renewable energy projects for home and business owners.
- Pursue creative financing mechanisms to fund energy improvements such as grants, energy performance contracts, and an "Energy Fund" consisting of monetary savings realized out of local efficiency projects.
- Measure progress and share success to verify results and catalyse more action.

2011 Commuting Baseline Data for City of Lebanon Employees only	
Average Daily Commute Distance	26.6 miles (35 miles is the regional average)
Average MPG Rating of Employee Vehicles	24.7 miles per gallon
Primary Commute Mode	89% - Drive alone 5% - Walk 4% - Carpool 2% - Advance Transit
Annual Fuel Use for Commuting by All Employees	49,754 gallons per year
Annual Fuel Cost Incurred by Employees ($3.60/gallon)	$179,114
Annual CO2 Emissions from Commuting	974,433 pounds

The Kilton Library, Mount Lebanon Elementary School, Lebanon Middle School, and Sachem Village housing in West Lebanon have biomass heating. Several of Lebanon's employers are exploring biomass as a heating option for their facilities. Lebanon should consider further biomass projects as a viable alternative to fossil fuel burning systems for heating larger facilities. Lebanon should conduct a feasibility study to assess the potential of a downtown Lebanon district combined heat and power biomass project.

13 | F-4

Transportation

Transportation accounts for a significant percentage of greenhouse gas emissions and energy use in Lebanon. Indeed, across northern New England, the "transportation system produces more carbon dioxide pollution… than any other part of the region's economy." The City of Lebanon should address this major source of pollution through efficient land use planning that promotes all transportation modes, a reduction in municipal vehicle fleet fuel use, and encouraging workplaces, including the City, to engage employees in trip-reduction programs, such as Smart Commute Upper Valley.

13 | F-4a Commuting. Commuting accounts for approximately 11% of all municipal CO2 emissions and represents a significant cost for municipal employees. In spring 2011, the City of Lebanon worked with the Upper Valley Transportation Management Association to collect baseline data on commuting habits and preferences. The chart at left shows this data.

The City should aim to lower the drive-alone rate of City employees by 10% over the next three years and improve employee access to commuting options. To achieve this, the City should support a multi-modal transportation system that provides employees, residents, and visitors ways to travel around Lebanon without driving alone. The City should also partner with employers and surrounding municipalities to lower the overall drive-alone rate of commuters in the micropolitan region by 10%.

The City should also consider integrating electric vehicle charging stations in strategic locations. Nissan and Chevrolet now market electric cars, and installing vehicle charging stations within the City might encourage residents, businesses, and employees to use electric vehicles. The electric vehicle charging stations would require consumers to purchase electricity.

13 | F-4b Vehicle Fleet. MEAP data from 2009 show that the City spends about $275,000 on fuel costs for its municipal fleet each year. This figure does not include vehicle maintenance and secondary impacts such as road wear and tear. The City has begun to address this cost by enforcing an anti-idling policy for Department of Public Works vehicles and machines; however the City should enforce this policy City wide. The City could install idle controls in the municipal fleet to limit the idle time.

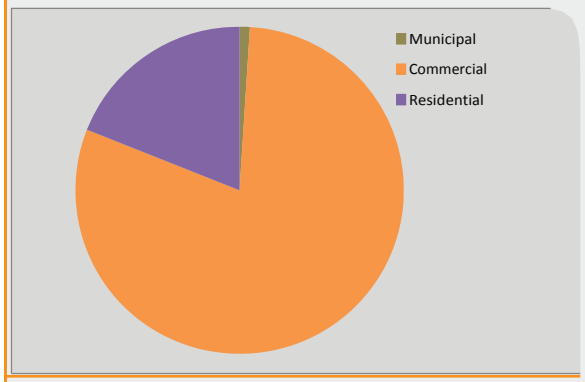
The City should consider purchasing biodiesel for the municipal fleet. The Lebanon School District currently purchases biofuel from locally owned Evans Fuel for the school bus fleet since 2006. According to the School District Transportation Supervisor, the buses using biodiesel do not emit strong fumes that regular diesel buses generate, which improves the air quality for students and staff. Since transitioning to biodiesel, the District has had very few fuel filter problems, even less than with regular diesel. The District adds an anti-freeze solution to the fuel to prevent gelling at below freezing temperatures.

