

# Presentation to Virginia Secretary of Natural Resource

Secretary Preston Bryant  
SAIC Offices, Guardian Lane  
Virginia Beach, VA

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**SAIC**  
*From Science to Solutions*

# REMI Results for 588 MW Project (Base Case)

## Offshore Wind Project Construction - Base Case \*

<u>Build-Out</u>	<u>GRP (Mil \$)**</u>	<u>Total Personal Income (Mil \$)***</u>	<u>Employment (No. jobs)</u>
Year 1	\$17.5	\$14.0	300
Year 2	\$57.8	\$46.69	868
Year 3	\$74.4	\$65.4	1,146

\* REMI impacts include direct, indirect, and induced effects

\*\* Real dollars (2000)

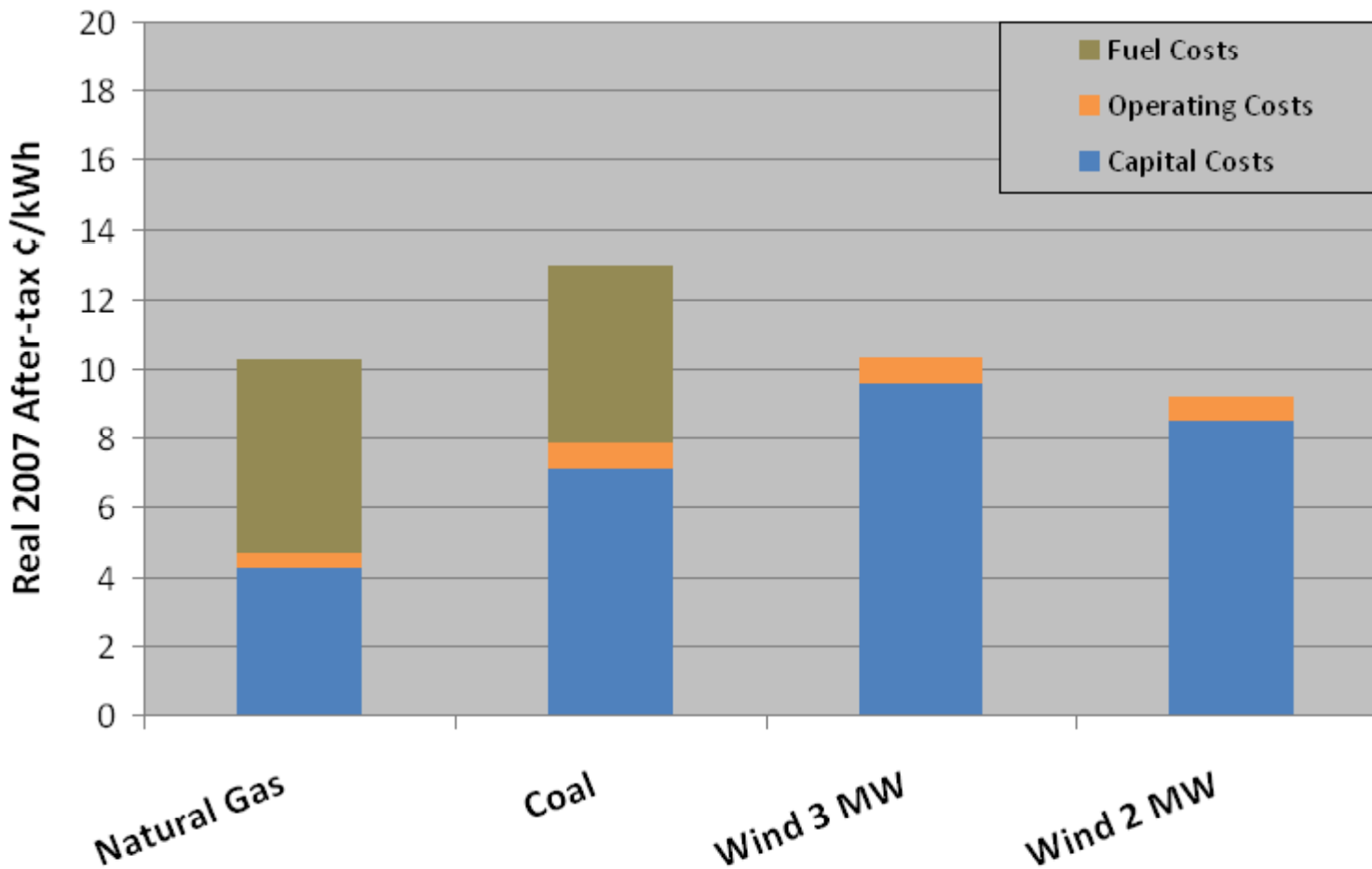
\*\*\* Nominal dollars

# Levelized Cost of Energy Compares Favorably with New Coal Fired Generation

	Natural Gas	Coal	Offshore Wind	
			V90-3MW	V90-2MW
Name Plate Capacity (MW)	580	585	588	588
Operational Capacity Factor	90%	90%	38%	48%
PJM Capacity Credit	90%	90%	20%	28%
Energy Produced (MWh/Year)	4,568,080	4,607,460	1,972,069	2,466,471
Emissions				
NO <sub>x</sub> (lbs/MWh)	0.08	0.76	-	-
SO <sub>x</sub> (lbs/MWh)	-	1.31	-	-
CO <sub>2</sub> (lbs/MWh)	801	2,100	-	-
Overnight Plant Cost (\$/kW)	1,085	3,155	3,607	4,079
Levelized Energy Cost (¢/kWh)	10.3	13.0	-	-
... with PTC & VA incentive (¢/kWh)	n/a	n/a	10.3	9.2

Fossil fuel generation costs and performance are based on actual or planned generation projects under development by Dominion Virginia Power: a combined-cycle natural gas fired plant in Buckingham County, and a coal-fired plant in Wise County.

