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Yes We Can
Southeast Renewable Energy

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SACE Member Webinar

March 2009

Solutions to Global Warming

Clean Energy

Energy Efficiency

Long-Range Planning

Pollution Capture

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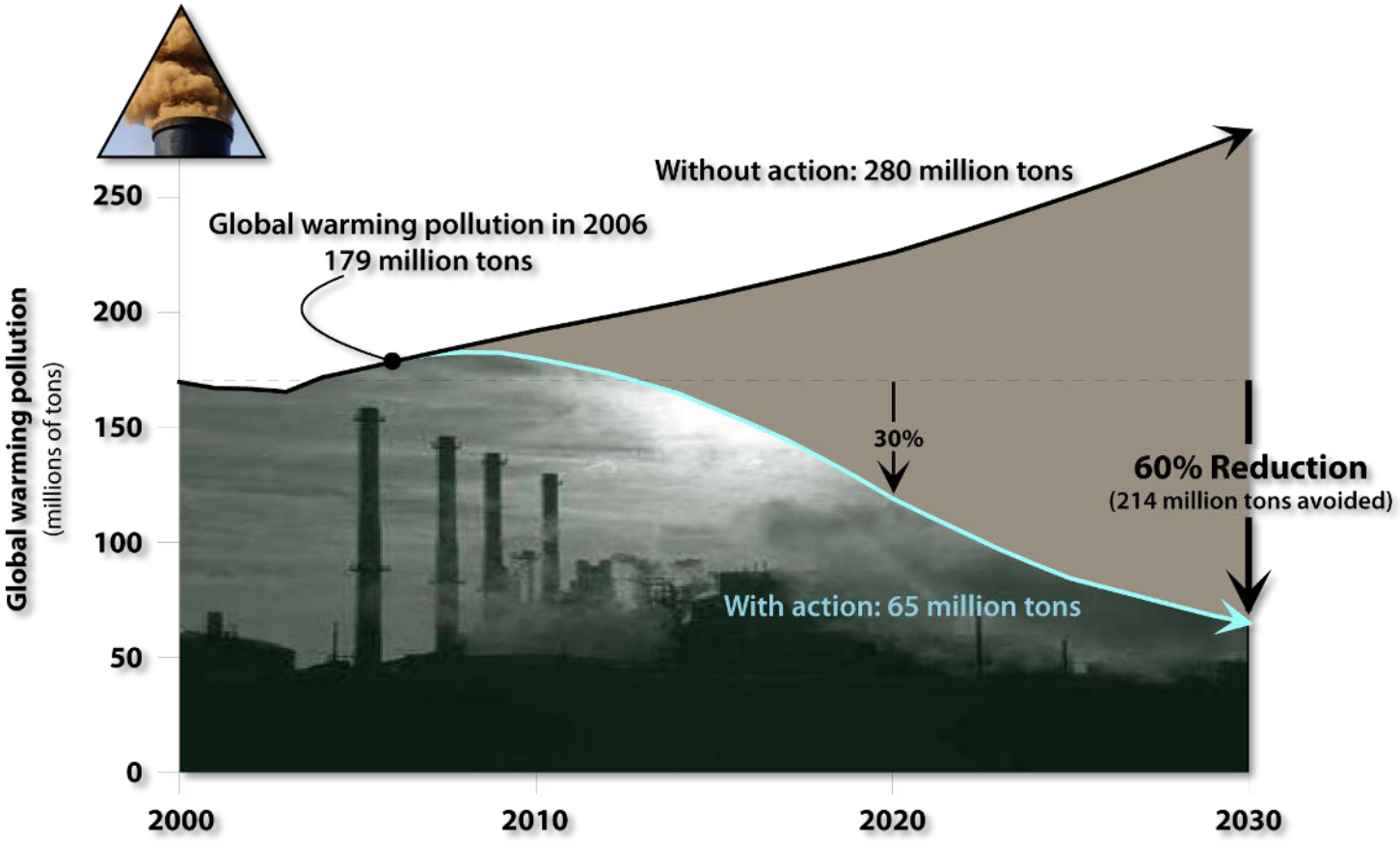
Goal: 60% Reduction by 2030



