LCCSS meeting February 5, 2008
Loudoun County Administration Building
Purcellville Room
7 PM

Attendance:

Tony Noerpel, Will Stewart, Mike Maher, Alan Hansen, Scott Miller, Gina Faber, Michael Feldman, Eric White, Candice Guillaudeu, Matt Douglas, Otto Gutenson, Don Eaves, Al Storm, Karen Milam, Jamil Scott, Andrea McGimsey, Khalial Withen

Introductions Matt Douglas of Geothermal Supply, Scott Miller of NV Drilling, Al Strom past president of AIA, Alan Hansen of DVI, former planning committee of Arlington, Mike Maher of REHAU, Eric White representing Sierra Club, Don Eaves of Traffic Committee of Leesburg, Others all active members of LCCSS

Discussion:

BOS member Andrea McGimsey described the Ad Hoc committee and background. Members include McGimsey as chair, Stevens Miller, and Scott York. Next meeting February 20, 7:30 pm in Purcellville Room of County Administration building.

Discussion followed how LCCSS might help BOS achieve stated goals. Andrea asked us to prepare presentations to the BoS public meetings first and third Mondays every month. Karen Milan, environmental ecologist, volunteered for the next meeting, February 19th.

Energy efficiency needs to be sold not just to fight global warming but also energy independence, energy security, health, energy costs as well as resource scarcity such as peak oil. All these are benefits. Also healthy and efficient schools were discussed. Different Supervisors have different focuses.

Elizabeth Kolbert's book Notes from a Catastrophe was recommended.

AIA 2030 was discussed. This is an excellent program to recommend to the Board. Alan Hansen and Al Storm discussed merits and identified the web site.
http://www.architecture2030.org/2030_challenge/index.html
Richmond has moved ahead with AIA 2030 Challenge.

An economic energy study is needed. Candice recommended Howard county MD and Blacksburg Virginia.

LCCSS joined Campaign for Loudoun's Future.

Action items

Action item 1: identify list of LCCSS members in each BoS district for future lobbying.

Action item 2: coordinate a meeting with Stevens Miller of the energy efficiency committee.
Action item 3: identify possible speakers for BOS Congressman Roscoe Bartlett, Robert Hersh, Tom Whipple, Ralph Bennett (MWA). Will Stewart volunteered to organize.

Action item 4: put together brief presentation on the cost of new energy in the future, incl. cost of food.

Schedule a follow on meeting with the LCCSS membership to determine a path forward, establish sub-committees, etc.

Next meetings (no dates were set)
We need to set up the next Sustainable Loudoun business meeting to discuss other initiatives. The first week of March is proposed.

Action items from January meeting:

Action item 1: creation of a list of energy efficiency activities which would be relatively easy to achieve at low cost, low hanging fruit.

Action item 2: inventory initiatives to save energy which the county is already accomplishing.

Action item 3: document possible scenarios for which the county may need to plan, i.e., drought, severe hurricane.

Action item 4: identify key players such as county employees or allies such as PEC.

Action item 5: Establish a Loudoun Green Coalition and invite other organizations to participate.

Attachment A

Sustainable Loudoun response to the County's establishment of an Energy Efficiency Ad Hoc Committee

Sustainable Loudoun fully supports;

- The establishment of the Loudoun County Energy Efficiency Ad Hoc Committee and it's charges;
    - Review MWCOG's report on "Greening the Metropolitan Washington Regions Built Environment" and report to the Board regarding endorsement of the COG report.
    - Review the "Cool Counties" program and advise the Board regarding the merits of participation, if any, by the Loudoun County.
    - Develop a work plan to accomplish the goals of the committee and report back to the Board for review and adoption.
- The findings and recommendations of MWCOG's "Greening the Metropolitan Washington Region's Built Environment" report.

Sustainable Loudoun recommends additional objectives that have a high degree of correlation with those stated above;

- Additions to the County Strategic Energy Plan (and indirectly to the County Comprehensive Plan, Zoning Ordinance, and the County Transportation Plan) of additional energy efficiency and security policies relating to land use planning, transportation planning, agricultural productivity, and promotion of sustainable businesses to reduce the County Government and citizen's dependence on uncertain supplies of non-renewable fossil fuels, using
    - The Post Carbon Institute's *Post Carbon Cities: Planning for Energy and Climate Uncertainty* as a guideline, and
    - Portland's *Descending the Oil Peak: Navigating the Transition from Oil and Natural Gas* report as an example to follow.
- The collection of County energy consumption data in concert with emissions inventory data collection. County government data can be collected directly, and non-government transportation and building data (residential, commercial, and industrial) can be estimated from the county transportation models, information from county assessments, and from Dominion Power.
- Energy efficiency incentives for residential and commercial buildings, AIA 20/30, LEED. Our neighbor, Arlington, requires that all new rezoning requests submit plans to achieve LEED silver or better, and approval of the applications is usually withheld until the planning department is satisfied that a reasonable LEED certification plan has been submitted. In addition, if the rezoning application requires additional density, one way to get the additional density credits is to meet additional LEED standards, with bond posted which is forfeited for noncompliance.
- public school infrastructure and curriculum.
- Our school board, in its current budget request, has included specific funding requests for "sustainable design."

