

# Sustainable Schools

**A holistic approach to how  
Virginia Beach City Public Schools  
is addressing environmental sustainability.**

87 schools  
15,000 employees  
71,000 students

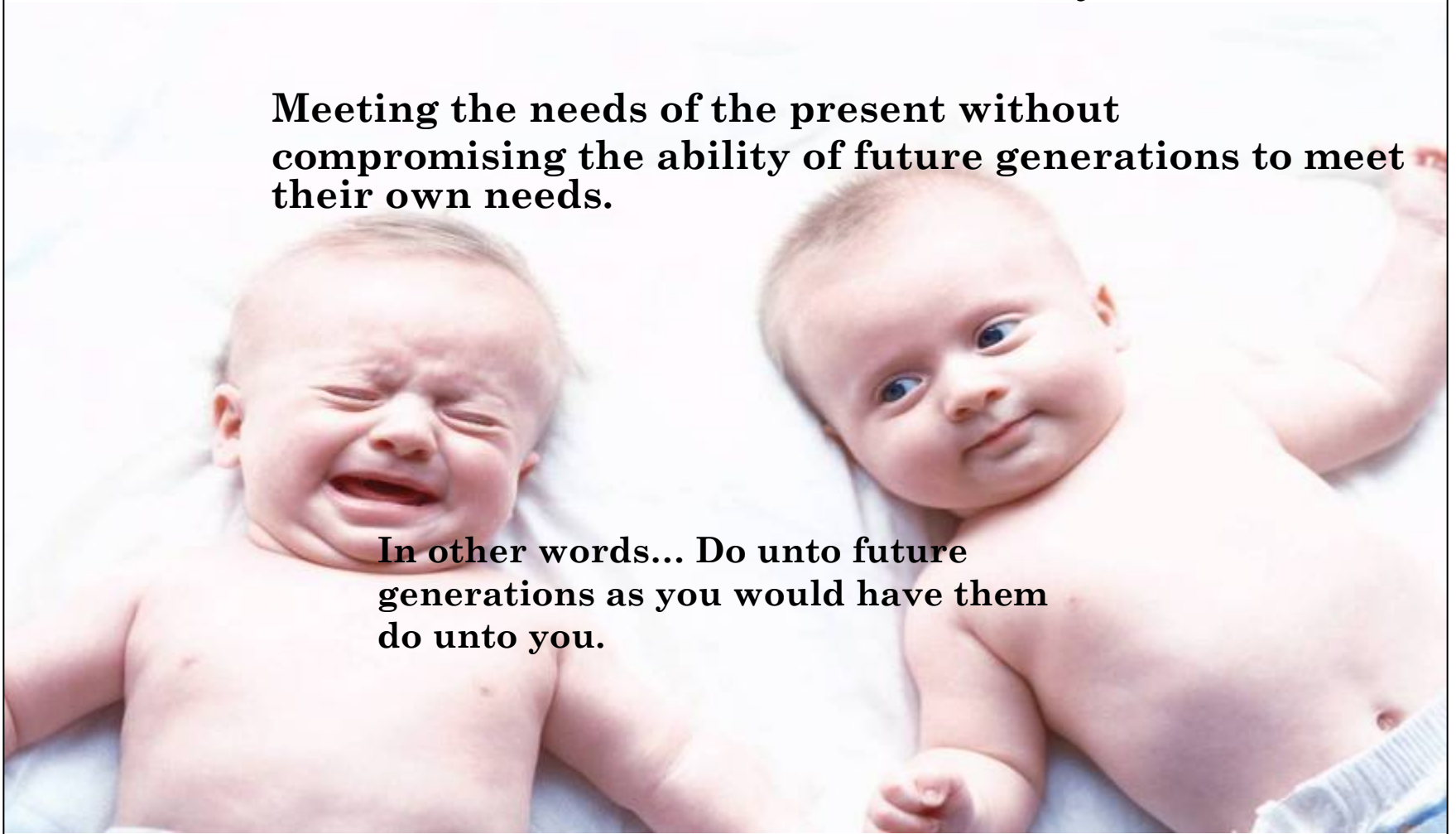


Before we get started ...