13 | F-4c Energy Efficient Purchasing Policy. A sample energy efficient purchasing policy can be in found in the Implementation Plan. The policy is based on New Hampshire Executive Order 2005-4, which requires state departments to purchase efficient vehicles (fuel economy of at least 27.5 miles per gallon for passenger and light duty vehicles, 20 miles per gallon for trucks) and Energy Star rated Office and building equipment, unless justif cation is provided.

13 | F-5 Commercial Sector

Lebanon is home to most of the Upper Valley's largest employers. According to the Lebanon NH-VT Micropolitan Statistical Area report (2006) , 13,000 people commute into Lebanon daily to supplement the 5,000 workers travelling within Lebanon for work. In addition, many employees travelling to work in Hanover and Hartford commute through Lebanon, particularly on the NH Route 120 corridor. Between the commuting costs for the workforce and the large energy use onsite at many employers, a tremendous amount of energy is used by the commercial sector in Lebanon. A lot of this energy is used to power buildings and operations, like at Dartmouth Hitchcock Medical Center, or to power industrial processes in manufacturing, like at Timken. The pie chart on page 13-7, however, shows that 70% of commercial carbon dioxide emissions are generated by vehicle emissions from their employees' commute. The average commute distance for Upper Valley employees is 35 miles round trip. Around 17% percent of commercial emissions are from building and onsite, direct energy use, and the remaining 13% is emissions created through the transmission and production of the energy itself. Because Lebanon's commercial sector uses a tremendous amount of energy, it is essential that the City of Lebanon lead by example and show businesses that reducing energy use onsite, exploring alternative and more efficient energy solutions, and reducing their employees' vehicle miles travelled is essential to significantly reducing energy use and greenhouse gas emissions in Lebanon.

The graph to the right shows the proportions of energy related emissions throughout the City. The commercial sector is the largest user, followed by the residential sector. Even though municipal functions account for only 1% of the overall emissions, this represents $1million of taxpayer money the City has direct control of. Within the commercial sector, many businesses in Lebanon and throughout the Upper Valley are taking significant steps to reduce their energy use and save money. For example, Kleen Laundromat recently switched to natural gas, which is one of the cleanest burning fossil fuels widely available. Alice Peck Day Memorial Hospital convenes a group of stakeholders that discuss climate adaptation in the Upper Valley. There are dedicated staff working on energy management and expanding the renewable energy portfolio at Dartmouth Hitchcock Medical Center. Finally, Carroll Concrete in West Lebanon partnered with the City of Lebanon to purchase methane from the Lebanon Landfill to heat their operations. Lebanon should continue to pursue public-private partnerships and promote the energy work being done by Lebanon's large employers.



Lebanon's approximate overall carbon emissions
Eventhough municipal functions account for only 1% of overall emissions, this represents $1 million of taxpayer money

13 | F-6 Land Use

Much of New Hampshire's growth over the last 40 years occurred as dispersed, rural and suburban development. This low-density growth pattern has resulted in increasing travel distances and commuting costs for residents. The New Hampshire transportation sector is the leading sector for carbon emissions and energy costs.

It is important to recognize the impact that land use can have on energy efficiency and energy consumption at the community level. Increasingly energy is being treated as a shared community resource and is subject to planning efforts traditionally reserved for natural or cultural resources. This energy plan is an important step in developing a vision that integrates land use and energy conservation for the health and welfare of the City's residents and visitors.

Energy and land use planning practices can affect both existing built environments and undeveloped lands. Energy-efficient land use planning for developed areas may include broadening potential land uses and encouraging infill development to allow an appropriate mix of uses. Examples of such benefits include allowing small-scale commercial retail uses in a traditionally residential area, which could encourage residents to walk or bike to neighborhood stores rather than drive to regional malls; or encouraging redevelopment of existing buildings that may result in private investment in improving a building's energy efficiency. Energy-efficient land use planning for new developments might include guidance in energy-efficient development practices or incentives (e.g. increased density allowances) for energy-efficient or renewable energy development.

