

# SIEMENS

Ingenuity for life

## Deerfield Beach, FL

### A Sustainable Vision

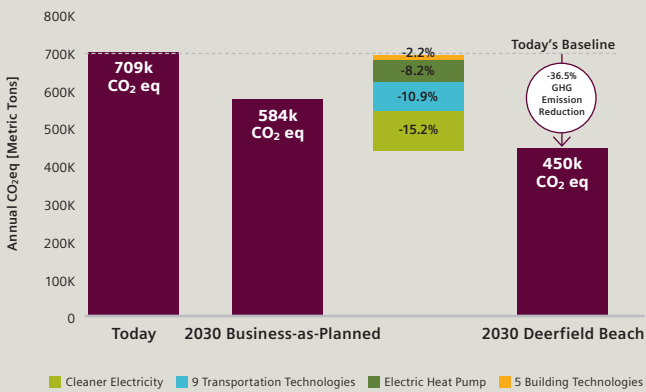
#### Technology Pathways for a Smart and Sustainable Deerfield Beach

Deerfield Beach is planning for its sustainable future by leveraging smart tools and technologies. An ongoing partnership between the City and Siemens is showing how this vision could become a reality. Using a proprietary City Performance Tool (CyPT), Siemens is working closely with the City to create a city-wide sustainability plan.

#### Deerfield Beach, Today to 2030

Based on data collected from regional and local agencies as well as city departments, our analysis shows a 2030 business as planned scenario for Deerfield Beach. This scenario, based on assumptions of greener electricity as well as increased use of public and active transit, shows a 17.6% reduction in GHG emissions for 2030 in spite of a 13% increase in population.

#### Deep Carbon Reduction & Economic Co-Benefits



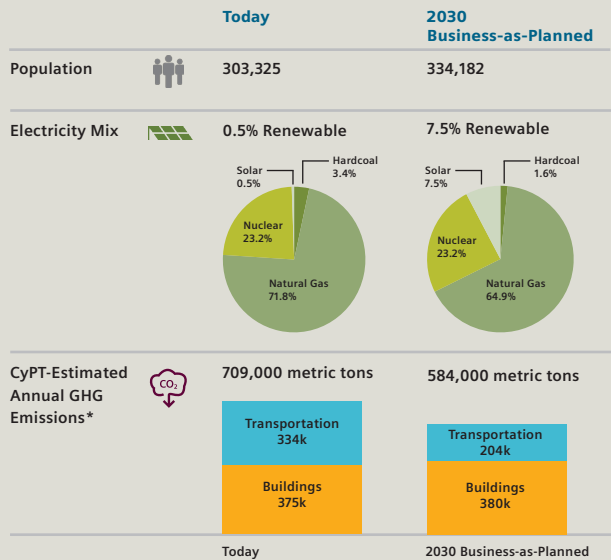
**260,000**  
Potential CO<sub>2</sub>eq Reduction  
(metric tons) from 2030 BAU

**36.5%**  
Potential CO<sub>2</sub>eq Reduction  
(%) from 2030 BAU

**5,400 Jobs**  
Full-time Equivalents Generated  
between Today and 2030

**\$0.8B**  
Capital and Operating Expenditures  
between Today and 2030

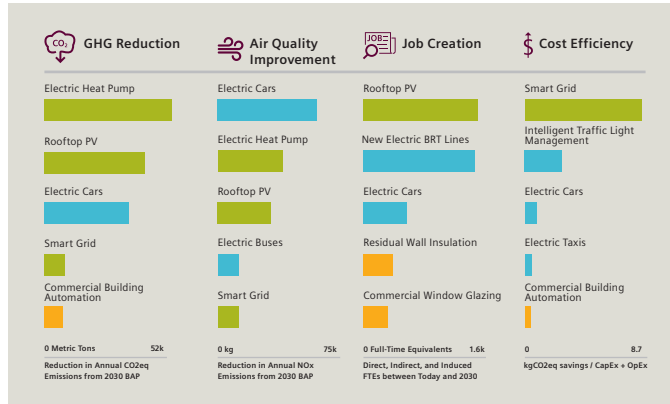
#### Deerfield Beach, Today to 2030



\* 2017 Estimates for Buildings and Transportation sector are calculated from CyPT analysis by collecting over 350 data points from the City.

