

# Emerging Energy Issues for Virginia's Coastal Zone: Fracking, Pipelines, Terminals, and Offshore Oil & Gas Development



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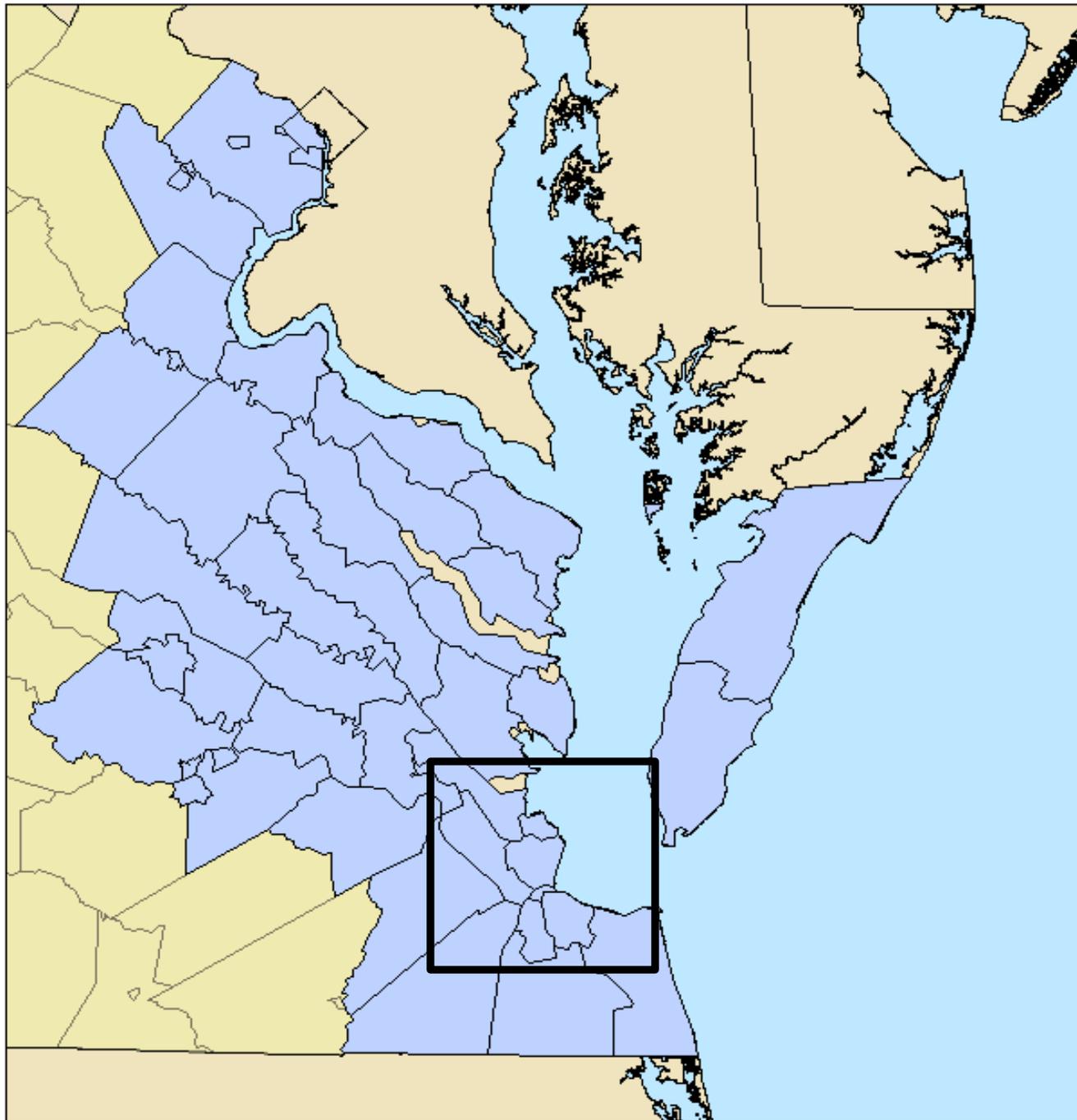