## Define Environmental Sustainability

**Meeting the needs of the present without compromising the ability of future generations to meet their own needs.**

**In other words... Do unto future generations as you would have them do unto you.**



# Environmental VBCPS Goals

1. **Build green buildings.**
2. **Integrate environmentally sustainable practices throughout the school division.**
3. **Educate the public about the importance of environmental sustainability.**



# 1. Build Green Buildings

## **Buildings consume:**

**12% of potable water**

**39% of primary energy**

**40% of raw materials**

**48% of U.S. carbon emissions**

**70% of U.S. electricity**

## **Green buildings save:**

**30-50% of energy**

**35% of carbon emissions**

**40% of water**

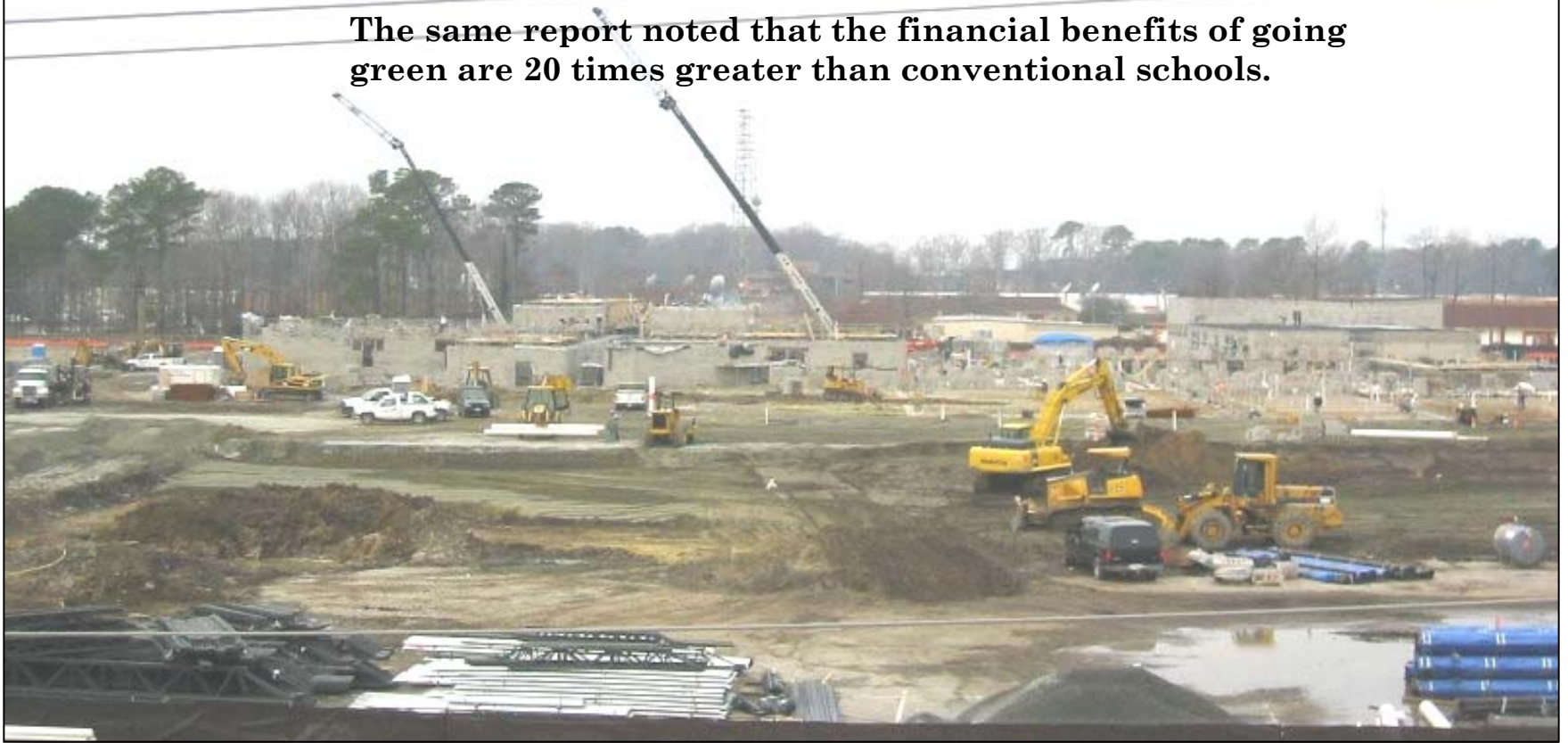
**70% of solid waste**



# 1. Build Green Buildings

The 2006 report titled “Greening America’s Schools – Costs and Benefits” reviewed 30 green schools in the U.S and determined that the average increase in construction costs was less than 2% more than conventional schools.

