

Economic, Social and Health Subcommittee Draft Recommendations
September 17, 2009

Focal Area: Adaptation Policies and Strategies

Goal: Implement adaptive regulations, policies and programs to mitigate the potential impacts of climate change and sea level rise on Broward County's economy and Infrastructure.

Actions

Recommendation #1 - Design new and replacement public and private infrastructure such as streets and bridges, water and wastewater treatment plants, hospitals, city halls, police and fire stations and power generation facilities in a manner which takes into consideration rising sea level caused by global climate change.

Rationale: The Economic, Social and Health Subcommittee has prepared maps identifying areas of Broward County most at risk of increased flooding from rising sea level. This flooding has the potential to negatively impact Broward County's economy in many ways such as lowering property values, discouraging tourism and overall, making Broward County a less attractive place for businesses and residents to locate. In addition, critical public and private infrastructure such as streets and bridges, water and wastewater treatment plants, hospitals, city halls, police and fire stations and power generation facilities may be significantly impacted requiring large public expenditures to redesign and replace them. Since rising sea levels will take place over many years, we have the opportunity now to begin redesigning new and replacement infrastructure to be more resistant and adaptive.

Agencies: Broward County, municipalities, police and fire departments; drainage/water control districts; sewer and water treatment utilities hospitals, power companies, transportation agencies.

Recommendation #2 - Beach nourishment and erosion control efforts should be supported and enhanced by implementing measures to increase the efficiency and durability of beach nourishment and by giving consideration to the potential use of erosion control structures..

Rationale: Broward County's beaches are an essential part of the County's tourism industry and also serve to protect upland property and infrastructure from storm wave damage. In 2007, there were 10.6 million visitors to Broward County generating \$24.5 million in tourism tax revenues. Tourism expenditures in the County in 2006-2007 were estimated at \$8.9 billion. A study commissioned by Broward County in 1996 found that

the beaches supported 18,000 jobs, were responsible for \$1.8 billion in increased property values and generated \$30 million in property tax revenues (1996 dollars).

Sea level rise will increase beach erosion and tend to push the shoreline inland. Expansion of the County's beach erosion control program will be necessary to maintain current beach positions and configurations. It is also recommended that the County implement measures to increase the efficiency and durability of beach nourishment with sand bypassing at Port Everglades and by giving consideration to the potential use of erosion control structures such as groins and breakwaters, Sand bypassing at Port Everglades and widespread implementation of erosion control structures could carry relatively high initial construction costs. It is estimated that sea level rise induced beach erosion could increase existing average annual costs for the beach erosion control program by up to \$3.5 million, to an estimated total of up to \$11.5 million.

Agencies: Broward County, municipalities federal and state funding and regulatory agencies.

Recommendation #3 - Strongly discourage land use plan amendments proposing increased densities and intensities in areas at risk of frequent or continuous flooding due to sea level rise during the next 50 years. Revise the Broward County Land Use Plan to include appropriate policies and a map of the high risk areas.

Rationale: Broward County and the municipalities in the County should utilize their land use planning authority to avoid placing additional property at risk from sea level rise. The Economic, Social and Health Subcommittee has prepared an analysis which identifies areas of the County which are at risk from frequent to continuous flooding due to rising sea levels. This analysis identifies areas which are of highest risk of more frequent flooding due to rising sea levels for various scenarios. These maps should be used as a basis for preparing a map to be included within the Broward County Land Use Plan identifying areas of high risk within the next 50 years. Appropriate policies discouraging land use plan amendments which would place more property at risk in these areas should also be included in the Plan.

Agencies: Broward County and municipalities.

Recommendation #4 - Broward County and the municipalities within the County should support State legislation to authorize (and remove existing statutory barriers) local governments to adopt land use regulations to limit development and redevelopment in areas vulnerable to sea level rise due to climate change.