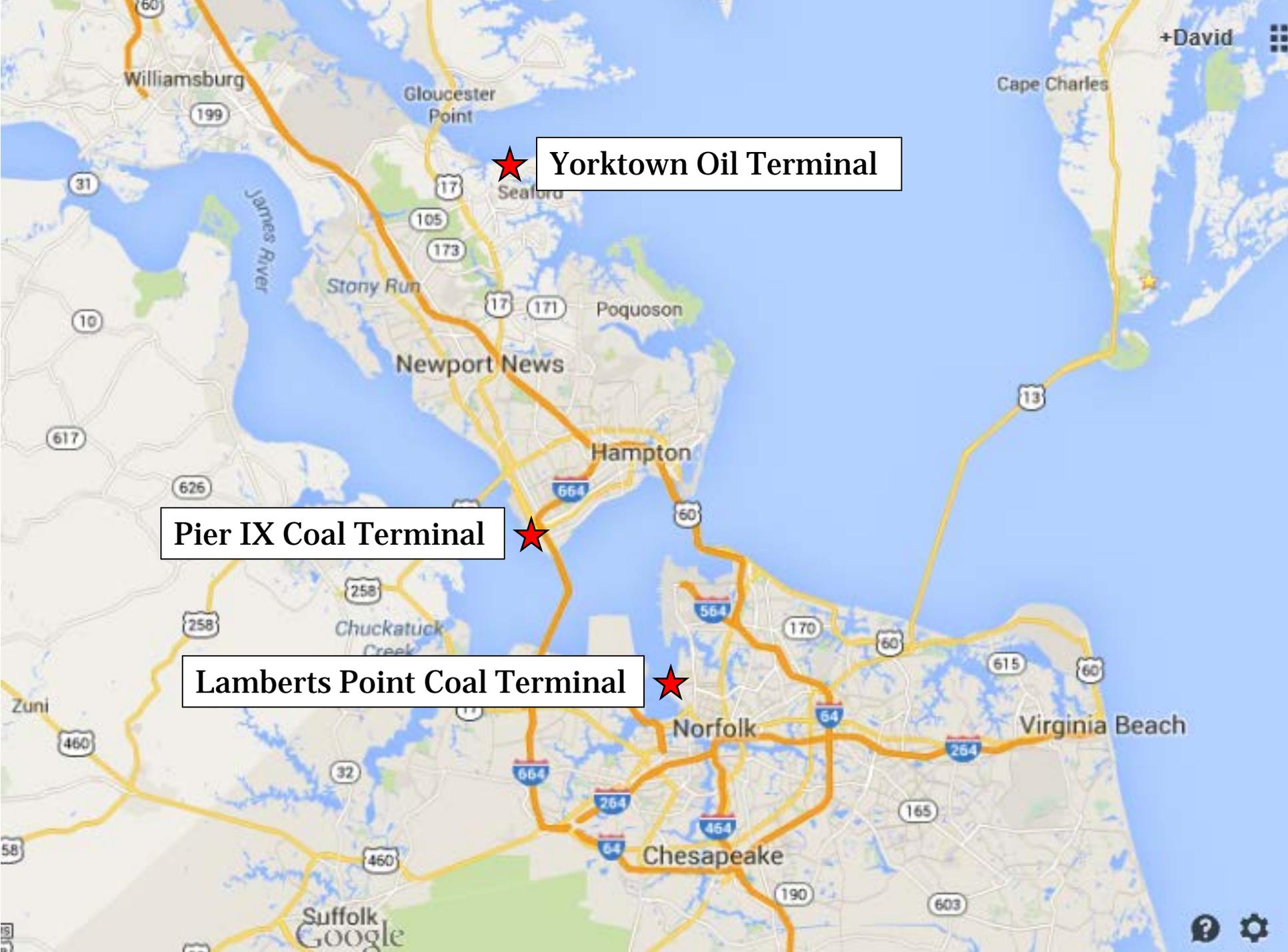
Status and Trends in Energy Facilities and Activities in the Coastal Zone

Type of Energy Facility/Activity	Exists in CZ		Proposed in CZ	
	(# or Y/N)	Change Since Last Assessment (-, ↓, -, unkwn)	(# or Y/N)	Change Since Last Assessment (-, ↓, -, unkwn)
<b>Energy Transport</b>				
Pipelines <sup>21</sup>				
Electrical grid (transmission cables)				
Ports				
Liquid natural gas (LNG) <sup>31</sup>				
Other (please specify)				
<b>Energy Facilities</b>				
Oil and gas				
Coal				
Nuclear <sup>34</sup>				
Wind				
Wave <sup>31</sup>				
Tidal <sup>36</sup>				
Current (ocean, lake, river) <sup>36</sup>				
Hydropower				
Ocean thermal energy conversion				
Solar				
Biomass				
Other (please specify)				

**NOAA TEMPLATE**

# Virginia's Coastal Zone





★ Yorktown Oil Terminal

★ Pier IX Coal Terminal

★ Lamberts Point Coal Terminal

**Plains All American's Yorktown Oil Terminal:  
Petroleum and petroleum products arrive by  
rail and pipeline and leave by ship**