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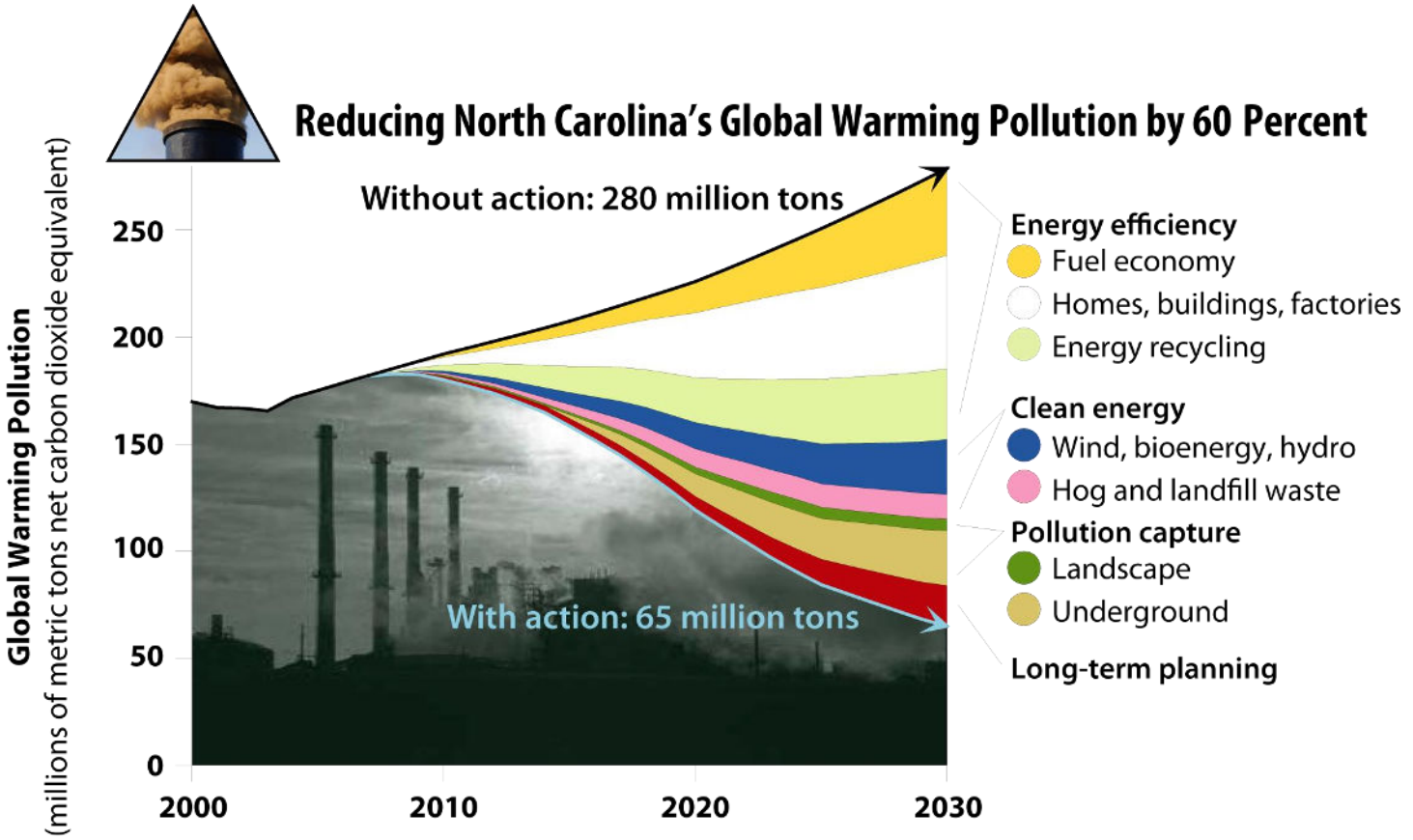
Cornerstones to Reducing Global Warming Pollution



