

**sustainable  
madison**



# Review of the Madison Sustainability Plan - Chapter 4: Carbon & Energy

Jeannette LeZaks & Stacie Reece  
April 17, 2017

# Reminder of what's in the plan

## C A R B O N & E N E R G Y

Climate change is one of the greatest challenges of our time. Greenhouse gas (GHG) emissions come from a variety of sources and have an impact on the overall quality of life not only within the Madison region, but also the world. Electrical power generation and motor vehicle use are two significant sources of GHG that need to be addressed.

## Vision

Madison embraces sustainable approaches to fuel our economy and community, achieving an 80% carbon reduction by 2050. Our City government and staff set examples of reduced energy use and emissions for businesses and individuals to emulate.

## Goals

1. Influence reductions in transportation related carbon impacts.
2. Systematically upgrade existing buildings, equipment and infrastructure.
3. Improve new buildings and developments.
4. Engage the public in energy efficiency and climate change programs.
5. Obtain 25% of electricity, heating and transportation energy from clean energy sources by 2025.
6. Report carbon footprint to the public.

# Process for prioritization

## Madison's existing goals and actions

Goal Name	Total actions
Engage the public in energy efficiency and climate change programs.	12
Improve new buildings and developments.	9
Influence reductions in transportation related carbon impacts.	13
Obtain 25% of electricity, heating and transportation energy from clean energy sources by 2025.	14
Report carbon footprint to the public.	6
Systematically upgrade existing buildings, equipment and infrastructure.	23
<b>Total</b>	<b>77</b>

# 77 Total Actions

# Process for prioritization



## Pull out what's been done

No progress= 39

In Progress = 36

Blank=0

-----  
~~Completed = 1!~~

Goal 6, Action 1: Develop a carbon footprint baseline for public, City-owned and/or controlled facilities and activities. Prepare a matrix of metrics, both measurable and value-based, to establish baselines and track progress.

77



76

# Process for prioritization



## Create an applicability metric

Applicable = 66

~~-----~~  
~~Action Too Big / Vague = 3~~

~~Out of City Scope = 7~~

76



66

# Process for prioritization



## Apply a ranking for SMC

- High = 21
- 
- ~~Medium High = 3~~
- ~~Medium = 13~~
- ~~Low = 19~~
- ~~Other = 9 (Need more info, needs progress report)~~

66  
↓  
21

# Process for prioritization



Remove 11 actions already  
addressed in:

- The Energy Plan
- The Resolution

21



10

# Process for prioritization



## In Progress: 5

Goal	2	Action	1b	Promote and incentivize upgrading existing commercial and residential building stock to improve energy efficiency, indoor air and building environment quality.
Goal	2	Action	4b	Analyze current housing stock: square footage, demographic data, age, etc., to determine target areas for energy retrofiting.
Goal	2	Action	5b	Educate the private business owner about the value of disclosing information on lower energy use to commercial and residential buyers or leasees. » Residential: at time of sale, or when major additions are added or by 2015 » Multifamily: same as above » Commercial buildings: » Greater than 200,000 square foot benchmark using ENERGY STAR Portfolio Manager by 2013 » Greater than 50,000 square foot benchmark by 2014 » Less than 50,000 square foot benchmark by 2016
Goal	5	Action	6	Create solar charging stations to recharge electric vehicles.
Goal	5	Action	9	Divert urban organic wastes into fuel sources for local bio-digester energy production.



# Process for prioritization



## No progress so far: 5

Goal 1	Action 2	Encourage and promote the use of electrical vehicles and the creation of electrical vehicle infrastructure.
Goal 2	Action 3b	City and community partners participate in EPA's Better Building Competition or institute an award program for building owners who: a) measurably reduce energy consumption over a 12 month period, and b) provide an educational report about how they did it.
Goal 2	Action 7b	Investigate developing an energy performance level requirement for new construction or renovation of 50% or more of the gross square footage of a commercial building that could be activated at the time of plan review. (Current LEED ENERGYSTAR level is prescribed in LEED EB: OPERATIONS & MAINTENANCE or an equivalent third party measure could be used.)
Goal 2	Action 9b	Investigate impact of promoting a 30% reduction in energy use below code for existing buildings that receive TIF funding
Goal 4	Action 8	Ask businesses, institutions, trade associations, Chambers of Commerce and other organizations to actively and regularly promote energy efficiency and climate change information to their members and members' employees.

# Process for prioritization



## Group Discussion



### Top ten priorities for SMC

Incentivize upgrading existing housing.

Analyze housing stock to ID retrofit opps

Educate on value of benchmarking

Create solar charging stations

Divert urban organic wastes

Promote the use of electrical vehicles

Reward for reducing consumption (BB Challenge)

Require an energy performance level for new/renovated buildings

Investigate energy requirement for TIF funding

Engage biz organizations to promote EE and climate change