

Self Reliance Foundation and the GPI Data Base

GetPluggedIn (GPI) SUMMARY

There are many tools out there that will let individuals build a "static" carbon footprint and that give you ideas on how to reduce your carbon footprint. The limitation of these tools is that they:

- **do not track impact**: how effective were these suggestions in reducing the CO2 emissions of the interested party
- **they work in isolation**: information is transmitted one-to-many. But not many-to-many. That is to say, the proponent of the static tool can know how many have visited their website, but website visitors are not tangibly connected.

The GetPluggedIn Data base is designed to overcome these two limitations: we have a methodology in place for measuring impact, and we plan to connect users through their data. GPI is a place where users can record their monthly billed energy use and record the steps they have taken to reduce their CO2 emission through energy conservation and energy efficiency. Any person who sets up an account on GPI becomes a part of the energy conservation collective, where each user can not only track the impact of their actions, but see how we're doing as a group.

Currently GPI has the ability to store monthly data on electricity, heating and water usage of a location setup on the system. We currently have 60 accounts created on the system that are actively storing their energy use data.

By working with a state-wide population particularly the 8th grade sector in this pilot program, GPI will be able to finish building this tool to its full potential, which will allow users:

- to use a "wizard" to setup all the pertinent information for establishing their location on the database. This will make it much easier for a user to get started on GPI.
- to build a complete CO2 profile of their location's energy consumption
- to allow users to register monthly the steps they have taken to reduce their energy use
- to generate reports and graphs on their location's energy use and CO2 generation
- to generate maps that spatially display aggregate results between all system users.
- to communicate issues they have encountered on GPI (via the support log), in order that we may respond and take corrective measures where necessary.

The premise of GPI is simple: What gets measured gets done. The methodology of GPI is simple too: allow users to record their "billed monthly" energy use and log the steps taken to conserve energy. There is no better measure of the impact of our actions than to know what we used "before" and what

we used "after" our energy conservation journey began. For this reason, GPI recommends that for each location being tracked, that the user record at least 12 months of historical energy use to create a "usage baseline". User's then can login once a month to report on current monthly usage and log energy efficiency measures that have been implemented. The idea is to get as many households and businesses to use this site, so that we can tangibly measure the impact of energy conservation.

GPI has a "No Faces/No Places Policy". That is to say, it is not important to know the identity of our users, only what they are doing and how successful they have been in cutting their energy use. There is no name or location tracking, but a unique system of associating "locations" with User IDs. Through this grant, we want to add a spatial component. To activate this spatial component, we need only temporarily capture the User's address. Each User can opt to provide their address, which is not stored by the application, but which is used to assign longitude/latitude coordinates – that are never disclosed, but used by the application to spatially display the impact results of this location. Because our mapping tool will not display street networks (only Country, State, City, Country, Zip Code and School Zone Polygons), energy usage at a specific location remains anonymous. Each point that populates the map, however, will give a visual idea of how adoption of the tool has spread over time, where people are using it, and with what density (points per polygon).

The only requirement of GPI is that users have a valid email account and are willing to install locally the required software to support GPI Reports and Mapping functionality.

PROJECT GOALS AND METRICES

Goal #1: ALLOW HOUSEHOLDS TO BUILD A COMPLETE CARBON FOOTPRINT PROFILE BASED ON THEIR HOUSEHOLD ENERGY USE. Currently, GPI has the ability for users to setup an account and begin to track Electricity, Home Heating and Water consumption based on the use and charges billed by their utility company. The next step will allow GPI to integrate additional functionality into the database in order that each household can build a complete CO2 profile based on their personal household energy consumption.

