



Dane County Council on Climate Change

Office of Energy and Climate Change

October 10, 2017

9:00 am to 12:00 noon

Dane County Lyman F. Anderson Agriculture and Conservation Center
5201 Fen Oak Drive, Madison, WI 53718 Room 121A

Minutes for the second meeting of the Dane County Council on Climate Change

Agenda:

9:00 to 9:15 Welcome, Introductions and Agenda Review, by Keith Reopelle

9:15 to 10:00 “Sizing Things Up” a presentation by Nicholas Bianco with
The World Resources Institute

10:00 to 10:30: Q & A and Discussion

10:30 to 10:40: Break

10:40 to 11:00: Update on Working Group formation and Outside Resources

11:00 to 11:30 Discussion about the Air Emissions Inventory

11:30 to 12:00 Discussion about Policy, Program and Project Ideas

12:00 noon Adjourn

Council Members in Attendance:

Jeanne Hoffman, City of Madison

Abby Attoun, City of Middleton

Brad Bruun, City of Monona

Erika Klutmeier, City of Fitchburg

Charles Tubbs, Dane County Department of Emergency Management

Wesley Sparkman, Dane County Office of Equity and Inclusion

Steve Jackson & Michele Pluta, Alliant Energy

Dave Poklinkoski, IBEW 2304

Jeff Jaeckels, MGE

Andy Kellen, WPPI

Brett Halverson, Greater Madison Chamber of Commerce
Mary Evers Statz, UW Health
Chris Beedle, H&H Energy Services
Nadeem Afghan, BIOFerm Energy Systems
Paul Lenhart, Krupp General Contractors
Jamie Derr, Derr Farms
John Haeckel and Jessica Niekrasz, Clean Fuel Partners
Mark Redsten, Clean Wisconsin
Elizabeth Katt Reinders, Sierra Club
Stacie Reece, Sustain Dane
Tyler Huebner, RENEW Wisconsin
Caryl Terrell and Gary Werner, CRANES
Ashwat Narayanan, 1,000 Friends of Wisconsin
Paul Robbins, UW—Nelson Institute
Gary Radloff, UW—Wisconsin Energy Institute
Lauren Azar, Azar Law LLC
Libby Tucci, YWCA of Madison

The meeting began with introduction and welcome from Keith Reopelle. Keith reviewed the agenda, made some announcements, and reviewed the overarching goal of the Council and areas of emphasis for Council members who were not present at the first meeting:

Yesterday, the Clean Power Plan was repealed but about 75% of the CPP has already been accomplished. It's never been more important to address climate change at the local level.

This is an audacious goal: to make a climate action plan that makes Dane County a national leader in deep decarbonization. This will be based on science and evidence. We want to ensure that we are maximizing economic benefits and health benefits. We want to track, monitor and evaluate health benefits. Focus on justice and equity. We want to enable everyone in Dane County, regardless of income or ethnicity to take advantage of these policies and programs. Want to make Dane County a more energy secure place to work. Bridge the urban and rural divide in our solutions.

Keith then introduced Nicholas Bianco. Nicholas Bianco worked on Regional Greenhouse Gas Initiative at MA EPA - the first ever cap and trade effort. Worked at the Environmental Defense Fund helping states and regions develop climate policies. He is now at WRI working on state, federal and international efforts to meet climate commitments.

Some of Nicholas's comments included:

- WRI is an international non-profit, non-partisan think tank.
- While emissions have been rising - there was a real breakthrough in Paris. Virtually every nation in the world is participating in the Paris UNFCCC agreement except USA. The Paris agreement if achieved, gets to 2.7 or 3.7 degrees rise in temperature. But to reduce emissions more, we would have to do more still.

- We have seen US emission growth slow/and reduce despite continued increase in GDP. We have seen this trend in 19 other countries around the world. It is possible to increase GDP while reducing emissions.
- What will it take?
- The Rhodium Group analysis shows that the US was on track to meet the 2020 goals (depending on technology and economic transition), but is unlikely to meet the 2025 goals or the 2030 goals.
- Numerous Studies show that it is possible to further reduce emissions and to meet the Paris commitments with additional policy measures.