Rationale: Florida State Statutes contain several provisions which limit the ability of local governments to regulate coastal land uses and reduce densities in areas vulnerable to sea level rise. Pursuant to Chapter 163.3191(2)(m) local governments are required to provide strategies in their comprehensive plans addressing redevelopment and protection of property rights in coastal high hazard areas following natural disasters. Also, Chapter 70 F.S. known as the Bert J. Harris Jr., Private Property Rights Protection Act, provides that local governments must compensate property owners if they take actions that “inordinately” burden an existing use of real property.

Recommendation #5 - The Federal Emergency Management Agency should take into consideration sea level rise projections for at least a 25 year period when updating the Flood Insurance Rate Maps (FIRM) which establish base flood elevations, flood zones and flood plain boundaries.

Rationale: The FIRM maps are used to identify properties subject to flooding, determine the rates for the Federal Flood Insurance program and establish first flood building elevations in flood zones. The sea level in South Florida has risen several inches in the past 20 years and recent studies by the International Panel on Climate Change (IPCC) and International Science Congress (ICS) are projecting continuing increases in mean sea level. The Science and Technology Subcommittee of the Broward County Task Force is projecting that, from the 2000 level, sea levels will 3 to 9 inches by 2030, 10 to 20 inches by 2060 and 24 to 48 inches by 2100. Revising the FIRM maps to reflect rising sea level projections would help mitigate the impacts of sea level rise as Broward County redevelops by raising first floor flood elevations, expanding the flood zones and increasing the cost of insurance in flood prone areas.

Agencies: The Federal Emergency Management Agency, Broward County and municipalities other agencies participating in the update of the FIRM maps.

Recommendation #6 - Improve analysis and mapping capabilities for identifying areas of the County vulnerable to sea level rise and establish a program to continually update the maps.

Rationale: The Economic, Health and Social Issues subcommittee has prepared maps identifying areas of the County vulnerable to sea level rise under various sea level rise scenarios. The methodology and data used to prepare these maps need to be continually updated and refined to produce more accurate assessments. Improved groundwater modeling is needed to better understand how groundwater levels will be

impacted by sea level rise. Another need is to improve sea level elevation control points and data along the coastline. Accurate data and maps will be critical in the future for determining the timing, costs and benefits of adapting infrastructure to rising sea levels.

Agencies: South Florida Water Management District, Broward County, drainage districts and municipalities.

Focal Area: Greenhouse Gas Reduction Measures

Goal: Identify measures to reduce greenhouse gas emissions through changes in building codes and practices.

Actions

Recommendation #7 - Support changes to Florida's Residential Energy Code recommended within the report "Effectiveness of Florida's Residential Energy Code: 1979-2009" completed by the Florida Solar Energy Center on June 15, 2009 for the Florida Department of Community Affairs. The Report recommends that all home energy uses be covered by the Code and that additional measures be required to increase energy efficiency in new residential construction.

Rationale: The referenced Report identifies several recommendations for enhancing energy efficiency in new residential construction. The first recommendation is that all home energy uses should be covered by the Code. The Report includes data that shows that home energy uses not covered by the Code now account for more than 55 percent of home energy use. Examples provided include lighting, refrigerators, dishwashers and clothes washers. The Report also recommends that various components of Florida's Energy Code "Baseline Home" be modified to increase energy efficiency such as decreasing the window area; moving heating and air conditioning ducts and air handler systems to the air conditioned space; increasing ceiling and wall insulation; and changing roof and wall solar absorption factors. Broward County and municipal governments should support review and revision of the Florida Building Code by the Florida Building Commission to incorporate the recommendations of this Report.

Agencies: Broward County, municipalities and Florida Building Commission.

Focal Area: Developing and Marketing Opportunities for Energy Efficient Products and Services

Goal: Broward County, local municipalities and power companies should develop plans and programs to expand the market for energy efficient products and services to reduce greenhouse gas emissions and expand the employment base and "green" job opportunities

Actions

Recommendation #8 – Promote the retrofitting of existing buildings with proven energy saving efficiency measures such as insulation, new windows and doors, more efficient lighting, new efficient ventilation and air conditioning systems and high performance appliances.