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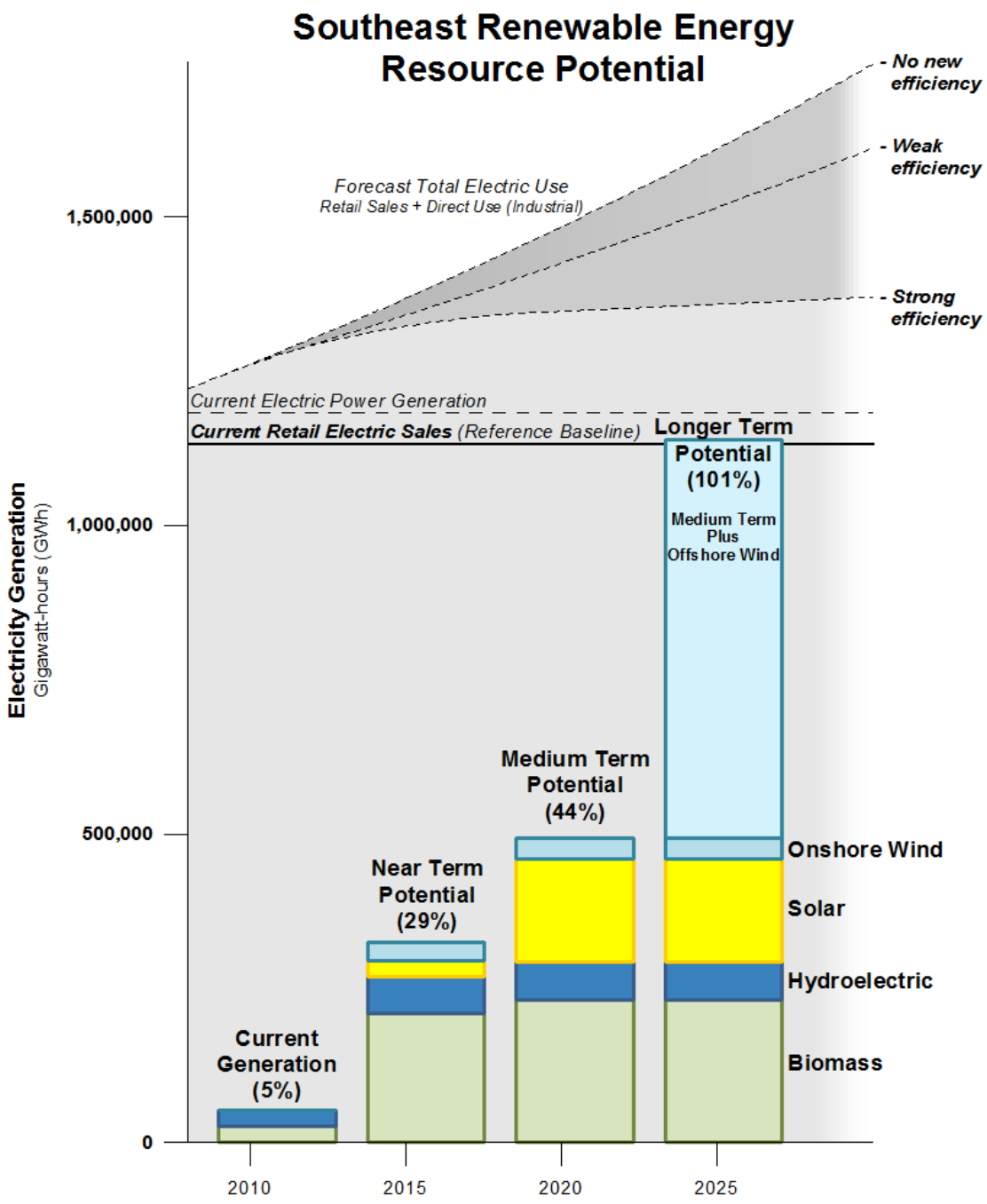

Renewable Energy Resources

The Southeast can meet renewable energy targets.