WRI Reports with Relevant Information

- From Risk to Return (report) By: Risky Business
- US Mid Century Strategy for Deep Decarbonization - WRI/USA report.

Deep Decarbonization means - reducing emissions to 1.5 or 2.0 C increase in temperature. To achieve this we would need the whole world to go to net zero in the 2070. This could mean US emissions falling 80 - 90% by 2050.

Three Pillars: Strategies and Metrics for Decarbonization of Electricity

1. Technologies are immediately available and cost effective.
 2. Energy efficiency - we have to get much better at this. The overall economy could use only 1/3 of what we are using today.
 3. End use fuel switching to electric sources.
- Land Use will also play an instrumental role.
 - The two largest sources of emission are electricity and transport.
 - In electricity, we have seen really dramatic and exciting change and expect it to continue. These are all caused by a significant move to natural gas and renewable energy.
 - There are many paths to a decarbonized power sector. And will include strategies that include but are not limited to mixed energy sources, renewables, nuclear, carbon capture and storage.
 - How reasonable is this?
 - Prices of solar continue to decline as installed capacity increases. The more we build solar the more prices tend to fall.
 - Wind technology is improving (bigger turbines, bigger blades), allowing for geographical expansion of wind technology.
 - Nuclear system accounts for 20% of "clean energy" and most of those plants are reaching end of their 40, 50 and 60-year lifespans. These energy generators will need to be replaced.
- Carbon Capture and Storage that would be housed underground maybe be a tool for reducing carbon load in atmosphere. The technology has been demonstrated.
 - The future is going to be determined by the economic marketplace rather than the federal policy (clean power plan). The rate of change we need to see needs to be accelerated.

Transportation Sector

- After decades of real stagnation of cars sold in the US - all the technological advancements was going into making cars heavier, bigger, and speedier. It wasn't until the 2000s when there started to be a significant shift in Corporate Average Fuel Economy (CAFE) standards.
- Vehicle standards will significantly reduce GHG emissions, but more would be needed to meet mid-century targets.
- How quickly will this transformation occur and what role will electric vehicles move into the marketplace?
- **Concerns about infrastructure lifespan**
- People keep their cars a long time, so technology doesn't make changes till they upgrade to the new technology. Also - folks may be using cars more caused by the increase in standards of living.
- Shifting the transportation sector will require greater efficiency, less carbon intensive fuels, and modal shifts.

Questions about shifts in transportation center:

- 1) What is the difference between biogas and renewable diesel?
- 2) Why does graph show fossil fuels as a larger part of the "high renewables" mix?
- 3) Confusion about how much modality shifts impact the future of transit, and how this is calculated.

Transportation and Batteries

- Lithium Ion Battery Pack Prices have fallen by 73% since 2010 and these trends are anticipated to continue.
- The number of charging stations continues to grow - but many more are needed to support decarbonization of the fleet.
- EV - purely electric vehicle
- PHEV - plug in hybrid electric vehicles (can run on electricity or gas/diesel)
- Some scenarios could result in considerable increases in electric generation, especially electrification of the transportation sector.
- To stay on track to meet mid-century decarbonization targets, emissions would likely need to fall by 1/3. Various infrastructure choices in the near-short term will have profound impacts on the emissions trends.

After the presentation was complete the presenter took questions:

Q: What is WRI's position on a carbon tax to accelerate things?

A: WRI - doesn't have a specific framework, though it is clear that a carbon price could help us get there more efficiently. WRI presents all possibilities to help people make those decisions.

Q: Show how we can achieve those main goals without nuclear/CCS and lots of offshore wind?

A: There is growing potential for wind. The map only showed onshore wind, the bulk of the wind potential in WI is offshore wind. You will have to evaluate local opportunities and how they fit here.

Q: What about basic heating services? Could we consider how best to provide heat?

Q: We are also assuming that natural gas gets a pass. But the natural gas exploration releases a lot of powerful methane as leaks. There is also the issue of carbon emissions. How are we going to shift behavior? Are we going to keep using natural gas as the only clean fuel source?