On a regional scale, Lebanon and surrounding municipalities should have regional discussions to coordinate land use patterns that reduce vehicle miles travelled for residents, commuters, and visitors.

13 | F-7 Outdoor Lights

In May of 2009, the Lebanon Public Safety Committee approved a plan to remove some select streetlights over a two-year period. In 2010, the LEAC and City Staff have worked a great deal to identify each outdoor light in the City's control, and map the lights. After completing an inventory of the existing lights the LEAC modified the original proposal. The LEAC proposes to remove 40-50% of the outdoor streetlights in the City and reduce the City's streetlight bill by at least 25%. For the lights that remain, the City should upgrade those lights to LEDs or other more efficient options approved by the utility company.

13 | F-7a Rationale for Changes. In determining which lights are candidates for removal, primary consideration is given to safe vehicle traffic and the safety of pedestrians in high traffic areas. Each light needs to be evaluated in order to determine if it is essential to the safety of the community. In addition, there are other street and decorative lights on the Lebanon Mall that the City owns privately. The City should upgrade these lights to LED or other efficient models as a private investment with relatively quick payback. For the full Streetlight Removal Plan, refer to Appendix I.

13 | F-7b Lighting and New Development. New multi-family residential, industrial and commercial development often require new outdoor lighting for building and parking lot safety as part of the development proposal. The City should consider energy efficiency standards for outdoor lighting and require LED or other energy efficient lighting technologies.

13 | F-8 Policy Recommendations

13 | F-8a Energy Efficient Building Codes. The New Hampshire State Building Code allows local governments to adopt building codes that are different than the state's requirements if such codes are more stringent than the state code. The state code is currently an adoption of the 2009 International Energy Conservation Code (IECC). The City of Lebanon could adopt a more recent IECC, preferably 2012, which includes several improvements

over previous versions. New, cost-effective energy-saving requirements include required programmable thermostats and increased minimum insulation levels. Please refer to Appendix G for more detailed analysis and case study.

Property Tax Exemption for Renewable Projects: The Lebanon City Council should consider a resolution to adopt NH RSA 72:61 et seq. ("Property Tax Exemption for Renewable Energy") as a tax-neutral incentive for renewable energy development. Originally passed in 1976, this tax exemption covers the added property value of a newly installed renewable energy system and does not reduce the tax revenue from a property itself. This tax benefit is attractive to building owners who wish to install renewable energy systems but find the added taxable property value – and resulting tax payment - a disincentive. It is attractive to the City as a revenue-neutral and flexible means to support renewable energy generation. Please refer to Appendix H for more detailed analysis and case study.

13 | F-9

Local Food & Agriculture

Lebanon residents and businesses that purchase local food support the local economy and help preserve the working landscape. Lebanon has several farms that produce food and goods sold to local markets and restaurants. Several farms mark the Lebanon landscape, making products such as apple cider, dairy goat products, vegetables, and fruits. Farms within a 25-mile radius to Lebanon city center provide access to many more local foods and meats that could supply Lebanon restaurants and City functions with more local food choices. The Lebanon Farmer's Market runs weekly in the summer months at Coburn Park, and now includes a monthly Winter Market.

As food has been shown to travel an average of up to 1500 miles from the farm to the table in the US, purchasing locally grown food in the Upper Valley can reduce fuel and transportation impacts associated with shipping and packaging food. Generally, the closer the farm is to Lebanon, the less fossil fuel is used to transport food to local markets. The City should continue to support and promote a robust network of local farmers at the Lebanon Farmer's Market, consider expanding market sites to larger employers, source local foods at City sponsored functions, and consider establishing more community gardens in City neighborhoods.

To search detailed listings for local food outlets in Lebanon and the greater Upper Valley, visit the Valley Food and Farm online searchable guide at www.vitalcommunities.org/agriculture. The Upper Valley Lake Sunapee Regional Planning Commission is doing a food source mapping study, and more information can be found at www.uvlsrpc.org.

13 | F-10

Education & Outreach

LEAC maintains a website that can be linked to on the City of Lebanon's website, and has up to date information about meetings, current projects, and local resources. LEAC has sponsored Button Up New Hampshire workshops in the past and should continue to coordinate opportunities to educate Lebanon residents on ways to save money and be more energy efficient.