Rationale: According to the American Council for an Energy Efficient Economy, annual U.S. investment in energy efficient technology and infrastructure totaled \$300 billion in 2004, supplying 1.63 million jobs. With appropriate policies and investment mechanisms, energy efficient investment could more than double by 2030 reaching \$700 billion. Many energy efficiency retrofits pay for themselves in a relatively short time frame and also benefit from federal tax credits and utility rebates. Current barriers to such investment which need to be overcome include lack of information about how long it takes improvements to pay for themselves; lack of capital or credit for improvements; and, lack of widespread knowledge about existing tax credit and rebate programs. Local governments and utilities could assist in addressing these problems by expanding public information campaigns; demonstrating the use of energy efficiency retrofits in public buildings; constructing new “green” buildings; offering energy audits and working with financial institutions to expand access to capital and credit.

Agencies: Broward County, municipalities, other governmental agencies and power companies.

Recommendation #9 – Expand the market in Broward County for alternative energy and energy efficient products and services. A variety of strategies should be used to achieve this objective including, but not limited to, identifying barriers to the use of new technology; identifying strategies to overcome barriers; producing informational materials on the cost and benefits of alternative energy and energy efficient products; and, promoting awareness of financial incentives available through existing governmental and utility programs.

Rationale: There are currently a variety of alternative energy products on the market such as solar water heating and cooling systems, photovoltaic electric systems, etc. These technologies are not in widespread use in Broward County despite the climate (large number of sunny days) which would seem to support their use. There are also a number of federal tax credit programs available to help reduce the cost of such products. Lack of information about the benefits and costs of technology is a barrier to its use which can be addressed through public awareness campaigns.

Agencies: Broward County, municipalities and power companies.

Focal Area: Mitigation of Impacts on Vulnerable Populations (low income, fixed income, potentially disadvantaged people and communities)

Goal: Develop monitoring programs and plans to mitigate the impacts of climate change on households and individuals especially vulnerable to health risks attributable to rising global temperatures such as low income households and the elderly.

Actions

Recommendation #10 - As global and Florida temperatures rise, public and private agencies should develop plans and programs to mitigate impacts of heat waves on vulnerable populations. Such measures could include establishment of public information call centers and media campaigns; opening cooling centers at public locations; ensuring emergency medical services have available staff with appropriate training; and distribution of bottled water.

Rationale: Heat waves resulting from rising global temperatures place at risk vulnerable populations, especially households lacking air conditioning.

Agencies: Broward County, municipalities, hospitals and emergency medical services.

Recommendation #11 -The County and State should continue to collaborate on air quality monitoring and public information programs and expand and improve these programs to adopt standardized air health risk communication strategies; improve outreach and education; and improve coordination between federal, state, regional and local governmental agencies as well as non-governmental health care organizations.

Rationale: Air pollutants, including ground-level ozone, particulate matter and allergens are likely to increase as a result of climate change and pose significant health risks. Warming is predicted to have direct impacts on air pollution levels due to increased air stagnation and wildfires as well as indirect impacts such as additional pollution from increased energy use for cooling.

Agencies: Federal, State, Broward County, health care organizations.

Recommendation #12-Federal, State and local agencies and utilities should continue to provide assistance programs to low income households, such as the Federal Weatherization Assistance Program, to renovate existing homes to increase energy conservation.

Rationale: Even though many home renovations to conserve energy pay for themselves over time, many low income households cannot afford the upfront costs to make the improvements. The Federal Weatherization Assistance Program provides grants to eligible households for weatherization activities such as air sealing, attic and wall insulation, floor insulation, pipe or duct insulation and other energy related repairs. The Broward County Minority Builders Coalition recently received additional funding for this program through the American Recovery and Reinvestment Act (ARRA). Broward County, the municipalities and power companies should continue to support continued funding for this program

Agencies: Federal, State, Broward County, municipalities, power companies.