- ✓ 15% by 2015
- ✓ 20% by 2020
- ✓ 25% by 2025

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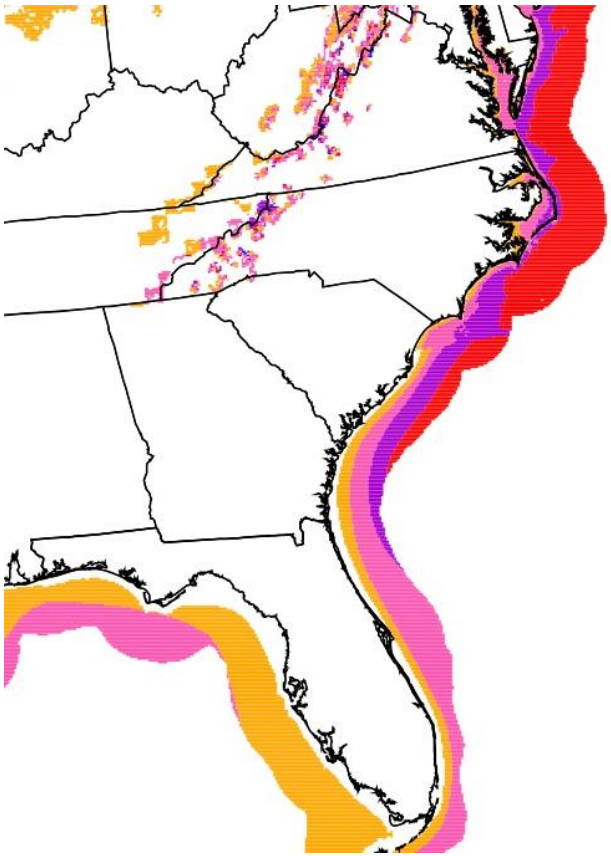
Wind

- **Ridge tops:**
  - Most cost-effective
  - 33 million MWh potential at low impact sites in KY, VA, TN, SC, and GA

- **Offshore wind:**
  - Atlantic Coast: Virginia to Florida
  - Enormous potential
  - Less cost than nuclear power
  - Unclear permitting process

Wind



- National Renewable Energy Laboratory wind potential
- These data are not screened for environmental and other feasibility restrictions

Low-impact Hydroelectric

- **Today: 27 million MWh of large hydroelectric facilities**
- **Potential for adding 36 million MWh of low-impact facilities**
- **Resources:**
  - Upgrades of existing dams
  - Small “low-head” (no dam) projects
  - Many projects best suited for third parties, not utilities

Photo courtesy of Energy Systems and Design

Solar

- **Ground-mounted PV**
  - 160 million MWh medium term
  - Larger utility-scale projects
- **Rooftop PV**
  - 5 million MWh medium term
  - Commercial & residential
- **Solar water heating**
  - Offset at least 2 million MWh of electric hot water heating
  - Analysis incomplete
- **Utility solar thermal (CSP)**
  - 150,000 MWh medium term
  - Florida hybrid solar/gas plants only

Clean Energy: Biopower

- **Today: 26 million MWh**
- **Potential: 230 million MWh**
- **Generation is more distributed than central utility generation, but less distributed than other renewable resources**
  - Small coal plant conversions (Georgia Power, Plant Mitchell)
  - Cofiring
  - Independent power producers
  - Plant scale usually 20-50 MW, up to 100 MW