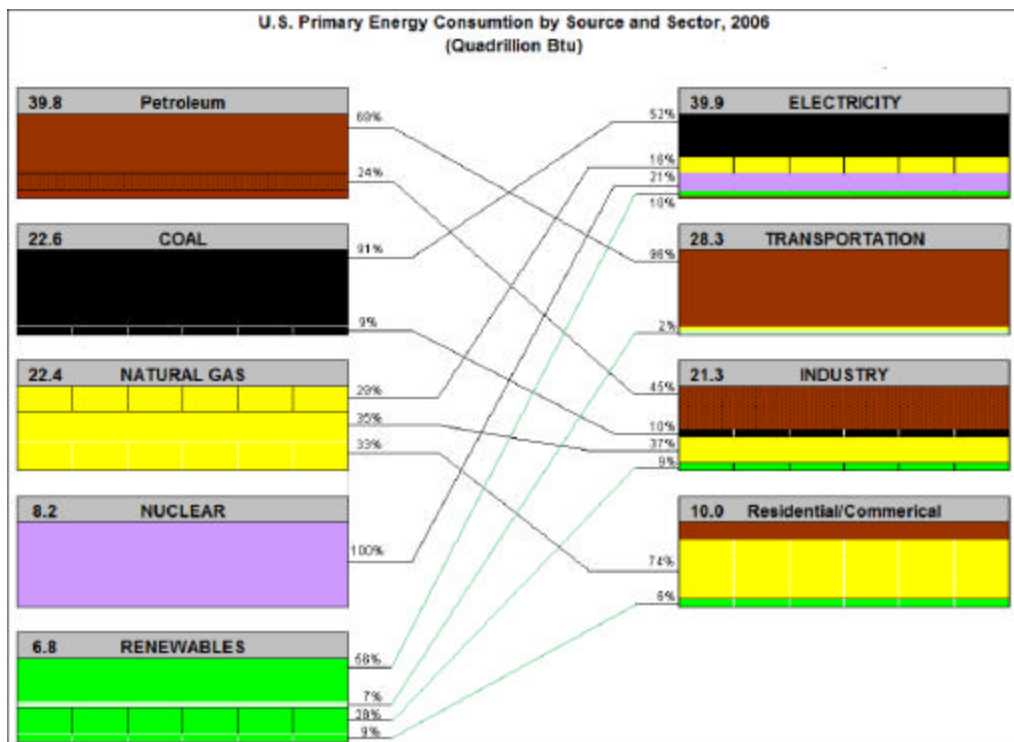
- All Users (Points). Introduce the ability for users to provide their address, which will not be stored by the application, but which will be used to assign longitude/latitude coordinates to the location in question. These coordinates will never be disclosed, but used by the application to spatially display the impact results of each location. Because our mapping tool will not display street networks (only Country, State, City, Country, Zip Code and School Zone Polygons), energy usage at a specific location remains anonymous. Each point that populates the map, however, will give a visual idea of how adoption of the tool has spread over time, where people are using it, and with what density (points per polygon).
- Pilot – New Mexico Only - School Zone Results (Polygons). Where each user who setups up a location in New Mexico, can choose the School Zone in which their location

belongs. GPI will display a School Zone Map and aggregate Energy Use and Energy Savings statistics can be produced by School Zone.

Goal #2: Make the public aware of this tool through use in New Mexico Public/Private Schools and through training of key members of "internet based" membership organizations.

The intended outcome of this is to measure:

- Growth in overall number of GPI Users
- Number of GPI users per Affiliation (i.e., school or membership based organizations). GPI allows "affiliations" to be setup on the application and a user can associate their "account/location(s)" with a specific affiliation. GPI will allow an official representative of an affiliation (for example: Bandelier Elementary School in ABQ NM) to provide a LOGO. When the map displays the location points, the user can opt to see "points by affiliation", and any account who has chosen a specific "affiliation", will be displayed with their logo (instead of a point). This ability will help us promote the adoption of this "public tool" by membership based environmental organizations that want to see how many of their membership base is actively involved in conservation.



Problem: Reducing CO2 Emissions

Our generation is facing the greatest environmental threat of our civilization: global warming. CO2 emissions are the number one contributor to global warming, and – until recently – the United States has been the number 1 producer of CO2. The use of fossil fuels (coal and petroleum) to sustain the US economy and lifestyles is the source of most of our CO2. In 2006 alone, the US was consuming close to 100 Quadrillion BTU's, with a projected 3% grown rate in annual energy consumption. As the graph shows above, electricity generation and transportation are the number 1 and 2 consumers of fossil fuels and therefore the two principle lifestyle generators of CO2 emissions .

“The best evidence suggests that we must reduce our CO2 emissions by 70% by 2050”ⁱ to avoid the worst of the environmental consequences of global warming. When you hear a statistic like “70% reduction in CO2”, the task seems overwhelming and unattainable. The purpose of this project is to demonstrate that this goal is within our reach and attainable by taking the correct actions at home. As our collective group gains confidence in each household's ability to do their part to conserve energy, we hope that this will radiate out to each person's place of employment.

Strategy: Building an Energy Conservation Coalition

We are living in exciting times. We have a President Elect who is committed to building the Green Economy and Green Infrastructure and proven renewable energy technologies (such as Solar PV and Hybrid Cars) that can reduce our consumption of fossil fuels. The CO2 crisis, however, will not be solved by technology alone, and not every household has the financial resources to invest in green technologies. What every household does hold in their hands – and in their hands alone – is the ability to use less energy through:

- Energy Efficiency: using less energy to perform the same function
- Energy Conservation: reducing use by giving up some convenience or comfort

ⁱ “The Weather Makers”, Tim Flannery (Grove Press New York, 2005) p. 6