Erie County Low Income Program for Sustainable Energy (ECLIPSE): A Perspective on Community Choice Aggregation

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Before we get started...

What this presentation is NOT:

- A review of CCA mechanics
- A presentation of a case study

What this presentation IS:

- Presenting a value proposition
- Outlining a comparative advantage
- Proposing a method for creating evidence based practice

Community Choice Aggregation in a nutshell

source:
CCA

The new community choice program buys cleaner energy and also builds facilities to produce clean energy locally

delivery:
UTILITY

The investor owned utility you previously bought your power from continues to deliver the energy and service the lines

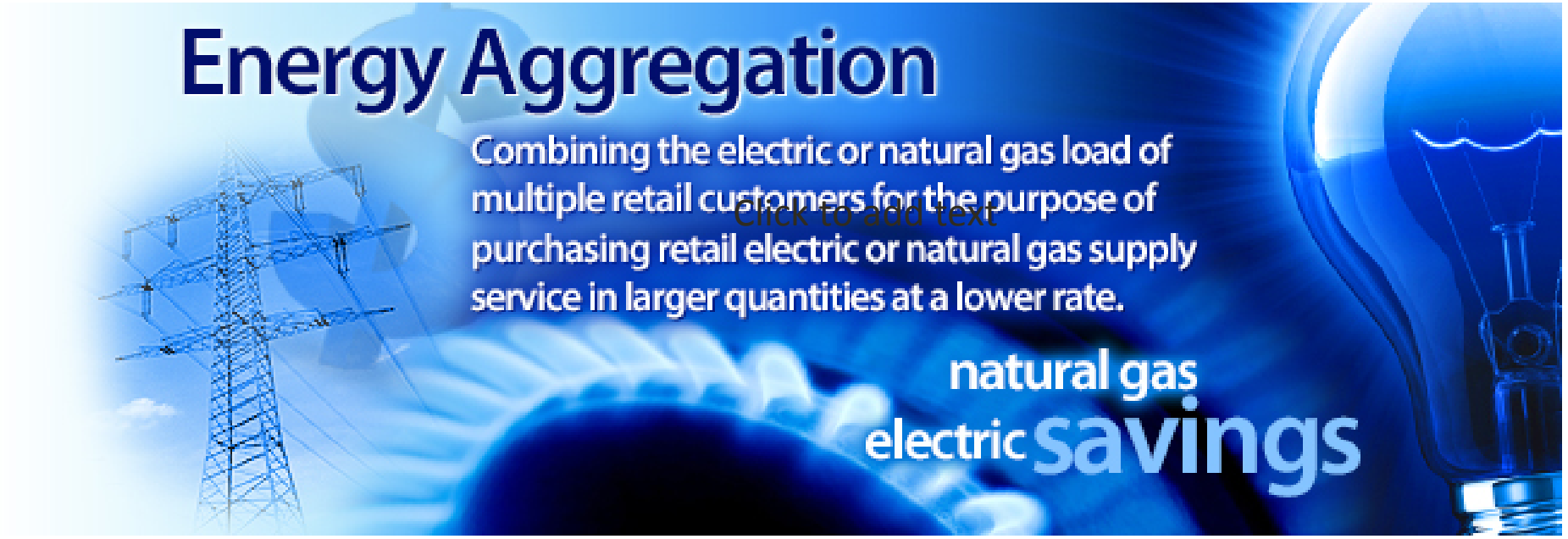
customer:
YOU

You enjoy freedom of choice, cleaner energy, lower rates, more local jobs, and local control of your energy future

Standard explanation from CCA advocates

(Source: CommunityChoiceNow.org)

At the core, CCA is just



Source: Independent Energy Consultants

ECLIPSE Components

- Bulk purchasing of natural gas and electricity
  - Economies of scale for purchasing energy for HEAP recipients
- Coordinating energy efficiency services for LMI populations
- Renewable energy adoption
  - Community shared solar
- Leverage county's position as financial intermediary
  - Designing and delivering value-added services

Basic approach to formation

- **Investigating CCA formation**
- **Community Energy Planning**
- **Developing an CCA implementation plan**
- **Outreach and Marketing**
- **Documentation and Evaluation**

So, if CCA is happening and being **contemplated** across the state,**what's unique here**?