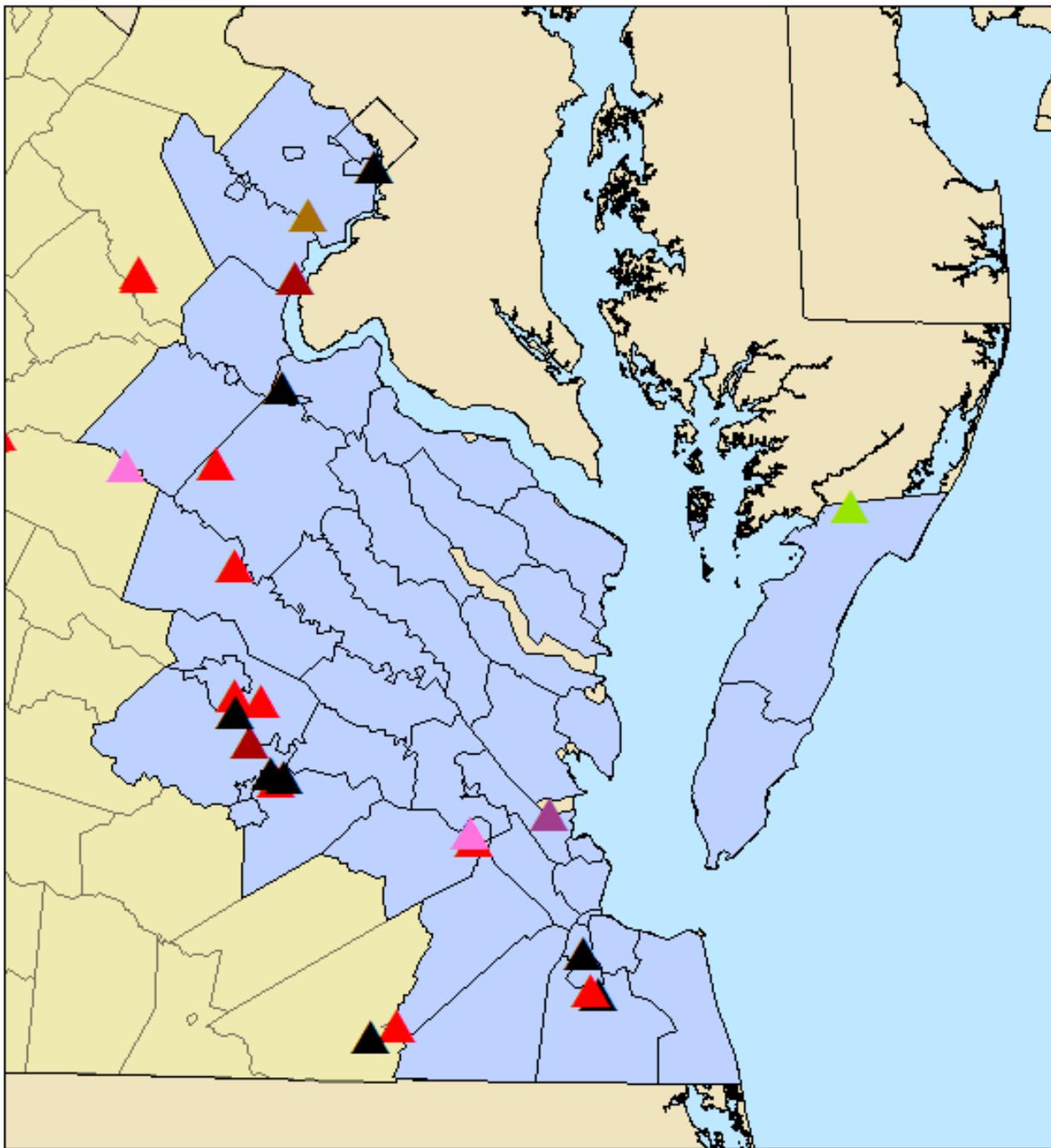
**Kinder Morgan/CSX's Pier IX Coal Terminal,  
Newport News:  
8,000 tons per hour capacity**