The same report noted that the financial benefits of going green are 20 times greater than conventional schools.



# **Hermitage Elementary Virginia Beach Middle Great Neck Middle Renaissance Academy**

- Geothermal heat pumps will provide heating and cooling throughout the 285,000 square foot building.
- A rainwater collection system will collect water from the roof and store it in a 50,000 gallon cistern so water can be used to flush toilets. This will allow the school to save approximately 1 million gallons of treated water per year.
- Solar collectors will be used to heat hot water for the kitchen.
- Photovoltaic cells (PV's) will be used to collect energy and feed that back to the grid in the form of electricity.
- 16,000 square feet of green roof will decrease heating and cooling costs while reducing the amount of runoff that is channeled into the cities storm water system.



**Renaissance Academy**

## 2. Integrate Environmentally Sustainable Practices.

The SSC (Sustainable Schools Committee) was formed in September of 2006.

The main function of the SSC is to monitor and make recommendations regarding sustainability within the school division.

The committee is comprised of representatives from the following departments:

Facilities Planning and Construction

School Plant

**Custodial Services**

Supply Services

**Transportation**

**Technology**

Food Services

Curriculum and Instruction

Media and Communications

Safe Schools

**Landscape Services**

Parks and Recreation



### 3. Educate the Public

- Designation of the Sustainable School Liaison (SSL)
- Green news [greennews@vbschools.com](mailto:greennews@vbschools.com)
- Web Page [www.vbschools.com/greenschools](http://www.vbschools.com/greenschools)
- Bike Share

**Spread the Word**





## The U.S. Mayors Climate Protection Agreement

(As endorsed by the 71<sup>st</sup> Annual U.S. Conference of Mayors meeting, Chicago, 2012)

- A. We urge the federal government and state governments to enact policies and programs to meet or beat the target of reducing a coal-fired power plant's level to 7 percent below 2010 levels by 2015, including efforts to reduce the United States' dependence on fossil fuels and accelerate the development of a new, economic energy resources and mid-off shore technologies such as commercial offshore wind energy for energy generation, wave to energy, wind and solar energy, fuel cells, efficient motor vehicles, and electric.
- B. We urge the U.S. Congress to pass legislation to promote gas production legislation that (1) set production limits and acreage limits and (2) a flexible, market-based system of tradable allowances among existing oil, gas and coal.
- C. We will work to meet or exceed Mayor Robert D. White's targets for reducing global warming potential by taking actions in our own operations and communities such as:
  1. Inventory global warming emissions in City operations and in the community, set reduction targets and create an action plan.
  2. Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities.
  3. Promote transportation options such as bicycle trails, concrete top-of-deck transit program, ramps for car pooling and public transit.
  4. Increase the use of clean alternative energy by, for example, investing in "green tags", advocating for the development of economic energy resources, recovering landfill methane for energy production, and supporting the use of waste-to-energy technologies.
  5. Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and wiring, and programs to conserve energy and save money.
  6. Reduce city energy consumption and expenditures for fuel use.
  7. Produce and promote sustainable building products using the U.S. Green Building Council's LEED program or similar systems.
  8. Increase the average fuel efficiency of municipal fleet vehicles and decrease the number of vehicles through car-pooling, car-sharing programs, carpooling and biking messages, convert diesel vehicles to be electric.
  9. Seize opportunities to increase public efficiency by using alternative and/or existing smart infrastructure investment mechanisms for energy and water.
  10. Increase recycling rates and by-products and reuse programs.
  11. Monitor the city's climate footprint through a baseline plan of greenhouse gas and other emissions and report on progress.
  12. Encourage the use of climate action models, such as the National Green Building Conference's Green Building Institute's model of a green building.

- Executive Order 48
- 26 States
- 110 Cities
- The 2030 Challenge



# Restore the Balance