# Levelized Cost of Energy Compares Favorably with New Coal Fired Generation



# Accomplishments

1. Pilot-scale facility near Hopewell, VA - stand alone.
2. Build a similar facility at VIP plant – wastewater.

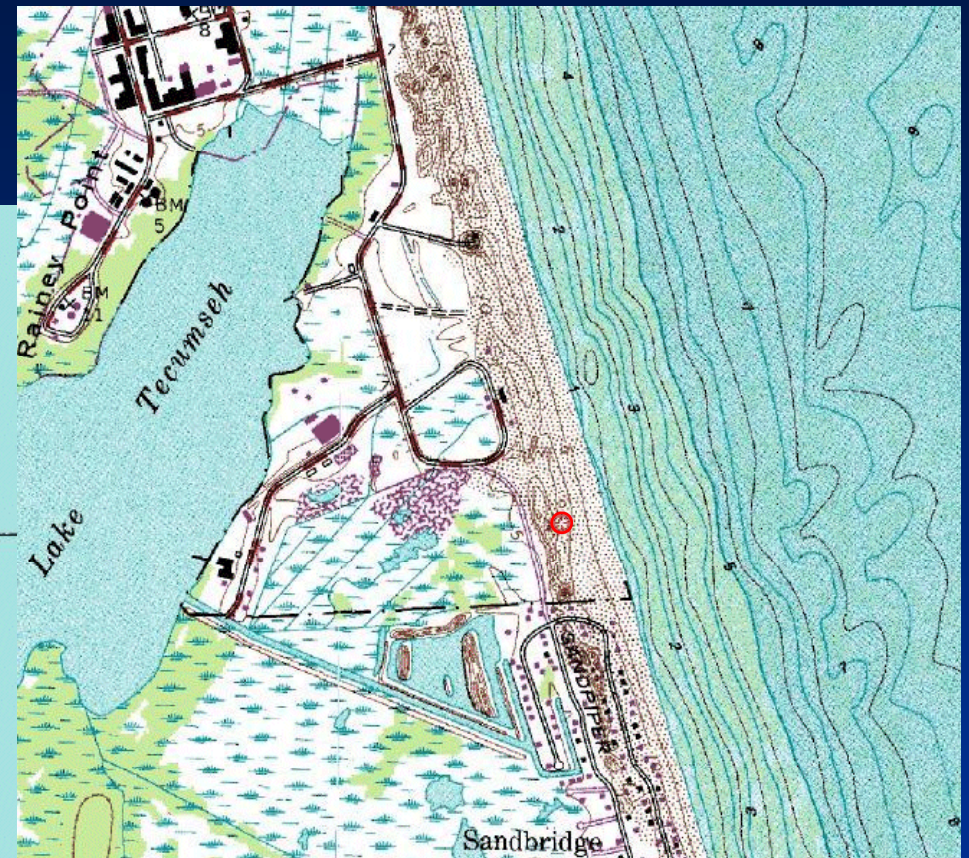
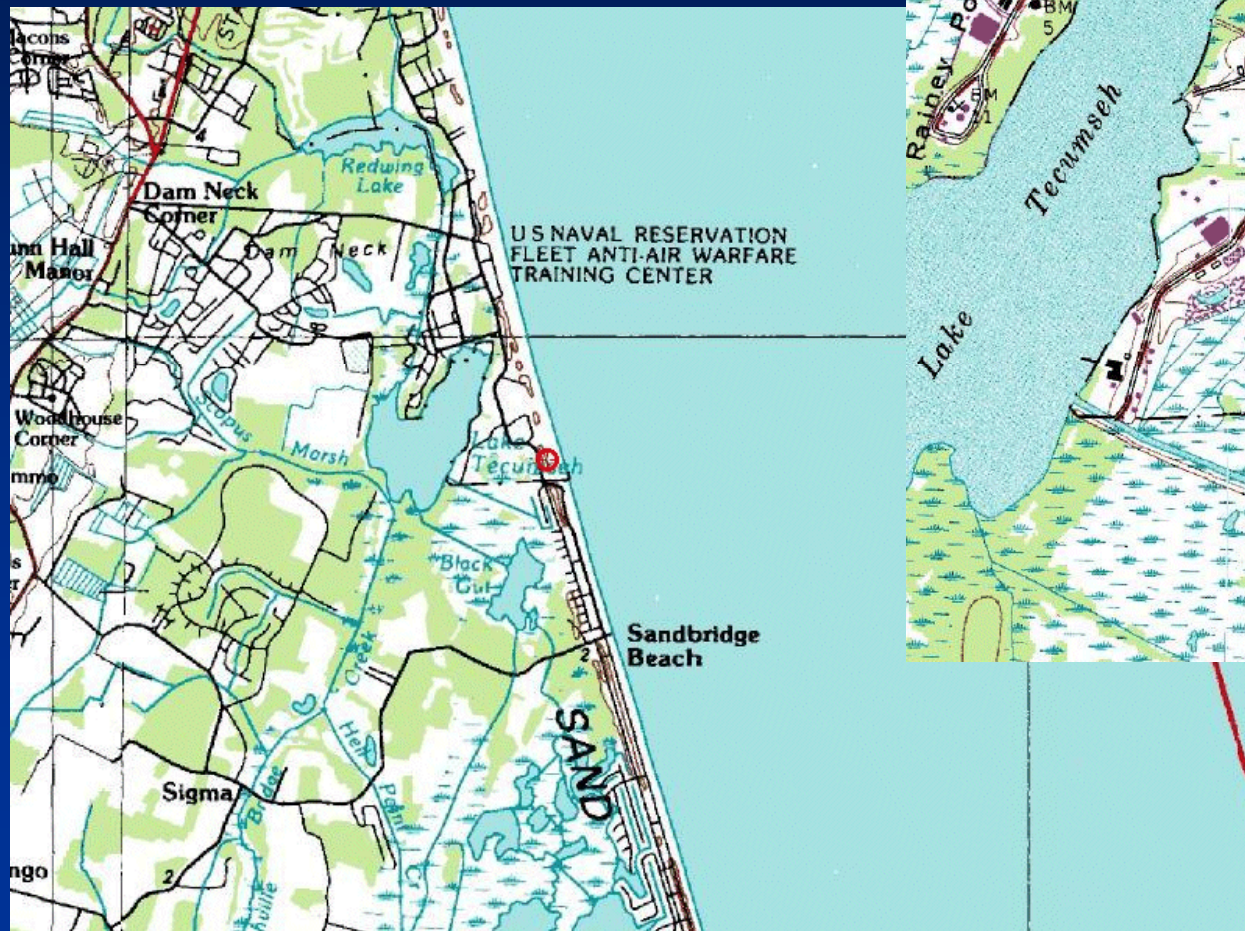


# Stand-Alone Pilot Scale Facility



Anticipated Production: 3000 gallons biodiesel/yr/acre  
9,000,000 kg biomass/yr/acre

# Dam Neck South (Notional) Preliminary Candidate Wind Turbine Site





# Cape Wind Meteorological Towers



# VCERC is making an impact

- National Thinking
- Technology concepts
- International Interest
- Business Initiatives