

Making the Right Moves: Council for Sustainable Florida Climate Change Forum



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Not Just Another Pretty Place



What Can be Done to Reduce Energy Consumption in Florida?

- ✿ It is feasible today in the state of Florida to reduce energy demand by 75%.
- ✿ The following is an “A to Z” list of items that can be implemented to achieve an energy demand reduction of 75%.



A – Z List to Reduce Energy Demand

- A. Green roofs: reduce energy demand by @35% above 55 degrees F and @50% below 55 degrees.**
- B. Elimination of incandescent lighting in lieu of all fluorescent (T5) and natural lighting.**
- C. Utilization of maximum efficiency HVAC systems such as central solar powered magnetic chilled water system.**



A – Z List to Reduce Energy Demand

- D. Maximum efficiency building exterior shell and windows.**
- E. Maximum efficiency appliances.**
- F. Maximum efficiency computers and wiring.**
- G. Solar/Photovoltaic electricity production.**
- H. All electric transportation modes powered by solar: scooters, motorcycles, NEV's, cars, trucks, trolleys.**



A – Z List to Reduce Energy Demand

- I. Greywater recycling: 75% reduction in water and sewer demand.**
- J. Flush toilets with greywater.**
- K. Run chilled water facilities with greywater.**
- L. Irrigate green roofs and landscaping with greywater.**
- M. Low impact design.**
- N. 100% construction waste recycling.**



A – Z List to Reduce Energy Demand

- O. Zero waste recycling.**
- P. Mass transit oriented development.**
- Q. Mass transit oriented, mixed use redevelopment with high density workforce housing within existing employment centers.**
- R. Maximize existing infrastructure in and near existing employment centers.**
- S. Multimodal coordination and implementation within and near employment centers.**

A – Z List to Reduce Energy Demand

- T. Modify the Florida Building Code to require a 75% reduction in energy demand and a 200 MPH wind code. The amount of energy wasted from destruction of hundreds of thousands of structures and then from rebuilding, as a result of a Category 5 hurricane would be inconceivable.**

A – Z List to Reduce Energy Demand

- U. Change the Finished Floor requirement from the FEMA standard to the Category 5 storm surge elevation (@ 25 feet in Pinellas County vs FEMA 10 feet). Major employers are already beginning to build to Hurricane Category elevations and wind codes instead of the FEMA and the Florida Building Code. The amount of energy wasted from the destruction of hundreds of thousands of structures and then consumed from rebuilding, as a result of a Category 5 storm surge would be inconceivable.**



A – Z List to Reduce Energy Demand

- V. Site schools, emergency services, hospitals, municipalities, mass transportation hubs and shelter space on sites above the Category 5 storm surge elevation, built to a 200 MPH wind and be off the grid.**
- W. Require all emergency evacuation routes to be above the Category 5 storm surge elevation.**

A – Z List to Reduce Energy Demand

- X. Require all category 5 storm surge elevations to anticipate sea level rise of at least 3 feet per 100 years and build in a 200 year buffer. Therefore an existing 25 feet Category 5 storm surge elevation would equate to a required finished floor of 31 feet.**



A – Z List to Reduce Energy Demand

- Y. Require 3 feet of additional storage and treatment for storm water above existing requirements to mitigate for sea level rise.**
- Z. Educate the public of the immediate need to drastically reduce energy demand and the benefit of zero carbon energy.**



Ways to Encourage Alternative Energy

- ✿ Implement a carbon tax for wasteful design, construction, planning and development.
- ✿ Provide incentives such as fast track permitting, zoning and entitlements for ultra efficient design.
- ✿ Provide incentives such as tax credits, grants, rebates, etc. for alternative zero carbon energy.
- ✿ Provide incentives such as tax credits, rebates, etc. for greywater recycling, green roofs, etc.



Develop Alternative Energy Sources

- ✿ The first step toward making alternative energy feasible is to reduce energy demand.
- ✿ Drastic reduction of energy demand mitigates the existing costs for alternative energy.
- ✿ Currently a 75% tax credit, rebate, grant, etc. is needed to make solar power feasible.
- ✿ It is anticipated that Solar/PV efficiency will double within 24 months.



Develop Alternative Energy Sources

- ✿ Experts predict carbon based utility prices will triple by 2016.
- ✿ It is anticipated that Congress will pass a carbon tax which utility providers will pass on to consumers.
- ✿ It is anticipated that Florida will modify its existing cheapest possible installation price mandate for utility providers and require Hurricane sustainable utility infrastructure. The huge cost of this infrastructure will be passed on to the consumer.



Develop Alternative Energy Sources

- ✿ Experts predict that petroleum gas prices will reach \$9.00 a gallon by 2016 which will dramatically increase the cost of carbon based utilities.
- ✿ Conversely, it is anticipated that Solar/PV will increase efficiency for both production costs and electricity conversion at an accelerated rate.
- ✿ The energy of the sun in one day is enough to provide the entire world electricity for one year.
- ✿ Hydrogen is another zero carbon alternative.