

Broward County Climate Change Task Force (CCTF)

Meeting of June 18, 2009

Broward County Government Center West

2nd Floor Hearing Room

1 North University Drive

Plantation, FL 33324

1:30 P.M. – 4:30 P.M.

SUMMARY MINUTES

MEMBERS PRESENT

Chair Kristin Jacobs
Vice Chair Jared E. Moskowitz
Carolyn Dekle
Hector Samario
Kim Shugar
Brion Blackwelder
Lois Bush
George Cavros
Gary Hines (alternate for Michael Garretson)
Barry Heimlich
Dr. Colin Hughes
Robert Kornahrens
Jill Cohen (alternate for Dylan Larson)
Peg McPherson
Roseann Minnet
Jim Murley
John Pisula
Robert Renken
Peter Ross
Lynn Shatas

County Staff

Dr. Jennifer Jurado
Dr. Nancy Gassman
Paul Krashefski
Lorraine Bertone
Michael Owens
Eric Myers
Patti Webster
Dr. Nancy Craig

MEMBERS ABSENT

Dr. Patrick Gleason
Michael Garretson
Tony Hui
Dylan Larson
Charlotte Mather
Major Larry Rogers
Doug Young

- I. Welcome and Statement of Meeting Objectives were presented by Chair Kristin Jacobs. The Chair reminded the Task Force that Broward residents are encouraged to ride the bus on Thursdays and that today was Dump the Pump Day. The meeting was called to order at 1:40 PM.
- II. Roll Call was made by Lorraine Bertone and a quorum was present.
- III. The minutes of the March 19, 2009, April 16, 2009 and May 21, 2009 meetings were

approved.

IV. Meeting Procedures Amendments

- Provision for Temporary Chair* - When both the Chair and Vice-Chair are absent for the meeting, a quorum of members present may elect a temporary Chair who shall have the full powers of the Chair to conduct Task Force business.
- Appointment of Subcommittee Vice Chairs*- The Vice Chair of the Subcommittee shall be appointed by the Chair of the Subcommittee.
- Appointment of Subcommittee Members* - The quorum of the Subcommittee shall consist of fifty percent (50%) plus one (1) of the total Subcommittee members present.

Rob Kornahrens asked about the definition of a member. Dr. Jennifer Jurado responded that members for a given meeting will be those who consider themselves members, which does not tend to include staff, with a quorum based on the number of members present. Jared Moskowitz made a motion, Rob Kornahrens seconded. Passed unanimously.

V. Cold Ironing Exploration Update at Port Everglades – *Peg Buchan, Port Everglades and Ray Butts*, Florida Power and Light, gave a presentation on the partnership proposal to provide shore side power to cruise ships.

- If deemed fiscally and operationally feasible, Port Everglades will become the first seaport on the East Coast of the US to install cold ironing.
- This effort will reduce green house gasses at the Port.
- Royal Caribbean and Port Everglades are partners. This volunteer partnership will improve air quality.
- Cold ironing allows a ship to shut off its engines and operate with shore-side electrical power from FPL as opposed to burning diesel fuel while the ship is docked in the port.
- Each ship will experience annual reductions of 40.9% less CO₂ emissions, 97.7% less nitrogen oxide emissions, 95.2% less sulfur dioxide emissions, and 88.1% less particulate matter.
- Cold ironing at Port Everglades is an ultra-proactive voluntary measure to protect our environment.
- The US Navy and ports in Alaska and on the West Coast have used shore-side power successfully to reduce existing pollution from ships.
- Do the ships need retrofit? The Oasis ship is under construction and would not require a retrofit.
- Chair Jacobs noted that cold ironing may be required by federal regulations in the future.
- Is it more expensive to use FPL power? It costs \$1,000 more per visit to buy shoreline power. RCL is willing to pay additional expenses for air quality improvement.
- Cost will be \$7 million for shoreline retrofit for the Port and \$2 million per birth for the plug.

VI. Presentations

1. Sea-level Rise and Storm Effects on the Florida Coast Under Changing Global Climate *S. Jeffress Williams, Sr. Coastal Marine Geologist, U.S. Geological Survey, Woods Hole Science Center* (Additional back-up material available at <http://climatescience.gov/Library/sap/sap4-1/final-report/default.htm>)