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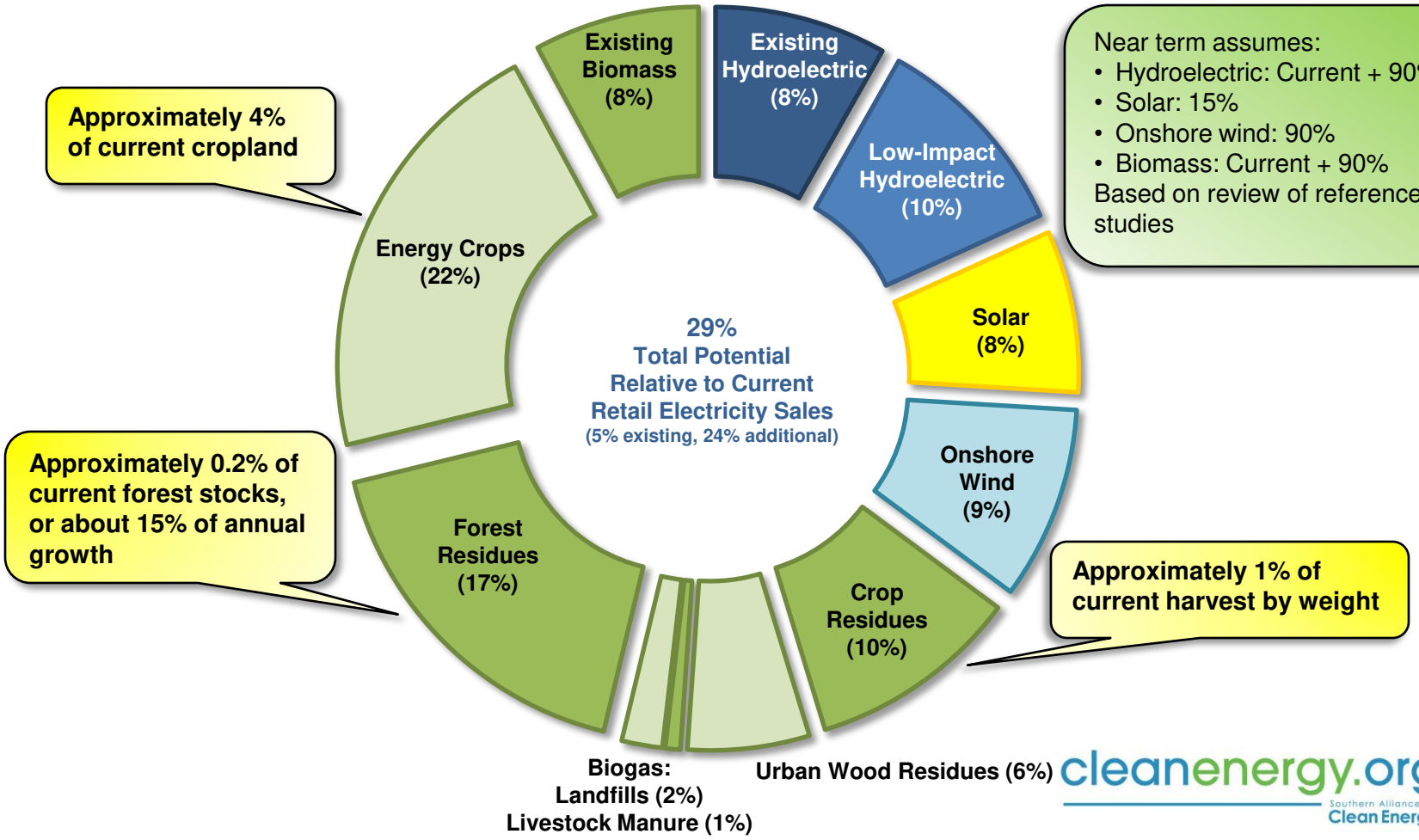
Near Term
Renewable Energy Potential



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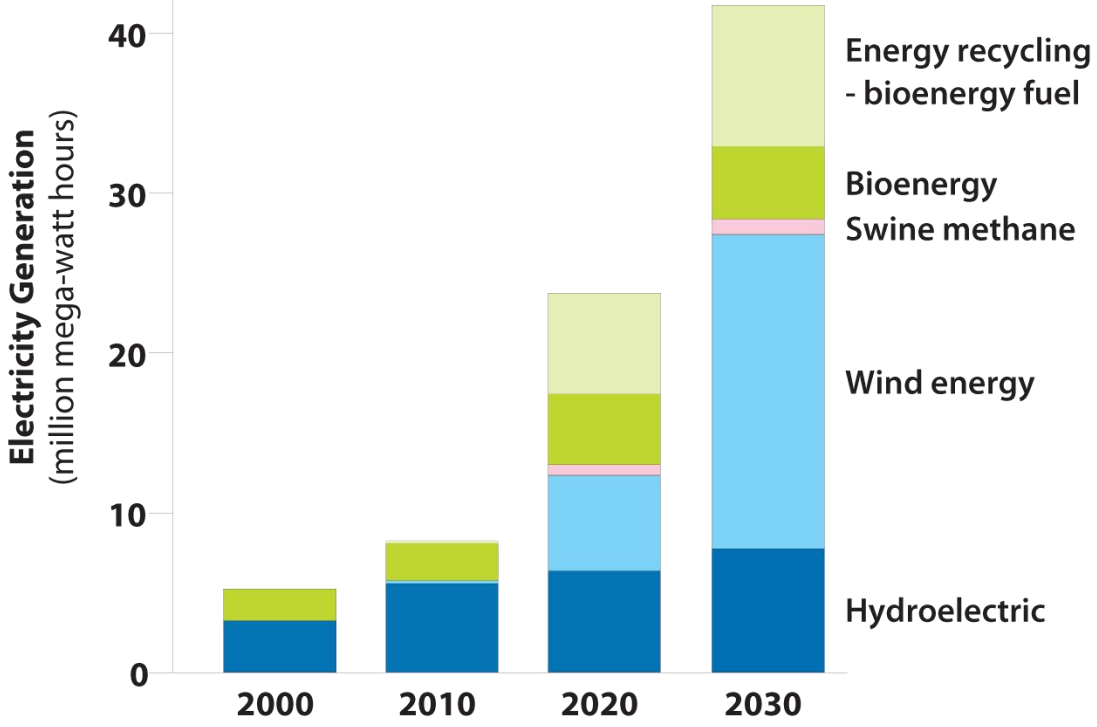
North Carolina: Renewable Energy Implementation

