Scientists and policy makers are calling CLIMATE CHANGE the most important issue of the 21st Century.

The largest contributor to CLIMATE CHANGE is the burning of fossil fuels.

The world’s combination of cars, trucks, trains, airplanes, and ships consumes a significant proportion of the fossil fuels we burn each year. About 30% of the energy used in the U.S. supports transportation needs.

Transportation choices make a difference in both overall fuel consumption and greenhouse gas production.

**Freight Capacity Comparison**

- **One 1,000 foot Laker** (Approximately 70,000 tons)

- **Seven 100 Car Trains with a 10,000-ton capacity**

- **3,000 Large Trucks of 25-ton capacity each**


Waterborne transportation is the most fuel efficient, cost effective, and lowest carbon producing method of moving goods in our global economy.
GREAT LAKES SHIPPING: Great Lakes Vessels and Fuel Efficiency

TON-MILES PER GALLON is a useful measure for comparing the efficiency of different modes of transportation. A ton-mile per gallon reflects the amount of fuel required to move one ton of cargo, one mile.

At times, a Laker (one of those Panamax-sized vessels in the Great Lakes, also known as a thousand-footer) can attain nearly 1,000 ton-miles per gallon. A single ship operating in the Great Lakes can move 2.7 million ton-miles in a single season.

It would take a continuous line of trucks stretching from Detroit to Chicago to transport the same amount of cargo carried by one Laker.

For example:

One gallon of fuel can move a ton of freight:

- **607 miles** on a Great Lakes "1,000-footer" ship
- **202 miles** on a railroad car
- **59 miles** on an 18-wheel semi-trailer truck

### Fuel Efficiency and Environmental Impact

**Great Lakes Navigation**

<table>
<thead>
<tr>
<th>Miles One Ton of Cargo can be Carried per Gallon of Fuel</th>
<th>Tons of Carbon Dioxide (CO₂) Produced to Transport 1,000 Tons of Bulk Cargo 1,000 Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>59 (Truck)</td>
<td>190</td>
</tr>
<tr>
<td>202 (Rail)</td>
<td>55</td>
</tr>
<tr>
<td>607 (GL Carrier)</td>
<td>18</td>
</tr>
</tbody>
</table>

1. Source: USDOT Maritime Administration and Minnesota Department of Transportation
2. Assumes US DOE Fuel and Energy Emission Coefficient of 22.38 lbs of CO₂ per gallon (No. 1,2,4 Fuel Oils and Diesel)


### Global Potential

“Transport by inland waterway is a greatly underused option…it has big advantages: it is kind to the environment, very safe, economical on non-renewable energy resources and helps relieve the pressure on the overcrowded road networks…” — European Transport Policy for 2010

By choosing to transport more cargo by ship, nations can reduce their total greenhouse gas emissions and levels of air pollution.