

## Princeton Environmental Action Committee (EAC) Meeting Minutes

12/18/2017

- Meeting called to order 7:34 pm
- Committee members present: Claire Golding (CG); Corey Burnham-Howard (CBH); Phil Gott (PG); Sue Hardenbrook (SH); Brett Gibbs (“BG”); Michael Knapp (“MK”)-(late arrival at 7:55p) (Absent- Phoebe Moore)
- Public comment
  - moved to end of meeting by vote of members (5-0)
- Guest Speaker: Rick Rys (“RR:”), Light Commissioner, Princeton Municipal Light Department (“PMLD”)
  - Presenting “Worldview of Energy and Environmental Issues”
  - Rick explains that he is an advocate for practical environmental things/solutions. He has degrees in Chemical and Electrical Engineering. He owns a company R2Controls, through which he designs and builds control systems for various industries. He follows the professional code of ethics to look out for the public welfare and disclose dangers to the public and the environment.
  - Rick discussed:
    - There are paid opponents of global warming with strategies (i.e., mailings and petitions)
    - The 1970s movement of scientists and environmentalists
    - Energy
      - The sun is of primary importance. Earth is the only livable planet. With the industrial revolution came human addiction to energy.
      - Energy options:
        - Conservation (“best option” in Rick’s opinion).
          - Current actions mostly are carbon-based
          - Much of raw energy is rejected into the atmosphere (vs. converted to work) “so that’s a problem with heat engines”; electric engine (not heat engine) is the “most effective”
        - The Clean Air Act brought the reformulation of gasoline for cleaner air (i.e., removal of sulfur from cured oil as it caused acid rain and smog); Diesel fuel was also reformulated to lower sulfur to 15ppm
        - Emissions from cars = 15gal 300lbs of CO2 (plus hydrocarbons, NOx; SO2; particulates; soot; pyrenes), so...”CO2 is a problem that is hard to solve.” Options = use less; make car lighter; “electric allows for “fun and power”. Battery market is growing (lithium) but still expensive
- Diesel Properties
- Tailpipe emissions from a car
  - 15 gallons of gasoline = 300 lbs of CO2 emitted
- Importance of keeping “fun” part in automobiles with new, cleaner versions
  - Big progress in electric vehicles on this front
  - Massive expansion of lithium battery production right now

- Source of US electric generation
  - 15% renewable
  - 20% nuclear
  - 30% coal
  - 34% natural gas
- Government in power business for years (e.g., Tennessee Valley Authority; Bonneville Power Admin, etc)
  - FERC – Federal Energy Regulatory Commission (FERC)
    - Regulates transmission/sale of electric and natural gas in interstate commerce
  - US has 3 main grids: Eastern; Western; and Texas
    - Europe is one single grid
    - Independent System Operator (ISO) New England controls the grid in New England
- MA Options for future power
  - Not a lot of demand for new power: more efficient and no population growth
  - Retiring assets: Pilgrim, Brayton Point coal-fired power plants
  - New power:
    - Quebec Hydro 32 gigawatts
      - Proposals right now to bring in that power south to New England
    - Natural Gas pipelines
    - Solar, Wind
      - In 2016, more new wind/solar power added than natural gas
      - But MA will need batteries to really invest heavily into these
    - Biomass and trash
    - New nuclear is unlikely
- Environmental Problems
  - “Triple threat” of food, water, energy for growing global population
  - 51 people per sq kilometer, or 4.86 acres per person
  - Deaths due to pollution world wide
    - 6.5 million due to dirty air
    - 1.8 million due to dirty water
- Environmental regulations on World/Federal/State level
  - State level: Global Warming Solutions Act of 2008 (GWSA)
    - Renewable Portfolio Standard (RPS)
    - Clean Energy Standard (CES)
- Energy storage options
  - Pumped Hydro most popular today
  - Lithium battery gaining
- Key Performance indicators for a “green” report card:
  - E.g.,
    - What are greenhouse gas emission per person?
    - What is town recycling rate?

- Questions for RR
  - PG: what levers can we pull in Princeton to address environmental issues, specifically climate change?
    - RR: Load issues may be addressed as natural gas begins to get exported and price of natural gas rises, then price of oil will rise, and Princeton electric price won't look so bad
      - New high efficiency heat pumps can heat a house for basically same price as oil
      - As electric cars become more popular, load will go up
      - But also more domestic solar (distributed energy) will also likely go up
  - CG: Do you know anything about Ashburnham and the news re: its purchase of a battery system?
    - RR: we looked at a battery system for PMLD, didn't seem to be cost-effective. We are watching the renewable portfolio standards to see how that could affect the Town. May drive up the price of Princeton's wind power. But need to watch these potential regulations carefully.
  - PG: due to our small size, we need to value agility
    - RR: absolutely. Focus on paying down wind turbine debt (should be done by 2026).
  - PG: places to put in solar?
    - RR: best spots tend to be brownfields; waste-sites. In Princeton, also possible at Krashes Field; Thomas Prince School
      - But state government subsidies for municipal solar is set to expire soon; municipal solar will be far less cost-effective at that point
      - PMLD focusing on improving financial situation
- Review of last meeting minutes:
  - Acronyms spelled out; spell out numbers of votes; further clarifications
  - CG moves to accept minutes, CGH seconded; approval 6-0
- Survey update: saved for next meeting
- Environmental Action Plan (EAP) Research and Status Update: saved for next meeting
  - SH did not get assigned to an EAP topic area at last meeting, she will work on the "natural systems" and "land use" sections
  - If one develops a summary, email that out to the group before the next meeting
- Identifying dates for next meetings
  - CG moves to postpone next meeting 1/3 to 1/10, MK second, 6-0 approval
  - Next meeting on 1/15/17 at 7:30 pm;
    - 2/7/17 at 7:00pm,
    - 2/19/17 at 7:30pm
    - 3/7/17 at 7:00 pm
    - 3/19/17 at 7:30 pm
    - 4/4/17 at 7:00 pm
    - 4/16/17 at 7:30 pm
    - 5/2/17 at 7:00 pm
    - 5/21/17 at 7:30 pm

- 6/6/2017 at 7:00 pm
  - 6/18/2018 at 7:30 pm
- CBH action item to draft notice for town news on EAC links; will do after the holiday season
- SH collected surveys from library and delivered to Phoebe Moore (PM)
- Agenda for next meeting:
  - Meeting Minutes
  - Survey Results
  - Research Update
  - Agenda for next meeting
  - Town News Notice
  - Any EAP report Updates
  - CBH moved approved, PG, second, 6-0
- Motion to adjourn PG, seconded CBH, approve 6-0

Respectfully submitted,

Mike Knapp