

# ESiP FUNding Friday, 2011: Engaging Climate Change Learners in Public School Settings

An Educational Card Game Created by Jesse Roberts

## Project Goals

- Highlight Societal Energy Use to provide a foundation for energy and climate discussions
- Identify our most energy-intensive activities and processes
- Demonstrate the relative magnitudes of our current energy sources
- Quantify the amount of carbon released by our various sources of energy
- Foster discussions on energy efficiency, the current state of our energy infrastructure, and the pros and cons of our varied sources of energy

## Research Challenges

- Climate change is global, but while the U.S. provides detailed energy flow information, the rest of the world does not
  - Projecting fine-grained U.S. breakdown of energy use on coarse world-wide data realistically and appropriately
- Merging and smoothing data from many sources – EPA, EIA, IEA, IPCC Reports, etc.
- Capturing complex climate dynamics in a simplified form appropriate for school-aged students
- Scaling and conversions to allow for functional gameplay (no adding large decimals, eg) as well as avoid trivializing climate change

## Game Challenges

- Making an engaging game which can be played during a typical amount of classroom downtime or as part of a lesson
  - Gameplay targeted for 15 minutes
- Provide factual information about energy, carbon budgets, and temperature change without trivializing these things
  - 2 ppm vs 2.1 ppm may not seem significant to students, while 8% of current emissions might
- Creating a game which can be produced inexpensively, for maximum impact

## Your World: The Game

- Card based game highlighting what types of energy we use, the associated environmental cost, and their relative weighting in our current energy regime
- 30 most energy intensive activities of modern society with type and quantity of energy required
- Students choose what parts of 'Their World' they want powered, and explore the relative environmental cost of doing so
- Data from reliable sources - smoothed and rounded for gameplay, but largely intact
- Artwork and artistic concepts by Annie Roberts, RPI