**Norfolk Southern's Lamberts Point Coal Terminal:  
8,000 tons per hour capacity**

# Power Plants in the Coastal Zone



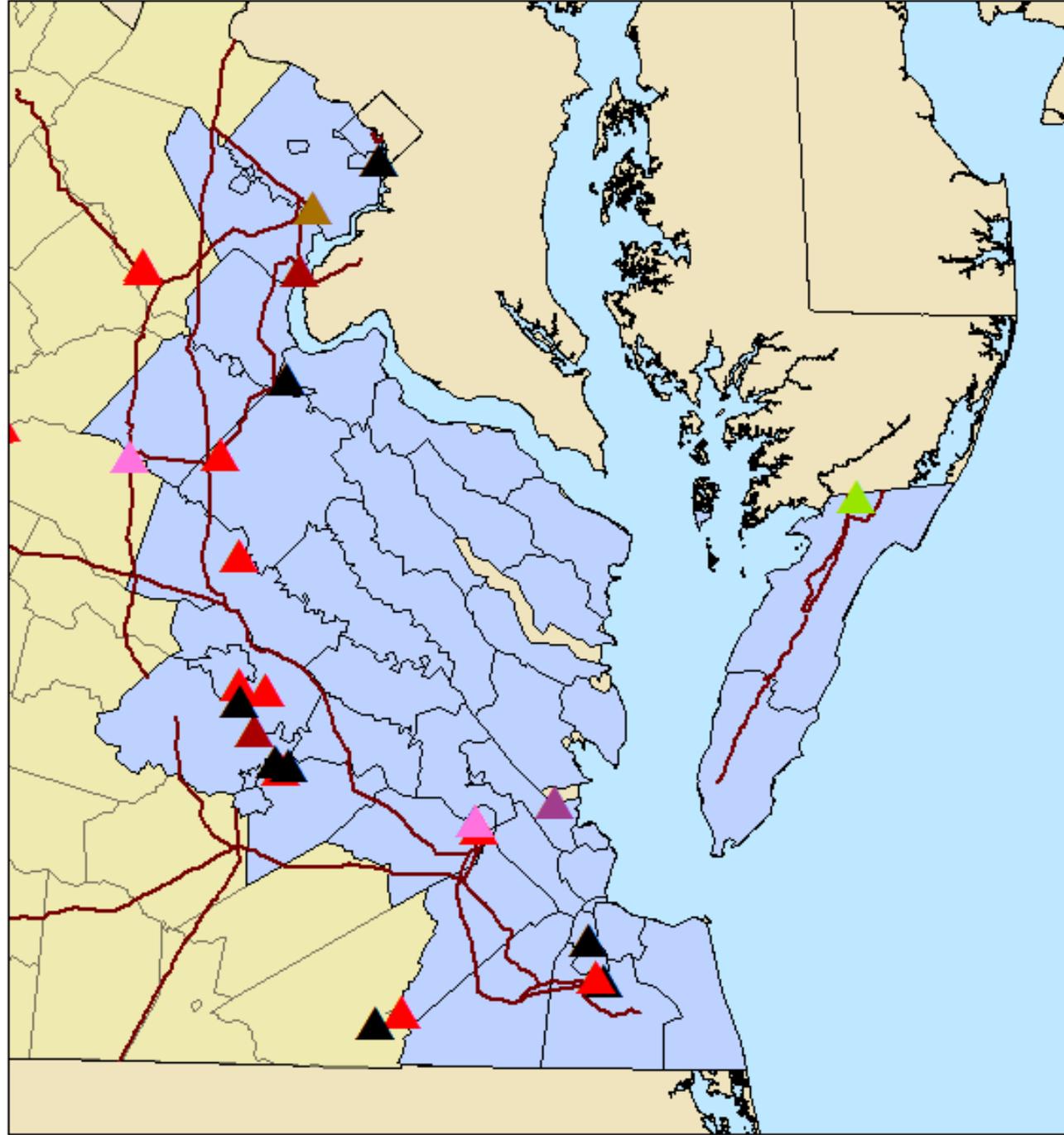
## Power Plants by Fuel Type

powerplants

ENERGY\_SOU

- ▲ BIT
- ▲ BIT/NG
- ▲ DFO
