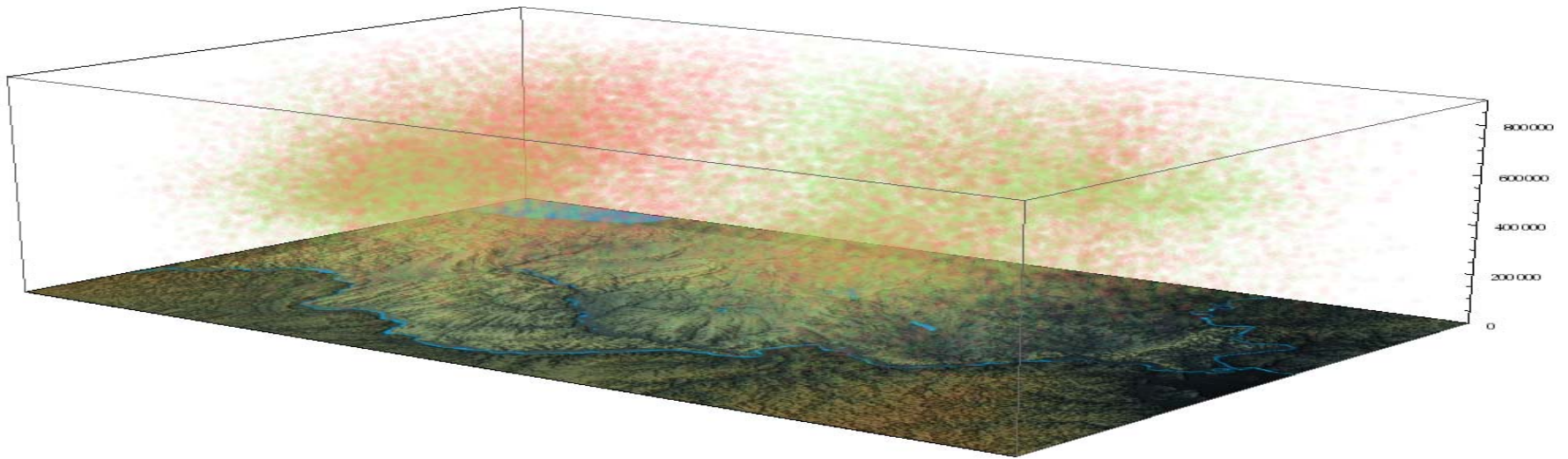


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Start with measurement

- What are some of the larger problems
 - Measuring, Tracking and Comparing
 - Confusing or lack of standards (gbxml, energy star, ghg calculators)
 - Building Designs and Operations
 - Energy management systems
 - Transportation efficiency

What if we could see GHG's



Wolfram's Mathematica Solution

Could we tell where they are coming from?

- Clinton Foundation – challenge and solution
 - Cities agree to reduce carbon footprint, but what is their footprint
 - Get agreement on the science
 - Create tools to manage, track, project and improve
 - Multiyear project for cities around the globe

The screenshot shows the Clinton Climate Initiative's Energy Calculator interface. The page is titled "Calculate Emissions" and includes a navigation menu with options like "Home", "News & Events", "City Pages", "Reports & Articles", "CCI Wiki", and "Custom Office Products". The main content area is divided into several sections:

- Summary of Energy Sources & GHG Emissions:** A table showing energy sources and their associated GHG emissions. The table has columns for "Name of source", "Usage (Kilograms)", "Emission Factor", and "Emission Rate".
- Select Energy Source:** A dropdown menu with options like "India Grid Average Electricity", "Residential", "Commercial", "Industrial", "Stationary Alternative Fuels", and "Stationary Fossil Fuels".
- Add Energy Source Details:** A form for entering emission values, including a "Quarter" dropdown, "Usage" and "Cost" input fields, and a "Quarter" dropdown.
- Advanced Options:** A section for selecting emission factor sets, including "Emission Factor Set", "Emission Factor Set", "Emission Factor Set", and "Emission Factor Set".
- Create Record Details:** A section for entering record information, including "Record Name", "Select Year", and "Select Year".

Name of source	Usage (Kilograms)	Emission Factor	Emission Rate	Cost (Dollar \$)
Residential - Wood (for Dry)	2,500.00	CH4	78.822	276,799.20
Residential - Gasoline (for Dry)	22,500.00	SO2	87.822	2,433.20
Residential - Coal (for Dry)	500.00	NO2	932	466.00
Residential - Run water	3,442,500.00	CO2	363.122	2,330,869.60
Total: GHG Details				56,778,822

Breaking this down further

Physical

- Commercial – Offices, Industrial Buildings
- Residential – Homes, Apartments
- Retail Buildings
- Hotels
- Transportation Centers

Institutional Level

- Corporations
- Schools
- Gov't agencies

Operational Areas

- Travel
- Facilities
- IT Systems

Measurements lead to results

Verdiem's Surveyor estimates energy and cost savings allowing customers to determine payback and savings prior to purchase.

Case Study: City of Stamford School District (10,000 PCs):

- Annual total PC energy cost: **\$780,000**
- Annual cost savings: **\$240,000 (\$24 per PC)**
- Annual energy savings: **2 million kWh**
- Annual CO2 reduction: **3.2 million lbs**

Case Study: Financial Services Company

- Energy Reduction: **58.9 %**
- Average Annual Energy Cost per PC: **\$ 73.96**
- Average Annual Energy Cost with SURVEYOR: **\$ 30.36**
- Cost savings: **\$ 43.60**