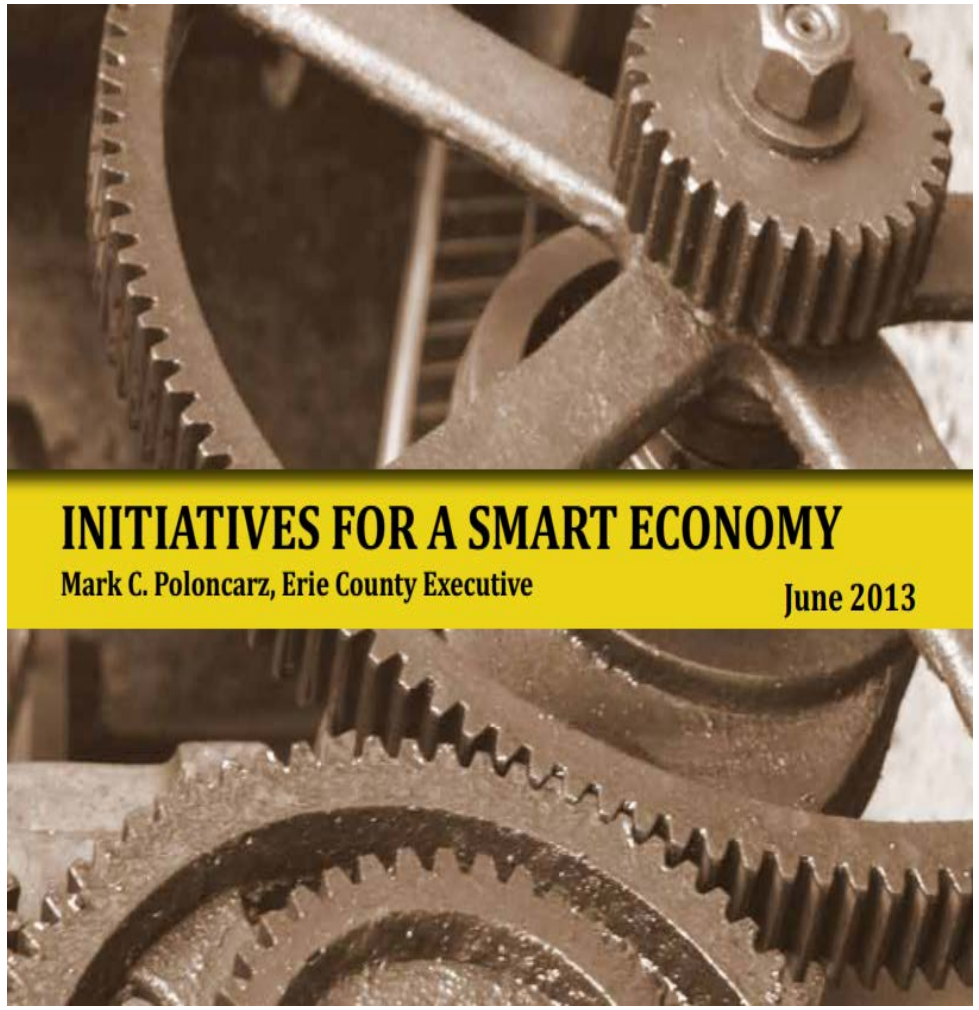
ECLIPSE has big goals beyond bulk purchasing