- ▲ MSW
- ▲ NG
- ▲ NUC
- ▲ RFO/BIT
- ▲ WAT

# Electrical Transmission Lines in the Coastal Zone ( $\geq 345$ kV)



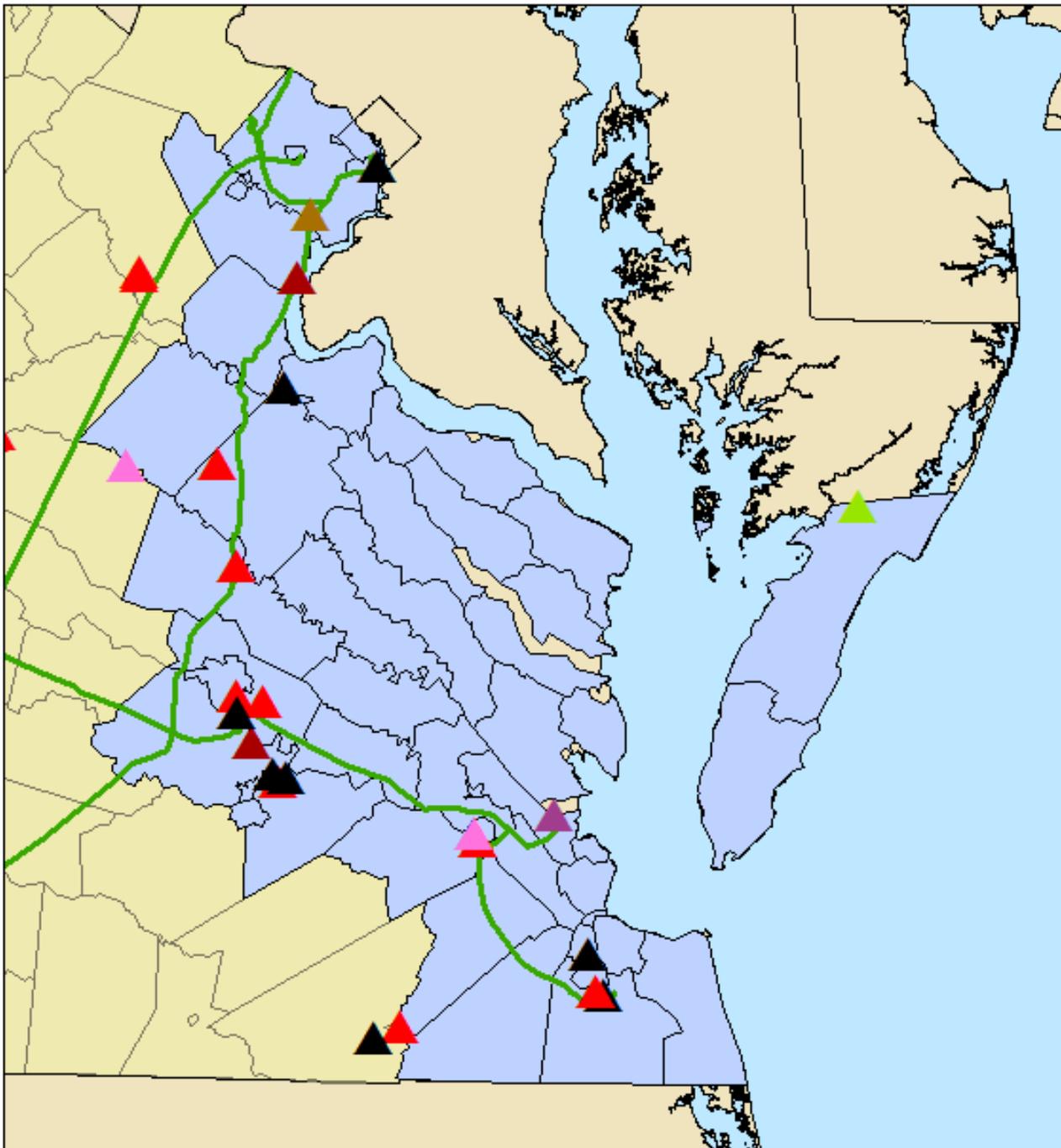
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# Petroleum Pipelines in the Coastal Zone