RFB: A policy to support higher rates for net metering might be worthwhile (if symbolic, given the state-level control of the issue), as higher rates would generate more incentives for home installation of green energy, and by shortening the pay-back period it would bring green self-sufficiency into the realm of possibility for more low-to-middle income families.

LEAC and City management have the opportunity to encourage City of Lebanon employees to save energy and money through their behaviors. Outreach campaigns could focus on commuting habits, turning off lights and appliances, controlling space temperatures, composting, and recycling.

13 | F-11

Financing

The City shall actively pursue federal, state, regional, and grants for projects identified in this plan. Other creative financing mechanisms shall be considered as well, such as an "Energy Fund" to support municipal, residential, and commercial energy initiatives.

At the time of this report there are limited funds or opportunities for municipalities to receive outside funding to promote energy efficiency improvement programs. The following programs review funding options other than traditional financial tools including municipal bonds or direct lending. These funding sources are not a guarantee for success, but they may help the City identify financing vehicles. It is important to note that the City is paying for energy regardless of whether there is a commitment to improve municipal energy efficiency.

13 | F-11a Capital Improvements Program. The Capital Improvements Program (CIP) applies to any municipal construction or improvement project that exceeds $50,000 in total costs. The Energy Plan lists many "shovel ready" projects, particularly energy efficiency projects for municipal buildings and small hydropower projects that will likely qualify for the City CIP. The Lebanon Energy Advisory Committee should advocate for certain energy saving projects to be included in the City's CIP.

13 | F-11b Energy Fund. The City of Lebanon should consider forming an "Energy Fund" that consists of monetary savings realized out of efficiency projects. The Energy Fund could be used to finance other energy savings projects, and/or pay for a part time energy coordinator to manage the City's energy use, measure savings, and apply for funding for energy savings projects.

13 | F-11c Consolidating Energy Efficiency Projects. Many individual energy efficiency projects do not qualify to be listed in the CIP (e.g. upgrading building lights or temperature controls) and often are listed as part of the facility maintenance budgets for the individual City Departments. Coordinating and combining these small-scale energy efficiency projects among Departments into one contract could help the City realize an overall savings through economies of scale. This approach would be for well-defined energy efficiency or maintenance projects that may not be covered under a Performance Contract.

13 | F-11d Performance Contract. New Hampshire municipalities are allowed to finance large energy efficiency projects through an Energy Savings Performance Contract agreement with an Energy Services Company (ESCO). Currently the Lebanon Landfill project has an energy savings performance contract with an ESCO, Carbon Harvest. The ESCO helps design the project and purchases and installs the necessary equipment. In exchange for paying for the upgrades and equipment upfront, the ESCO receives a share of the cost savings that result from the energy efficiency work.

The City of Lebanon has a building performance contract with Honeywell. Currently Honeywell is expanding the number of municipal buildings that can be monitored for building performance and energy use by the Department of Public Works administrative Offices. The City should research and consider whether Honeywell can finance specific energy efficiency projects through Energy Saving Performance Contracts.

13 | F-11e Municipal Energy Reduction Fund. New Hampshire's Community Development Finance Authority's Municipal Energy Reduction Fund is available to help municipalities improve the energy efficiency of their municipal buildings, street lighting, water and sewer treatment facilities, and where appropriate, electrical distribution systems. The goal is to reduce energy usage and costs. CDFA is currently accepting applications from New Hampshire Municipalities through an online grants management system for funding through the Municipal Energy Reduction Fund.

13 | F-11f Planning Grants. Local and regional governments often apply for and receive funding for planning efforts to continue progress for municipal energy efficiency (This Energy Plan is funded by one such grant.). In 2011 the nine regional planning commissions in New Hampshire received significant funding from the US Department of Housing and Urban Development to develop individual regional plans and a statewide development plan.

13 | F-11g Ongoing Grant Updates. The US Environmental Protection Agency lists many potential funding resources for energy projects here: http://epa.gov/statelocalclimate/state/activities/f nancing.html.