- Coastal science is focused on understanding how landforms have evolved and forecasting future change in response to sea-level rise (SLR)
- The build-up of greenhouse gases from fossil fuel burning since the late 19th century has increased global mean temperatures and is primarily responsible for the environmental changes being observed.
- Climate change assessments suggest global sea-level will rise more than 1 m by year 2100, more than three times the 20th century rise
- Impacts will include increased erosion, flooding, saltwater intrusion, wetland loss and threats to human infrastructure.
- Future rise will result from thermal expansion of warming oceans and the addition of melt water from glaciers and ice sheets.
- Consensus is strengthening that the rate of SLR will accelerate in the future due to climatic factors that have not been fully considered. These could accelerate SLR by more than 5 m over the next several centuries.
- The US Climate Change Science Program has completed an assessment (SAP 4.1) of potential future coastal changes associated with SLR.
- US shorelines are always changing and there are expanding coastal populations. South Florida is highly vulnerable to sea level rise.
- Factors controlling sea level include thermal expansion, addition of water and relative sea level due to elevation changes of coastal land.
- Effects include loss of coastal habitats, coastal erosion, loss of recreation, coastal aquifers, greater storm surge and increase risk to infrastructure.
- Sea level rise is closely tied to temperature.
- Global glacial ice is declining along with Arctic ice and the Greenland ice sheet. Greenland ice is land-based ice which if melted could contribute up to 6 m sea level rise. Antarctic ice could contribute up to 73 m of sea level rise.
- Sea level rise will be variable around the world. Ocean currents could be impacted by increased ocean currents, which could add 30-50 cm to sea level rise by 2100.
- Materials are getting more difficult to locate to nourish the beaches.
- The Heinz Center Resilient Coast Blueprint Principles was discussed.
- Chair Jacobs stated that a tentative summit is being planned for October 23 with the four county Climate Change Task Forces and elected officials.

2. National and International Initiatives to Reduce the Impacts of Climate Change

Dr. John Van Leer, Task Force Special Advisor, University of Miami.

Presentation included an historical overview of the evolution of energy policy and technology with a comparison between the United States and European countries. Major concepts are summarized.

- Switzerland, Germany and Denmark have become far more advanced than the US in mass transit and renewable energy because of divergent historic roots, existence of active Green political parties, dominance of large corporate interests in the US who have shaped policy to favor their industries often at the expense of public benefit.
- By 1940, half the Miami houses had solar water heaters. With the 30% renewable energy tax credits extended with the “bail out bill” plus Florida’s incentives, they have a payback period of about three or four years. Solar water heating saves 20 to 25% of power bills. If adopted universally in Florida, no new power plants will be needed. Suitable exposure, appearance, roof leaks and freezing plus size of 80 gallon insulated storage tanks are issues. Solar water

heaters untapped for days must be fitted with a “temperature mixing valve” to avoid a scalding.

- European systems of roof attachment and mass manufacture are at least a decade ahead of the U.S.
- Historically, discovery of huge easily produced Saudi oil fields yield \$4/barrel oil and started a consumption binge.
- FPL and other utilities drastically lower electric rates and gives free electric heaters to developers to increase demand.
- Solar water heaters and windmills slowly disappear.
- G.M., Firestone and Exxon buy up and remove streetcars and light rail systems to push car and bus sales.
- Heavy taxes on train stations stunt passenger service.
- Cheap gas and roads built with gas taxes spawn endless suburbs and long distance auto commuting is born.
- Single car families become multi-car families.
- Interstate Highway System established by President Eisenhower modeled on German autobahn network.
- Long haul trucking begins to replace freight trains.
- Cold War spawned nuclear arms and power plants.
- Peak oil in lower 48 states passes unnoticed in 1971.
- Arab oil embargo gives rise to OPEC and much higher prices for gas, diesel and heating oil.
- Commercial high carbon emission generating aviation replaces US train travel.
- Rise of industrial farming for “cheap food” with petroleum based fertilizers and insecticides plus lots of diesel fuel.
- “Green Revolution” impoverishes soil.
- Small family farms replaced by urban sprawl and locally grown food declines along with nutrition and health.
- Heavily mechanized farms grow larger to amortize expensive equipment. Corn and soy bean monocultures are subsidized by annual farm bills rather than vegetables.
- Corn based feed lots, concentrated poultry and hog farms make massive water pollution and methane problems.
- Government subsidized high fat meat and high fructose corn syrups spawn obesity epidemic and health care crisis.
- Long haul food shipping becomes the norm. 1,500 miles is now the average distance traveled by food today.
- Massive fishing gear and power trawling plus long lines degrade ecosystems with over fishing and wholesale bi-catch and habitat destruction.
- NASA’s space program stimulated development of light weight high efficiency photovoltaic cells and arrays as the most logical and safest power supply for space.
- President Carter installed photovoltaic panels on White House roof and instituted tax credits for solar water heaters, home insulation and set the first automobile fleet mileage standards. He also set a 55 mph national speed limit.
- President Carter’s Conservation, North Sea, North Slope and African oil production, but mostly temporary increases in Saudi Oil production, (before Saudi’s peak) broke OPEC’s oil embargo.
- President Reagan removes functioning photovoltaic panels from White House and kills tax credits for conservation and renewable energy. He also raises U.S. speed limits.

