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**Web Site: [www.ei.lehigh.edu/eli](http://www.ei.lehigh.edu/eli)**

# Where is the best place to locate a new wind farm?

**Carbon Emissions Calculator**

Annual Carbon Footprint: 120.7 tons

Annual Carbon Emissions From Household: 1.35 tons

Household	Transportation	Food	Analysis
<p>1. How many people live in your home?</p> <p>0.1 <input type="radio"/> 0.2 <input checked="" type="radio"/> 0.3 <input type="radio"/> 0.4 <input type="radio"/> 0.5 <input type="radio"/> 0.6 or more <input type="radio"/></p> <p>2. What type of home do you live in?</p> <p><input type="radio"/> Apartment <input checked="" type="radio"/> Townhouse/Row Home <input type="radio"/> Single House</p> <p>3. Do you have Energy STAR appliances in your home?</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>			

0.30 tons CO<sub>2</sub>

Selecting a radial button automatically displays the amount of CO<sub>2</sub> that activity generates.

Navitas

Key For Elevation and Bathymetry

Elevation (feet)

Bathymetry (fathoms)

Map Legend

- ☒ Gitter
- ☒ Highways
- ☒ Railroad Tracks
- ☒ Gas Pipelines
- ☒ Electrical Grid
- ☒ Navion Provinces
- ☒ Coastline and Provinces
- ☒ National Significance
- ☒ Lakes
- ☒ Major Rivers
- ☒ Tidal Range
- ☒ Climate
- ☒ Land Use and Cover
- ☒ Percent Sunshine
- ☒ Wind Speed
- ☒ Coal Reserves
- ☒ Natural Gas Reserves
- ☒ Oil Reserves
- ☒ Geothermal Areas
- ☒ Uranium
- ☒ Topography and Bathymetry with key
- ☐ Blank Background

<http://gisweb.cc.lehigh.edu/navitas/>

ArcoGIS viewer for Flex

The figure consists of six thematic maps of the state of Georgia, each with a legend. The maps are arranged in a 2x3 grid. The top row contains 'Minable Resources', 'Land Use and Cover', and 'Climate'. The bottom row contains 'Percent Sunshine', 'Wind Speed (mph)', and 'Tidal Range and Major Rivers'.

- Minable Resources:** Legend includes Lithium (red), Geothermal Areas (pink), Coal (black), Natural Gas (grey), and Oil Fields (dark grey).
- Land Use and Cover:** Legend includes Farm Land (light green), Forested (dark green), High Plains/Steppes (light brown), Mountains (dark brown), and Urban/Suburban (grey).
- Climate:** Legend includes Semi-Arid (light orange), Temperate (yellow), Wet - Moderate (green), and Wet - Very (dark blue).
- Percent Sunshine:** Legend includes 20 (light blue), 21-32 (light green), 33-40 (green), 41-50 (yellow-green), and 51-60 (yellow).
- Wind Speed (mph):** Legend includes 0 - 12.3 (light pink), 12.3 - 14.3 (pink), 14.3 - 15.7 (light orange), 15.7 - 17.9 (orange), and 17.9+ (red).
- Tidal Range and Major Rivers:** Legend includes Tidal Range (m) with values 10-12 (light blue), 12-14 (blue), 14-16 (dark blue), 16-18 (purple), 18-20 (dark purple), 20-24 (red), and 24-40 (dark red).

The Isle of Navitas is an island nation about the size of Pennsylvania. The activity is completed using a series of data layers that are displayed in a Web GIS. The teacher assigns one province each to small groups of students (three or four) and asks them to analyze the energy resources and infrastructure of their province to develop a sustainable energy policy to meet the demands of its population. It requires students to consider energy alternatives and make energy choices based on environmental benefits, costs, and impact assessments.