Comments:

- In Germany they are focusing on how to store renewables and focus on efficient heating.
- There are no real benefits for solar thermal... for Dane County - we should try and study heating issues locally. Germans are obsessed with heating - some have residential biomass boiler and service (not owned by the resident, rather owned by the service provider).

What about pellet wood stoves for local heating?

A: We have to both improve efficiency and shift to better fuels.

Q: Geothermal - how could we harness geothermal for local efficient heating especially for low-income individuals?

Q: What about pellet wood stoves for local heating?

Update on Working Groups and outside resources -- Keith Reopelle

1) Each of the nine working groups has a designated chair and has membership up to 10 people. All of the below workgroups are planning to meet during the next 4-6 weeks.

- i. Energy Efficiency
- ii. Electricity Supply/Generation
- iii. Agriculture, Forestry & Food
- iv. Transportation & Land Use
- v. Buildings
- vi. Water – Energy Nexus
- vii. Adaptation
- viii. Public Engagement
- ix. Modeling

2) Each program, policy or project proposed by the working groups will track and describe the following attributes:

- i. GHG reductions
- ii. Equity (how accessible is the solution to all citizens)

- iii. Cost
- iv. Economic benefits
- v. Feasibility
- vi. Temporal advantage (how soon can it get done)
- vii. Health benefits, direct and co-benefits
- viii. Energy Security
- ix. Contribution to resiliency

3) A reminder that all Council and workgroup meetings will follow engagement ground rules:

- i. Be prompt and present (take your cell phone outside room)
- ii. One speaker at a time
- iii. No side conversations
- iv. We value brevity
- v. Everyone participates, no one dominates
- vi. We assume positive intent (be respectful)
- vii. Disagree without being disagreeable

4) FACETS (Framework for Analysis of Climate-Energy-Technology Systems) a climate change modeling system for analyzing and communicating energy technology pathways and systems will be contracted by the Office on Energy and Climate Change to conduct modeling work specific to Dane County and the region. FACETS co-founder Evelyn Wright will present at the next meeting.

Dane County Air Emissions Inventory Discussion

The Air Emissions Inventory (GHG and criteria pollutants) analysis performed by the University of Minnesota under contract with Dane County was discussed by the full Council. The potential to use the analysis as a baseline and ways in which to improve the 2013 study were discussed. More recent data updating the results was recommended as one way to improve the analysis. The three emission scopes (in-boundary, trans-boundary and household) were defined and discussed. Some of the specific points made included:

- We should discuss and decide on what at the best metrics to use; this inventory uses at least three.
- We want to be able to compare Dane County emissions to other jurisdictions, the inventory we have does that to some extent – has comparisons to Minneapolis, Boulder CO, state average, national average, etc.
- Are there any other emissions we want to tract besides GHGs and the criteria pollutants (covered by the inventory); possibly mercury?
- Is the impact of Metrogro by MMSD taken into effect in the inventory? Probably not.
- We should try to do some of our own survey work wherever we can to enhance the baseline inventory.

Policy, Program and Projects Discussion

- Taking stock of existing renewable energy projects in the County was cited as a valuable method to further future project opportunities. Site visits by the Council or workgroups to existing projects will be explored.
- The Capital Area Regional Planning Commission (CARPC) may be added as a Council member.
- Living buildings should be a focus; well-building certification.
- Siting (e.g. wind, solar) needs to be considered in the context of land use.
- Other areas of interest for further study including green banks (project financing), building certification, renewables siting, distributed energy and micro grids were described and discussed.
- Public engagement will be critical—we should set up a public engagement clearinghouse.
- Where do we draw the physical lines on the various systems, such as the power grid. Not necessarily at the edge of the county.
- The County Executive’s budget has proposed transforming the existing BUILD program into a \$45,000 grant program to municipalities to reduce carbon emissions.

Next Meeting

The Council’s next meeting was subsequently scheduled for December 8th. . The meeting was adjourned at 11:55 am.