Clean Energy for North Carolina – Over 40 Million MWh by 2030



Solar energy was excluded from this analysis due to lack of market potential data at the time of publication.

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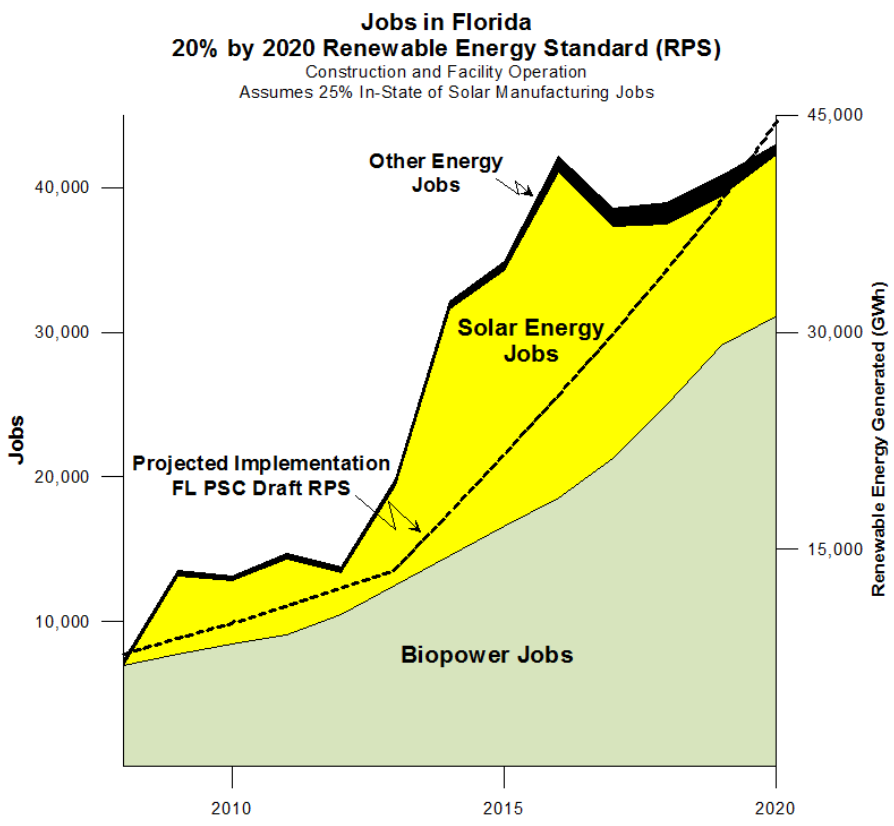
Florida: Renewable Energy Implementation



- **We've recently projected jobs for Florida under a state renewable energy standard**
- **Solar energy tends to have more installation jobs, but fewer "permanent" jobs than biopower**
- **The total number of jobs leads the standard**
- **Florida's standard applies to only four large utilities**