- Removal of obstacles to commercial & residential renewal energy generation & conservation (solar panels, wind turbines, lot planning restrictions (shared parking, natural habitat lawns, front yard gardens, home orientation...)
- In 2007, the state permitted counties to give property tax breaks to new buildings that met certain thresholds for energy efficiency. Last fall, the BoS unanimously recommended that county staff draft proposed statutory language for implementing such a policy.
- Recycling
- Local agriculture – CSAs and farmers markets, etc.
- Preservation of open space and parks

Sustainable Loudoun recommendations for state level activities

Wise County Coal fired power plant

- Resolution opposing Dominion proposal to construct plant, as per Blacksburg and Arlington County

Support for Senator-elect Chap Petersen, district 34, Fairfax, "Clean Energy Future Act"

This initiative will re-direct Virginia's energy policies towards a sustainable future, setting long term goals for investment in energy efficiency and renewable energy, as well as special incentives for in-state generation and manufacturing. The Commonwealth currently ranks last among all 50 states in investment in energy efficiency, and lacks any binding renewable energy standards. The Clean Energy Future Act would shift the direction of Virginia's energy policy to clean renewable energy.

Virginia Renewable Energy Potential;

- **Geothermal**: MIT has performed an inventory of geothermal sites throughout the US, showing Virginia has significant potential in this area. As geothermal energy plants are continuous baseload sources of power, they can **replace coal plants** as a main source of energy.
News: http://web.mit.edu/newsoffice/2007/geothermal.html
Report: http://geothermal.inel.gov/publications/future_of_geothermal_energy.pdf
Companies: Bob Lawrence & Associated for details, specifically BLA's Sr. Associate Liz Battocletti ::http://www.bl-a.com/liz.htm
Newsletter: Geothermal-Biz. See site for details::http://www.geothermal-biz.com/home.htm

- **Energy Storage**: while not an energy source itself, energy storage can provide;
Spinning Reserve
Capacity Deferral
Area/Frequency Regulation
Load Leveling
Transmission Line Stability
Voltage Regulation
Transmission Facility Deferral
Distribution Facility Deferral

Some renewable energy sources (e.g., wind, solar) are not always continuous in nature and therefore have a degree of intermittency to them. Energy storage can be used to save up excess energy during plentiful periods and re-release when demand is high or supply is low. There are already 3 pumped-hydro energy storage facilities in Virgina, with extensive potential for more. There are several other energy storage technologies that can be employed, including Compressed Air Energy Storage (CAES) in underground caverns/mines, superconducting magnetic energy storage, and banks of large flywheels.

Option	Development Status	Potential Sizes	Existing Units
Compressed Air	Commercial	50-300 MW	100-300 MW
Pumped Hydro	Commercial	250-2000 MW	5-2100 MW
Batteries	Limited Commercial	<1-1000 MW	<1-20 MW
Superconducting Magnetic Energy Storage	Limited Demos	<1-2000 MW	<10MW
Flywheels	Limited Demos	<1-1000 MW	<1 MW

- **Wind**: Virginia has plentiful wind resources in the mountains and seaside areas, with the US DoE stating, "Several areas of [Virginia] are estimated to have good-to-excellent wind resource." When combined with the **energy storage** mentioned above and with advanced weather prediction now available, wind can provide a relatively stable, predictable supply of power.

- **Solar Heat**: Solar energy for building space heating can now be collected and stored year-round in geothermal wells, as shown by this housing development near Calgary, significantly reducing the costs and square footage needed for solar panels.

- **Solar Electric**: As new technologies bring inexpensive solar PV to market, building roofs and large arrays can be outfitted with solar PV, producing energy during daytime energy peak demand periods.

- **Demand Side Management**: while not an energy source in itself, Demand Side Management (DSM) is a mechanism that reduces the need for power plants by allowing smart appliances to adjust their energy usage depending on the amount of energy available, often using real-time pricing from utilities as an incentive. For example, a 'smart' clotheswasher or dishwasher might wait to run until mid-late morning when excess solar energy is available, or until evening hours when demand is lower. Another example is 'smart' A/C units that run at reduced levels during times of lower energy availability, saving money and reducing the need for expensive natural gas peaking plants and dirty coal-burning plants. Last year the US realized 27,000 MW in actual peak load reductions through the use of DSM. The US DoE has a number of initiatives in this area, primarily centered around the GridWise and Modern Grid Strategy programs.

Attachment B

Board initiated action #16

Subject: Creation of an Ad Hoc Committee on Energy Efficiency January 3, 2008 meeting.

Background: In order to proactively address the growing concern over rising fuel costs and the current national debate on energy and the impacts on national security, the U. S. economy and the environment, the Loudoun County Board of Supervisors proposes to create an Ad hoc Committee on Energy Efficiency. The key focus will be to become more energy efficient, reduce cost for the Loudoun County taxpayers and reduce our dependency on foreign sources of energy.

Goals:

- To bring to the Board a proposed scope of work and cost of performing energy audits on all government buildings and vehicle fleets. Based on the results of this audit, create a strategic plan to upgrade existing county structures and vehicle fleets in increase energy efficiency.

- Research current and proposed standards for new buildings and incorporate in the county's decision making on new buildings, including the new county government center. Work with the School Board and School Administration to include best practices for energy efficiency in school buildings.

- Research current and pending technology advances in transportation and incorporate this information in the County's decision making on vehicle fleets.

- Engage and cooperate with regional, state and federal efforts to increase energy efficiency.

- Identify and track performance metrics of energy efficiency and translate these metrics into tax dollars saved.

- Engage Loudoun County businesses and residents in efforts to increase energy efficiency throughout the county.