



South Carolina's Renewable Energy Potential

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Renewable Energy Potential


Our Industry - Energy (Electricity, Fuel, Heat, Power)

Barriers to Entry

- Economies of Scale
- Capital Requirements
- Switching Costs
- Access to Distribution Channels
- Cost Disadvantages Independent of Scale
- Government Policy

Renewable Resources

- specific to South Carolina

- Biomass
 - Wind
 - Solar
 - Hydro
 - Geothermal
 - Marine
(Tidal/Wave/Current)
- How much of each is available?
 - How effective is the energy production technology?
 - What is the cost?
 - What are the obstacles?
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South Carolina's Options for Renewable Energy



	Practical Potential in MW	Capacity Factor	Cost of Generation /kWh
Biomass	557-1,565	70-85%	2-15¢

Relative scale - A typical conventional (coal-fired) unit is 500-800 MW.

South Carolina has 23,566 MW of generating capacity.

South Carolina's Options for Renewable Energy



Biomass	Practical Potential in MW	Capacity Factor	Cost of Generation /kWh
Wood Biomass	423 - 757	80-85%	2-13¢
Agricultural By-products	68 – 86	70-85%	2-15¢
Energy Crops	0-652	70-85%	?-15¢
Landfill Gas to Energy	66 – 70	80-85%	5-8¢
Sub total	557-1,565		

South Carolina's Options for Renewable Energy



	Practical Potential	Capacity Factor	Cost of Generating /kWh
Land-based wind	305 - 3,345	25-28%	9-11¢
Offshore Wind	1,000 - 5,000	30-40%	12-16¢

South Carolina's Options for Renewable Energy



	Practical Potential	Capacity Factor	Cost of Generating /kWh
Hydro	105 - 453	20-35%	12-18¢
Solar	0 - 4,664	19-21%	11-25¢
Geothermal and Marine	-	-	-

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Biomass	557-1,565	70-85%	2-15¢
Grand Total	1,967 - 15,027		
Coal	-	80-90%	4.5-7¢

South Carolina's Options for Renewable Energy



To do something, you've got to do something

.....Jeff Immelt, GE President and CEO