13 | F-11h Power Purchasing Agreements. The City of Lebanon may chose to negotiate a power purchasing contract for its electric consumption. Currently the City purchases electricity from the local utility company and receives monthly bills for each meter. The City is subject to constant fluctuations in the price of power. A power purchasing agreement (PPA) is a fixed cost contract that usually covers a period of 1 or more years in which electricity is delivered through local transmission lines, but purchased elsewhere. The PPA contract price reflects market conditions at the time the contract is negotiated. The price remains fairly constant during the duration of the contract, often resulting in significant financial savings. Through a PPA, the City can also purchase a certain percentage of renewable energy. (Source: US Energy Information Administration).

13 | F-11i Aggregate Power Purchasing. A group of communities and and/or larger utility users (e.g. large employers, school districts, large commercial power consumers) can coordinate to aggregate their electric supply accounts and negotiate lower power generation rates than are offered through the existing regional power supply companies. By aggregating the power demands among the City and other partners (e.g. DHMC or the Lebanon School District facilities), the group of public and private entities are in a position to potentially save up to 30% on power generation costs.

13 | F-12 Measuring Progress

It is important to set up systems to track progress toward the stated goals and visions in the Energy Plan in order to measure energy and cost savings.

Twelve of Lebanon's most visible and energy intensive municipal buildings are tracked in the EPA Portfolio Manager online tool. The tool requires specific building characteristics like square footage and year built, electricity statements and fuel consumption records to calculate a baseline. The Lebanon Energy Advisory Committee and Vital Communities have been collecting and analyzing this information since the baseline data was collected in 2009 through the NH Municipal Energy Assistance Program and allows users to see changes in energy use and track fiscal savings over time. It is highly recommended that the City maintain this free tracking system.

RFB: A locally-funded program to directly support low-income families' transition to energy efficiency and green alternatives would be a good addition to this section. If the city doesn't have the money for it directly, a program partnering profitable businesses with low-income families and offering local tax incentives to do so might be a solution. It's all well and good to suggest consumers become more efficient, it's another thing to get low-income consumers to actually afford to do so. Thinking about the costs to switch an oil furnace to heat pumps for a house being in the $30,000-$40,000 range right now. Incentives work for those with the money, but for those without, the result can be filed under the "extra costs of being poor."

The Lebanon Energy Advisory Committee recommends reducing the number of kilowatts per taxpayer per year and reducing the number of gallons of fuel per taxpayer per year to show per capita energy use reductions from the baseline.

The Lebanon Energy Advisory Committee will work to suggest other tools and metrics to the City for tracking energy savings over time that might include indicators such as employee behaviors changes like increased carpooling, increased residential recycling, increased vendors and local food purchased at the Farmer's Market, investment in renewable energy projects by residents and businesses, and increased public private partnerships. Additional research by the LEAC should consider metrics for measuring the impacts of renewable energy generation in terms of economic impact and price stability.

13 | F-13

Sharing Success

It is important to share the successes of the LEAC and the City internally and publicly. The City should consider ways to share what it's doing with energy efficiency and renewable energy projects with residents, businesses, institutions, and visitors throughout the Upper Valley and State of New Hampshire. By sharing success and spreading positive messages about saving money and energy, the City can catalyze further efforts and inspire others to act. The City could publish an annual energy savings report, maintain an energy related presence in City e-newsletters, social media, and websites, keep state agencies and elected officials updated on the progress, and continue to discuss progress, challenges, and best practices with other regional energy saving advocates.

WR: 13/F-14 (new section) Equity and Environmental Justice. Set forth the Definition, philosophy and purpose of this topic.

OVERALL LONG-TERM GOAL:

Lebanon is a leader in energy efficiency, renewable energy reliance, and innovation across municipal, commercial, institutional, and residential sectors.

WR: Overall Long-Term Goal: Add a sentence here on sustainability with Equity as part of the definition of sustainability. (as stated above in the Introduction).

13 | G **Outcomes & Strategies**

OUTCOME 1

The City's buildings are energy efficient and new construction and redevelopments adhere to energy efficient standards.