## High-Performing Technologies

Converting 75% of a cities' homes and offices to use electric heat pumps for water and space heating would produce the highest GHG savings, but adding more solar (10% of total electricity generation in 2030 from rooftop panels) has benefits beyond GHG reduction. Rooftop PV would also improve air quality by reducing NOx emissions and create over 1,600 local jobs.



## Unlocking the Potential of Cities

Siemens established the Center for Urban Development, comprised of a dedicated team, to address specifically the needs of city leaders, their staff, and administrative agencies. The Center also seeks to serve as a transparent and useful entry point for city decision makers to enter a structured dialogue in which they can make baseline assessments of needs. Our team members understand city goals and processes and put this understanding front and center in their work. This team can work across the Siemens business divisions, and pull expertise from all over the company, even from Siemens units in other countries.

Learn more at [usa.siemens.com/cities](http://usa.siemens.com/cities)

## About Siemens

Siemens Corporation, a U.S. subsidiary of Siemens AG, is one of the world's largest producers of energy-efficient, resource-saving technologies. For more than 160 years, Siemens USA has innovated and invented technologies to support American industry spanning manufacturing, energy, healthcare and infrastructure.

## City Performance Tool (CyPT)

Siemens' City Performance Tool (CyPT) was developed with cities in mind, to help cities make informed infrastructure investment decisions, identifying which technologies from the transport, building, and energy sectors might be utilized in that specific city to accomplish goals such as mitigating that city's greenhouse gas emissions, improving air quality, and adding new jobs to the local economy. Using a three-step process, Siemens works with cities to first build a GHG emissions baseline for its transport, buildings, and energy sectors, then chooses technologies to simulate on that baseline, and finally estimates economic and environmental impacts of investing in those technologies.

### How the CyPT Model Works

#### STEP 1

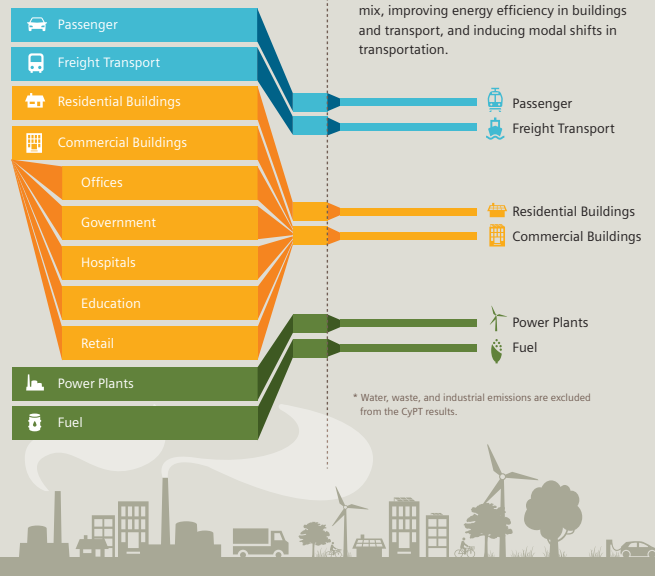
##### Energy Mix Analysis

The CyPT works by using 350 city-specific data points to build an emissions baseline based on activities occurring within the city boundaries. It uses the 2012 GPC Protocol for Community-Wide Emissions to estimate emissions from residential and commercial buildings, passenger and freight transport, and energy consumption.

#### STEP 2

##### CyPT Results\*

Once that emissions baseline is established, Siemens collaborates with a city to determine which of the 73 technologies and policy levers in the CyPT apply and at which implementation rates. Scenarios of infrastructure technologies at various implementation rates are then run through the CyPT model. Results of the model demonstrate how the CyPT levers reduce emissions by cleaning the underlying energy mix, improving energy efficiency in buildings and transport, and inducing modal shifts in transportation.



## Siemens Center of Urban Development

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