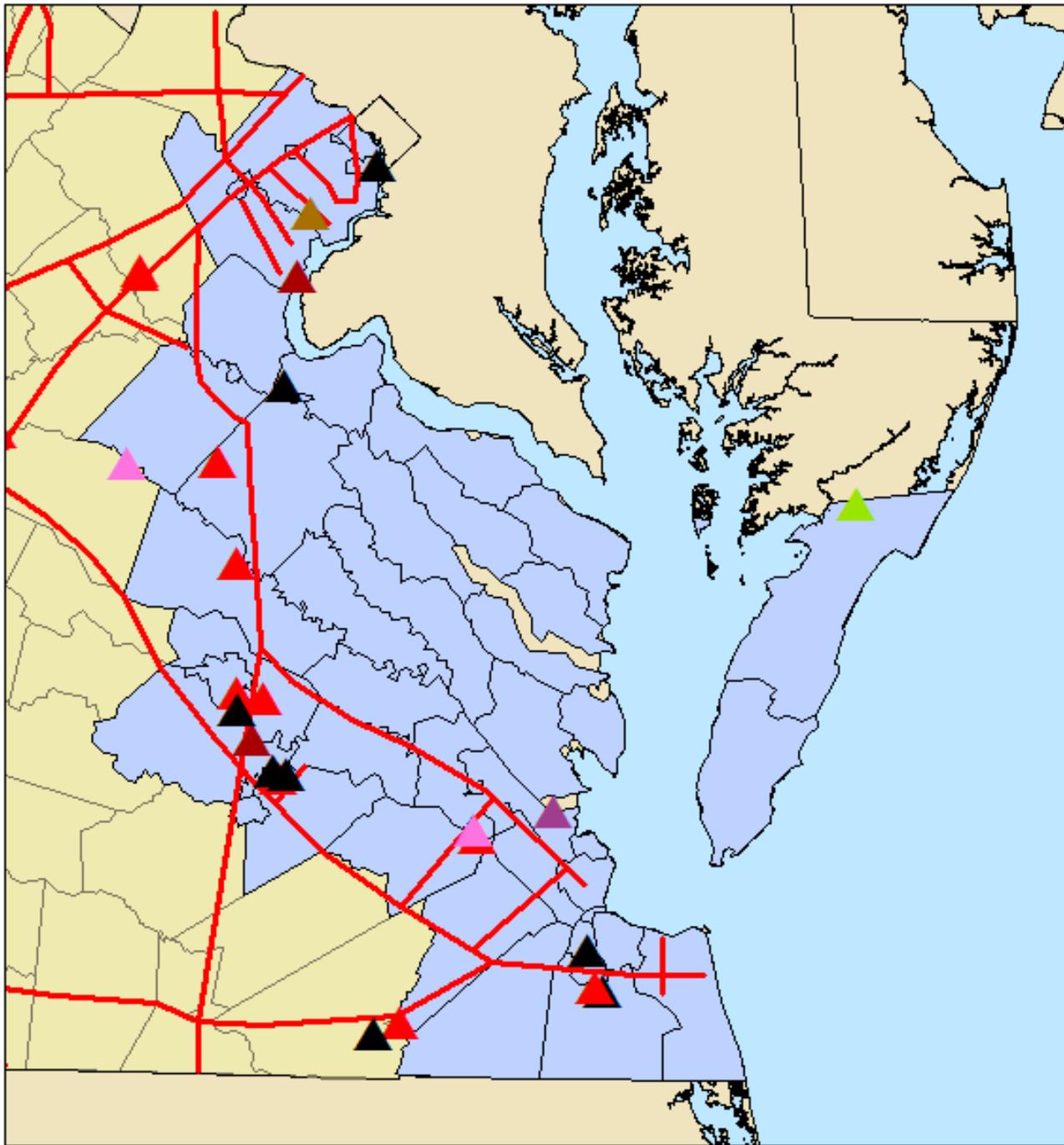
## Power Plants by Fuel Type

powerplants

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# Natural Gas Pipelines in the Coastal Zone



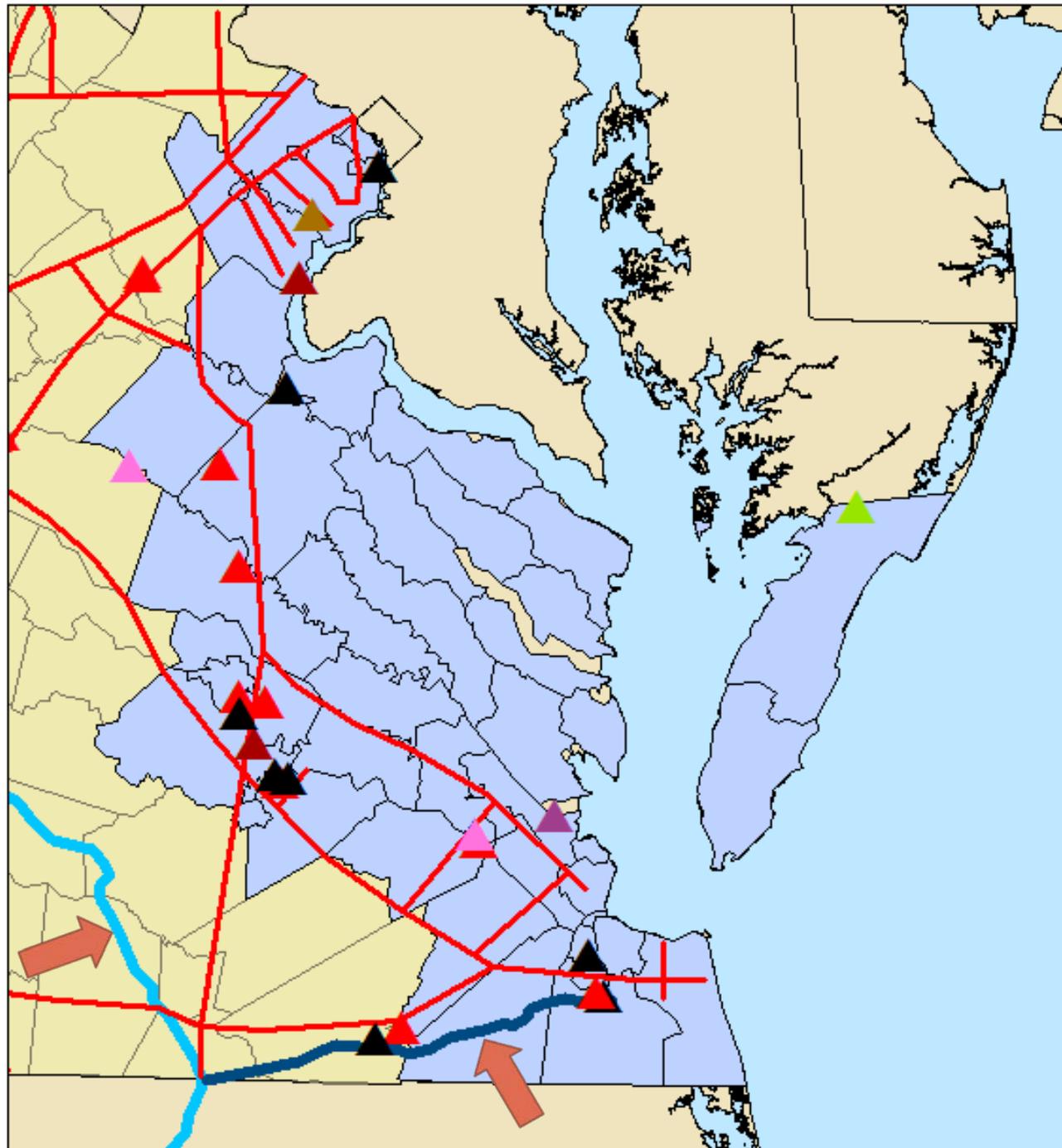
## Power Plants by Fuel Type

powerplants

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# Proposed Atlantic Coast Pipeline (natural gas)