STRATEGIES		ACTIONS	
A	The City shall maximize energy efficiency in municipal buildings and encourage efficiency in commercial and residential buildings.	Assess and execute as many ETAP Project Action List items as possible	1
B	The City shall develop guidelines to encourage energy efficient construction.	Adopt Energy Efficient Building Code policy	2
		Revise existing subdivision and site plan regulations to be more energy efficient	3
		Educate taxpayers about dollars saved over time when money is invested in energy efficiency	4

OUTCOME 2 The City relies upon as much local renewable energy as possible.

STRATEGIES	ACTIONS
A The City shall actively pursue opportunities to expand its use of renewable energy sources, such as hydropower, wind, solar, geothermal, and consider purchasing renewable energy from utility companies if offered.	
B The City shall encourage the commercial and residential sectors to invest in renewable energy.	
	1 Adopt a tax-neutral Property Tax Exemption for renewable energy projects
	2 Conduct feasibility studies on the sites for solar power potential based on the Solar Map
	3 Assess the feasibility of solar domestic hot water in new and existing municipal buildings
	4 Look into alternative ways of assessing wind power generation potential
	5 Encourage residents that benefit from moderate to fair wind power potential to explore small scale residential wind power projects
	6 Assess feasibility of implementing the recommendations of the hydropower study to improve energy efficiency for the municipal water and wastewater systems
	7 Encourage Rivermill Hydroelectric , Inc. to improve onsite efficiency and power capacity at the Rivermill Dam
	8 Be involved in any hydropower development proposals along the Mascoma River
	9 Consider moderate-scale district heating systems in new or existing office and industrial parks. These district heating systems could be based on a public/private partnership to cost-effectively implement high-efficiency heating among multiple buildings.
	10 Research potential for possible public private/partnerships to develop biomass or liquid natural gas district heating and power plant projects in areas like business and industrial parks, downtown Lebanon, or downtown West Lebanon
	11 Participate in regional discussions about opportunities for biomass heat/power and liquid natural gas
	12 Continue to take advantage of geothermal resources in new construction, similar to Kilton
	13 Study the feasibility of ground-source-heat pumps in new and upgraded municipal buildings
	14 Encourage businesses to invest in renewable energy generation

OUTCOME 3

There is a culture of energy efficiency and conservation within the City's municipal, commercial, institutional, and residential communities.

STRATEGIES	ACTIONS
A The City shall actively pursue federal, state, and regional funding and grants for projects identified in the Energy Plan. Other creative financing mechanisms shall be considered to support municipal, residential, and commercial energy initiatives.	
B The City shall encourage municipal departments, residents, businesses, institutions, and visitors to support the local economy and preserve the working landscape by purchasing local food.	
C The City shall conduct and support education and outreach efforts to increase local and regional understanding of the importance to reduce energy use and demand, curb reliance on fossil fuels, and protect the environment.	
D The City shall explore opportunities to collaborate with local and regional partners, including the Lebanon School District and neighboring communities, to develop regional energy initiatives including aggregated power purchasing, expanded commuter engagement, and other opportunities to reduce energy use and costs.	
	Develop outreach campaigns for City employees, for example, to increase carpooling and recycling 1
	Host and promote "Button-Up New Hampshire" workshops 2
	Develop a public education campaign about energy topics including an online and social media presence 3
	Advocate for projects that reduce the City's energy consumption and/or introduce renewable energy resources in the Capital Improvement Program 4
	Investigate opportunities for interdepartmental coordination and funding of energy efficiency maintenance projects in existing municipal buildings 5
	Establish an 'energy fund' to set aside funds to finance further energy savings projects 6
	Maintain a list of "shovel ready" energy-related projects to take advantage of potential future funding and grant programs offered by federal and state agencies 7
	Create or contract an 'energy coordinator' position 8
	Expand the work of the Lebanon Garden Committee to establish community gardens 9
	Conduct outreach to promote and strengthen Lebanon's Farmer's Market 10
	Use and promote local food at City events 11
	Research technical programs to add in Lebanon School curriculum to involve students in energy efficiency and conservation 12

OUTCOME 4

The City's residential, commercial, and institutional sectors privately invest in energy efficiency and renewable energy projects.