- Without increases in quality or domestic auto gas mileage standards, foreign auto makers gain dominant market share in USA as gas prices continue to rise.
- Container ships and piggy back trains boost international access to U.S. markets. Big box stores spread favoring cheap foreign goods, killing small stores.
- U.S. has fallen at least a decade behind Europe in key solar and wind energy technology sectors and about 30 years behind in mass transit.
- Green Parties in Germany and other European countries adopt feed-in-tariffs.
- The renewable energy industry had been growing 40% per year in Germany and had an 80% growth this year during the “global recession”.
- European and Chinese manufacturers are poised to consolidate their gains in market shares in renewable energy devices.
- GE manufactures Wind Turbines in Germany to ride the feed-in-tariff wave.
- At the huge Inter-Solar conference in Munich, May 9, 2009, they showed off the extraordinarily broad variety and sheer mass of the global solar business. The “Gateway to Green” in Miami June 11th and 12th was tiny by comparison.
- Unemployment in Bavaria is less than 4% this year.
- Continued massive U.S. oil purchases have seriously weakened the U.S. dollar.
- Slow economies and high oil prices have caused oil tankers and container ships to slow down from 35 knots to 10 knots, to save fuel, making them more attractive targets for pirates.
- Coal is still available in large quantities but is dirty to produce and use. “Clean Coal” remains an oxymoron. Carbon dioxide sequestration remains an expensive idea which is largely untested.
- Costs of adaptation to melting ice caps, rising and acidify oceans must be included when calculating true renewable energy budgets.
- Europeans have over 35 years experience with electric vehicles. A profusion of electric cars will be introduced in 2010. Electric vehicles need few repairs and little maintenance so profits must be made at the time of purchase.
- Hybrid technology combines a small gas or diesel powered generator with storage batteries and regenerative braking to reduce wasted power.
- The generator from your hybrid could easily supply your entire house with air conditioning after a hurricane.
- Parking garages offer natural roof top locations for substantial solar arrays for plug in hybrids and electric vehicles.
- In states with Net-Metering, like Florida, utilities must buy back unused electric power, effectively turning the electric meter backwards, thus using the power grid instead of batteries to “store” produced power.
- 30% Solar Tax Credits now apply for the next eight years. You could get a check from your utility each month instead of a bill.
- When Gainesville, Florida recently enacted feed-in-tariffs, permits for the next three years sold out in a few days.
- Solar water heater and photovoltaic array generate enough power most months so that their homeowner gets checks from Florida Keys Power Cooperative, rather than bills.
- Wind power is somewhat expensive on small scales but is price competitive today in large sizes.
- Power produced by windmills increases with the cube of wind velocity so picking locations with strong winds is crucial.

3. Broward 2030 Recommendations Jill Cohen and Hector Samario, Broward 2030
Presentation included an overview of the background, purpose, makeup, and activities of Broward 2030 with major points summarized below:

- US Conference of Mayors adopts the “2030 Challenge”
- The 2030 Challenge mission statement: To rapidly transform the US and global building sector from the major contributor of greenhouse gas emissions to a central part of the solution to the global warming crisis.
- Partners with the local 2030 Committee – Broward League of Cities, Broward County, Smart Growth, SFRPC, AIA, ASLA, CSI, SFWMD, School Board of Broward County, Broward College and many business organizations.
- Challenges – Economic, resource limited, legislative mandates
- 31 diverse municipalities
- Most critical element – ensures consistent and sustainable practices for the future
- Ensures “Green Wave” practices (reduces greenwashing)
- Sustainability Advisory Board – Assist and advise elected officials in decision making process, appointment by local elected officials, include knowledgeable local residents, staff liaison or sustainability coordinator, educational charettes, host events, LDC rewrites
- Internal Sustainability Board – one representative from each department, addresses baseline and carbon footprint, educates employees and residents, identifies source for funding grants, provides/advises/encourages sustainability actions
- Regulations for the ‘Public Good’ – Aesthetics, landscaping and sustainable practices and regulate the communities natural resources (water, materials, energy)
- Regulate the Private Sector – Incorporate sustainability in the design and building review process
- Building Department – Permit Regulations - capture the bulk of permitting in renovations and retrofits - Designated Building Department Reviewer familiar with sustainable practices - Expedite sustainable projects – Cost to community is medium – Value of sustainability is high.
- Recognition of successful projects - Create sustainable special districts - State Road 7 Corridor is a great example.
- Public Support – Re-elect officials to carry on “work”.
- Our children are the future leaders.
- Energy reduction strategies – enforce sustainable design for new construction, encourage renovations of existing buildings, residential, EPA Energy Star, use CFL and LED lighting.
- Waste reduction strategies – government, schools, commercial, residential, constructions and demolition debris waste reduction, yard debris waste reduction
- Water reduction strategies – governmental, commercial, residential and schools
- Next steps – Took Kit tied to economic case studies, work directly with Cities developing customized programs.

VII. Subcommittee Chair Updates postponed until next meeting.

VIII. Florida Energy and Climate Commission update postponed until next meeting.
Jim Murley, Chair FECC

IX. Other Business postponed until next meeting.

X. The next Task Force Meeting will be held on August 20, 2009 at 1:30 P.M. at Government Center West, 1 North University Drive, 2nd Floor Hearing Room, Plantation. The Task Force voted to have a meeting on August 20.

XI. The meeting adjourned at 4:00 P.M.

*Action Item requires Task Force vote