## Power Plants by Fuel Type

powerplants

ENERGY\_SOU

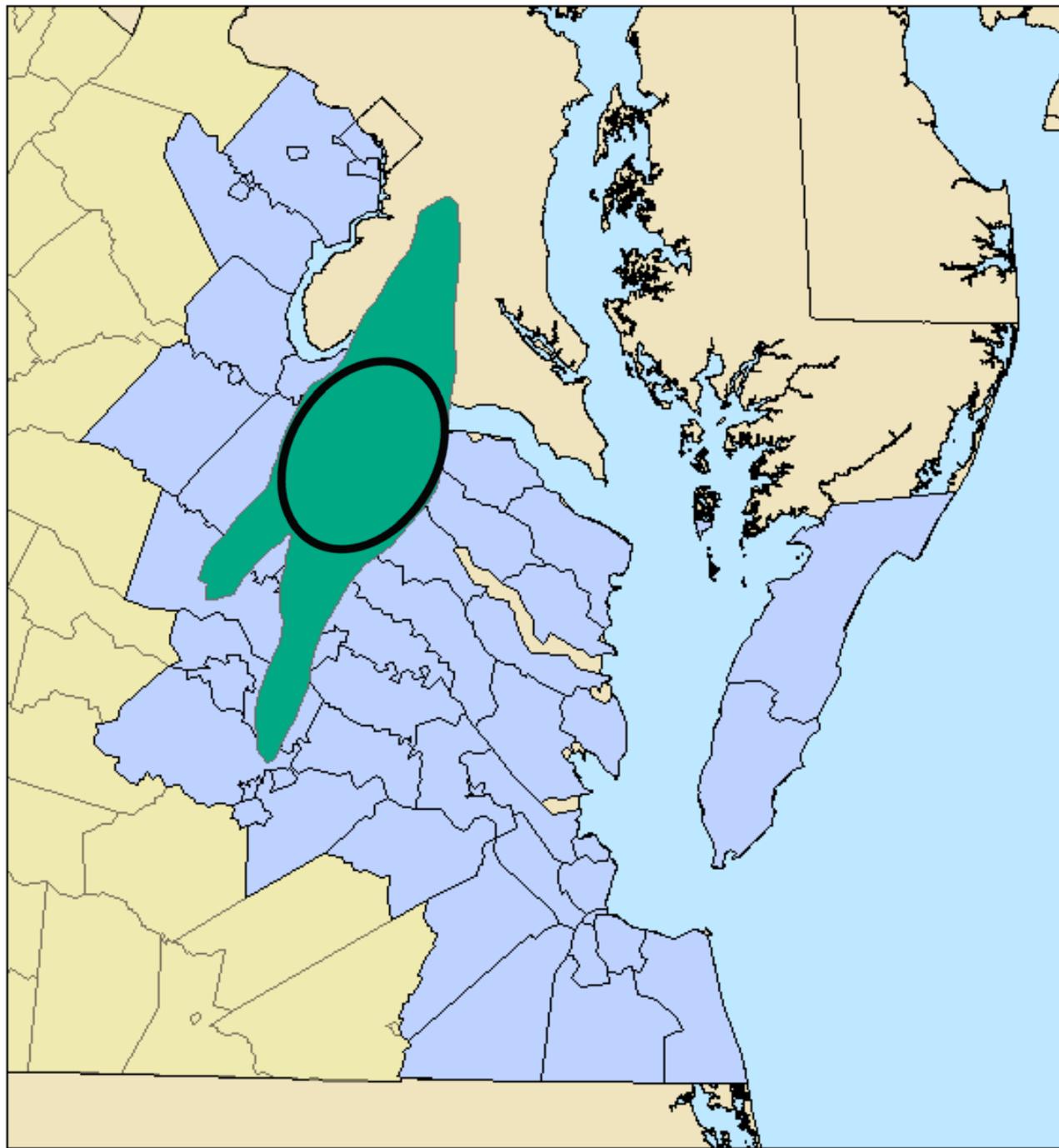
- ▲ BIT
- ▲ BIT/NG
- ▲ DFO
- ▲ MSW
- ▲ NG
- ▲ NUC
- ▲ RFO/BIT
- ▲ WAT

**Dominion's Chesapeake Energy Center:  
800 MW, coal and natural gas  
4 coal-fired units (to be closed\*)  
8 natural gas turbines**