STRATEGIES		ACTIONS
A	The City shall take active steps to encourage residents, businesses, and institutions to invest in efficiency and renewable technology.	
B	The City shall pursue public-private partnerships to save money and generate energy.	
C	The City shall work with area businesses and institutions to leverage educational opportunities.	
		1 The Lebanon Energy Advisory Committee should advocate for and the City Council should pass a more stringent energy efficient building code policy
		2 The Lebanon Energy Advisory Committee should advocate for and the City Council should pass a tax neutral property tax exemption policy for renewable projects
		3 Encourage the use of natural gas at local businesses (ex: Kleen Laundry)
		4 Explore shared natural gas delivery with other municipalities and businesses
		5 Explore shared biomass power production opportunities (ex: Unity, NH)
		6 Continue to explore partnerships with the private sector to maximize energy savings on specific projects (ex: Landfill project)
		7 Demand rigorous commissioning and review for energy efficient opportunities on all projects

OUTCOME 5 Lighting throughout the City is efficient, cost-effective, and restores dark skies.

STRATEGIES	ACTIONS
A The City shall maintain a current map and inventory of all exterior lights.	Develop an ordinance to require energy efficient lighting for all new designs and projects 1
B The City shall reduce the number of overall lights in its control to save taxpayer money and reduce energy use and night-sky pollution associated with unnecessary lights.	Develop fair criteria for light removal 2
	Remove all unnecessary lights 3
	Upgrade existing lights to LED or other efficient models 4
	Refer to what other municipalities have done to maximize light removal and public satisfaction 5
	Use cut-off lighting techniques to reduce light pollution of necessary lights 6
	Incorporate land development regulations that require high efficiency lights for site plan review and development 7

OUTCOME 6

The City of Lebanon has an economically sustainable, multi-modal transportation network, and municipal vehicle fleet.

STRATEGIES		ACTIONS
A	The City shall develop a multi-modal transportation system that provides employees, residents, and visitors ways to travel around Lebanon without driving alone.	
B	The City shall reduce emissions and costs of vehicles and machines in the municipal fleet.	1 Institute a policy that requires the purchase of energy efficient vehicles and equipment, and insert language into City Request for Proposals and Qualifications
C	The City shall improve access to commuting options for City employees and partner with employers and surrounding towns to expand access to all regional commuters.	2 Consider installing electric vehicle charging stations, for example at park and rides
		3 Continue support of Advance Transit and promote new routes where appropriate
		4 Establish new and participate in a regional network of park and ride facilities that connect to transit lines
		5 Institute a City wide Anti-Idling Policy based on the current policy issued by the Department of Public Works
		6 Purchase biodiesel fuel from local vendors for diesel machines and vehicles
		7 Assess the travel patterns of the municipal fleet and identify more efficient routes
		8 Examine ways to work with other employers, including the Lebanon School District, to leverage the tools and experience of the Smart Commute program
		9 Implement recommendations of the City of Lebanon Sustainable Transportation Plan (2011), in partnership with the Upper Valley Transportation Management Association through the Smart Commute program
		10 Set up an internal carpool matching system to help employees who live near one another share rides
		11 Examine the feasibility of offering employees a compressed work week (four ten-hour days per week, for example)
		12 Adopt a telecommuting policy and promote working from home to appropriate employees
		13 Advocate for wide-reaching broadband service to improve telecommuting options
		14 Continue to work with the Upper Valley Transportation Management Association to market commuting options and engage employees in a behavior change campaign
		15 Assess the costs and benefits of offering employees a commuter benefit (extra time off for not driving alone, for example)
		16 Continue to promote walking and biking in municipal employee wellness programs

OUTCOME 7

The City of Lebanon provides easy access to transportation systems and concentrates activities, amenities and commerce to enhance quality of life, retain small town charm, and increase energy savings.