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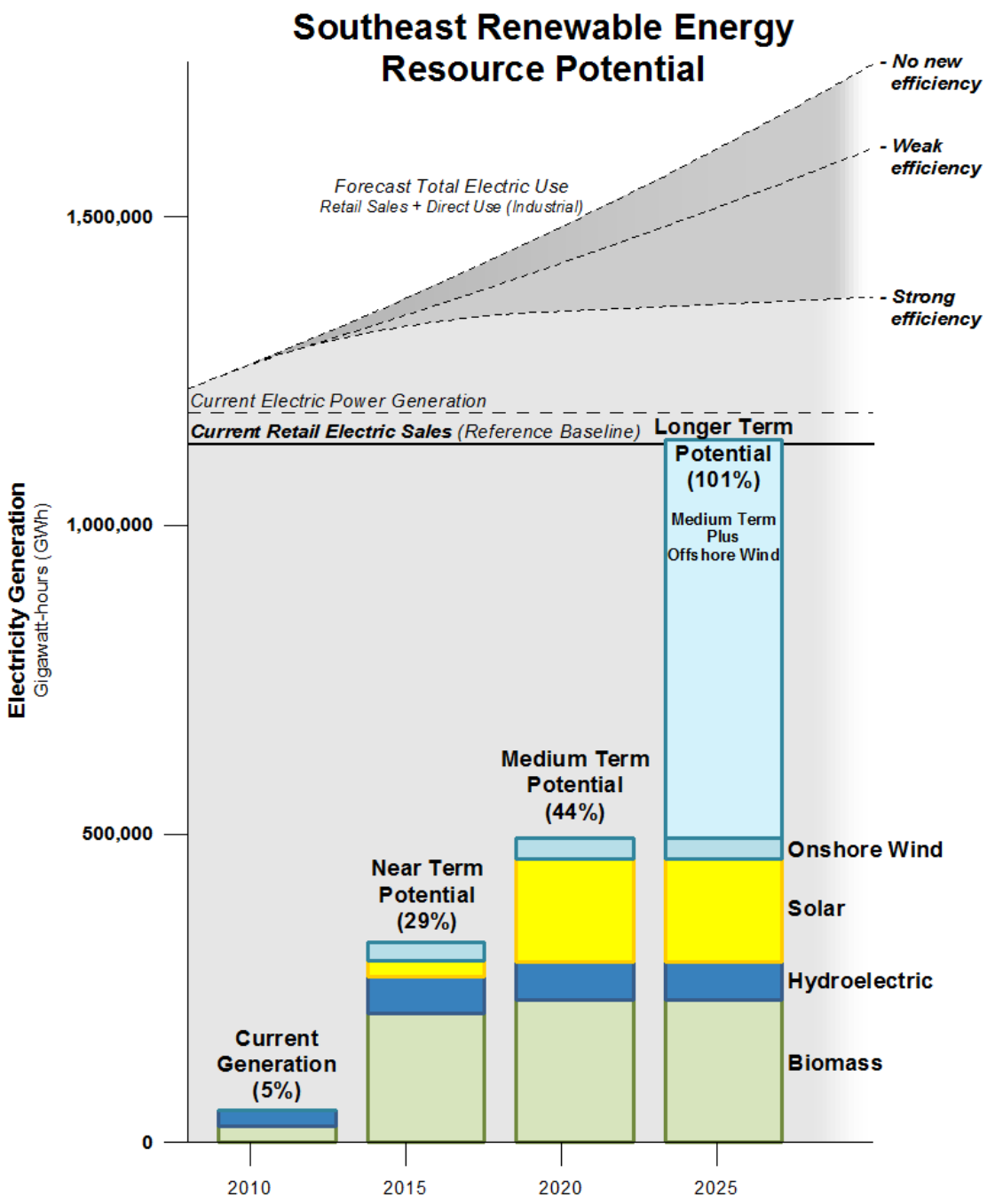
A National Renewable Energy Standard, Plus:

- National carbon dioxide “cap-and-trade” or equivalent policy
- Third party suppliers of electricity paid at market-based cost of service
- A solar “carve-out,” feed-in tariff, or other policy providing a premium value for solar
- Complementary government biofuel policies
- Responsible and predictable permitting for renewable energy systems
- Extension and expansion of state and federal tax credits for renewable energy and efficiency through 2020



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