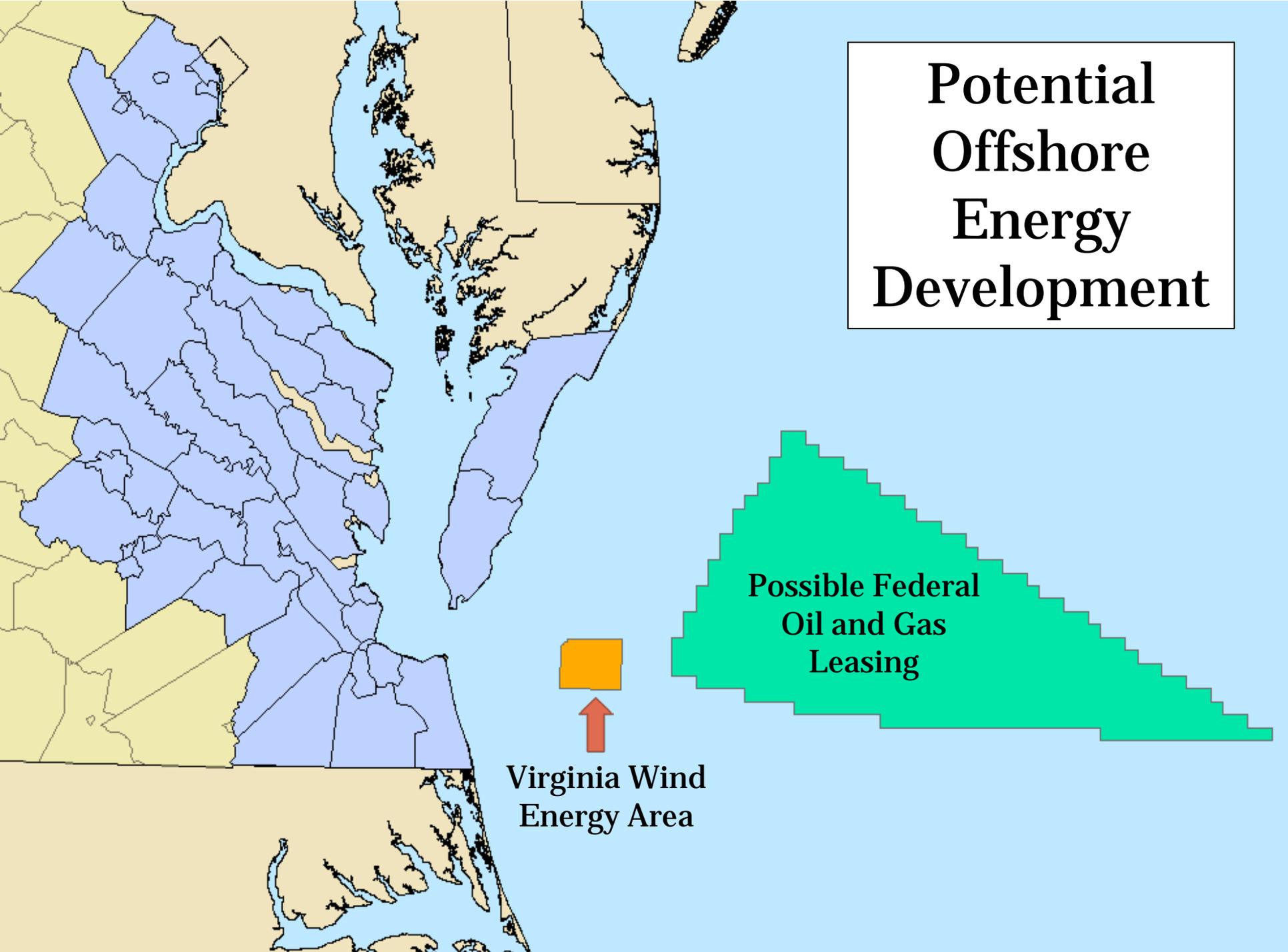
**\*when 1,300 MW Brunswick plant  
comes online**



**Taylorville  
Basin:  
Proposed  
drilling and  
fracking for  
oil and gas**



# Potential Offshore Energy Development



Possible Federal  
Oil and Gas  
Leasing

Virginia Wind  
Energy Area

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<i>Energy Transport</i>				
Pipelines <sup>21</sup>	✓		✓	
Electrical grid (transmission cables)	✓			
Ports	✓			
Liquid natural gas (LNG) <sup>31</sup>				
Other (please specify)	✓			
<i>Energy Facilities</i>				
Oil and gas	✓		✓	
Coal	✓			
Nuclear <sup>24</sup>	✓			
Wind			✓	
Wave <sup>21</sup>				
Tidal <sup>36</sup>				
Current (ocean, lake, river) <sup>36</sup>				
Hydropower				
Ocean thermal energy conversion				
Solar				
Biomass	✓			
Other (please specify)	✓	Municipal solid waste		