STRATEGIES	ACTIONS
A The City shall explore ways to allow residents and visitors to reduce vehicle miles travelled throughout the City.	Establish park and ride facilities that connect to transit lines 1
	Assess feasibility of bicycle rental stations throughout the City, located near bicycle lane networks 2
B The City shall assess the current grounds care and landscaping practices within the City's control and explore more sustainable methods with less reliance on fossil fuels.	Develop sustainable methods for grounds care and landscaping 3
	Incorporate green infrastructure -such as street trees, buffers and parks- in road, neighborhood and commercial design, to diminish stormwater runoff, enhance soil capacity to absorb stormwater, enhance the aesthetic value of the landscape, reduce greenhouse gas emissions, reduce the need for traditional stormwater management techniques and reduce energy demands from the urban heat island effect 4
C The City shall explore ways to increase residents' and businesses' access to recycling and local foods.	Develop land use plans, policies, and regulations to encourage energy efficiency and renewable energy resources for renovation of existing structures and new construction 5
	Sustainably manage City-owned forest land to provide high-value locally produced wood products, improve recreational use, and wildlife habitats 6
	Promote locally produced foods and products 7
	Promote the Lebanon Farmer's Market and encourage participation by local vendors 8
	Provide compost disposal at City facilities 9
	Designate locations for community gardens throughout the City 10
	Design edible and native plant based functional landscapes throughout the City 11
	Set up centrally located recycling drop off stations throughout the City that are walkable, visible and attractive 12
	Study the feasibility of ground-source-heat pumps in new and upgraded municipal buildings 13
	Encourage businesses to invest in renewable energy generation 14

WR: Outcome 8: (new outcome) Equity and Environmental Justice are essential components in Lebanon's energy future.
RFB: Strategies and Actions will need to be drafted, but could include: "A. The City shall explore ways to allow low-income residents and visitors to take part in energy efficiency and green energy initiatives on par with their higher-income peers." and "B. The City shall recognize that there are greater challenges for DBE/ WBE (Disadvantaged Business Enterprises and Women Business Enterprises, see: https://www.nheconomy.com/ptac/special-designations) to take part in City energy initiatives and shall take special steps to encourage their participation."

Energy Chapter Addendum

For the Energy Chapter of the City of Lebanon Master Plan 2012
Adopted July 10, 2017

Upon recommendation of the Lebanon Energy Advisory Committee and the Lebanon City Council, the City of Lebanon Planning Board adopts the following addendum to the Lebanon Master Plan:

Whereas references to "natural gas" and "liquid natural gas" in two summary "key points" and four specific actions in Chapter 13 are not referenced or supported by the text of the "Vision & Purpose," "Issues & Priorities," "Existing Conditions & Trends," "Overall Long-Term Goal," or relevant "Outcomes & Strategies" of the Energy Chapter of the Master Plan;

And whereas such references to the possible use or increased use of natural gas do not reflect and are not supported by policies of the City of Lebanon;

Therefore, the following references to "natural gas" and "liquid natural gas" should be considered void and of no effect as if they were stricken from the text of the Master Plan as shown below in strikethrough text and with corresponding editorial adjustments shown in [brackets] below:

- Page 13-5 Bullet: Explore alternative energy sources such as hydropower along the Mascoma River, biomass heat and power for buildings, [and anaerobically generated] methane gas to energy~~, and liquid natural gas~~
- Page 13-5 Bullet: Businesses and institutions within Lebanon are committed as well, for example ~~Kleen~~
- ~~Laundry's transition to liquid natural gas, and~~ numerous large employers in Lebanon are enrolled in the Smart Commute workplace commuter trip reduction program.
- Page 13-9 Bullet: The City shall actively pursue opportunities to develop and purchase alternative energy sources such as micro hydropower along the Mascoma and at the Water Treatment Plant, ~~and liquid natural gas~~ and biomass for heating buildings.
- Page 13-18 Outcome 2 – Action 10: Research potential for possible public private/partnerships to develop biomass ~~or liquid natural gas~~ district heating and power plant projects in areas like business and industrial parks, downtown Lebanon, or downtown West Lebanon
- Page 13-18 Outcome 2 – Action 11: Participate in regional discussions about opportunities for biomass heat/power ~~and liquid natural gas~~
- Page 13-20 Outcome 4 – ~~Action 2: Encourage the use of natural gas at local businesses (ex. Kleen Laundry)~~
- Page 13-20 Outcome 4 – ~~Action 3: Encourage shared natural gas delivery with other municipalities and businesses~~