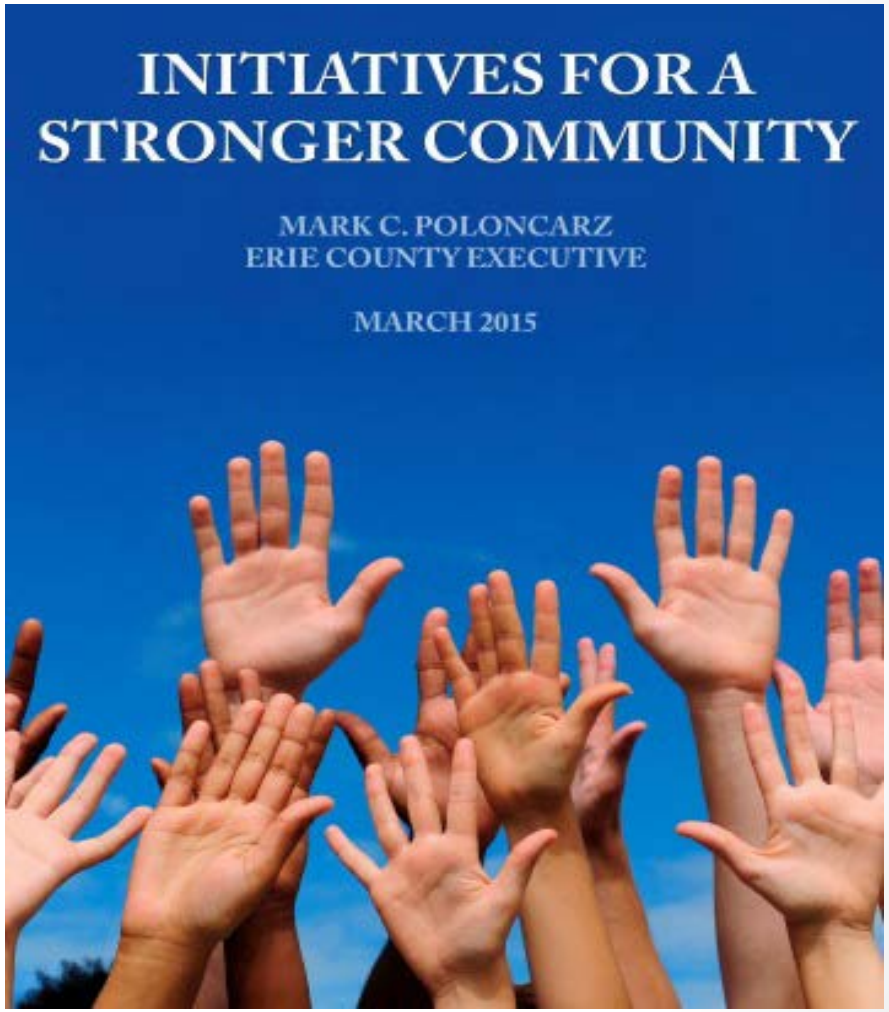
- Drive benefits of the CCA to vulnerable households
- Simultaneously lower greenhouse gas emissions and community energy intensity as the project matures
- Foster interdepartmental and intergovernmental collaboration
- Contribute to improved the health of disparate populations
  - Using the lens of the Social Determinants of Health

Bringing together unlikely partnerships

- Collaborative effort of government (Erie County) and academia (Buffalo State)
- Simultaneously lower greenhouse gas emissions and improve the health of disparate populations
  - Using the lens of the Social Determinants of Health

Inspired policy drives bold action

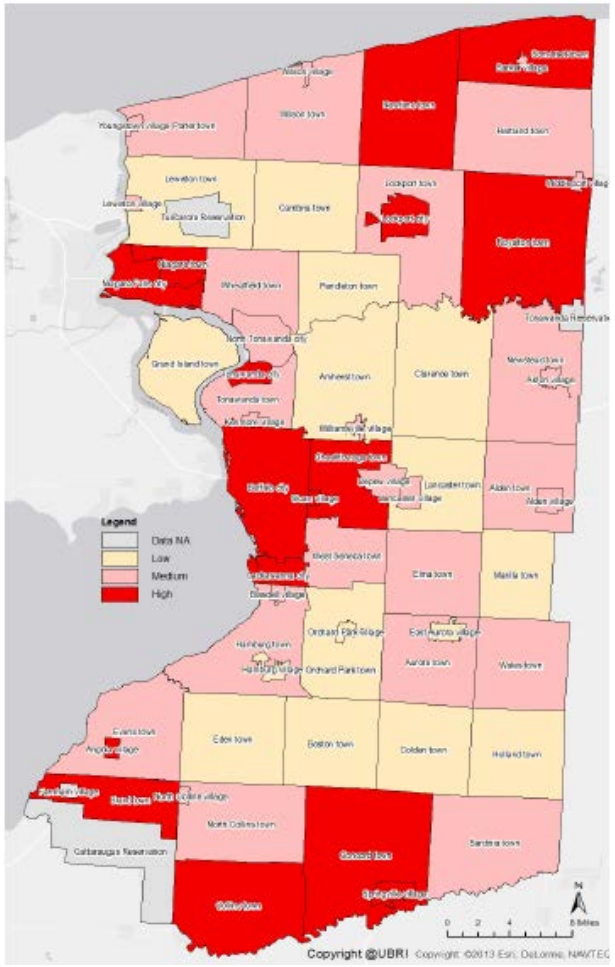




Big Picture – Why this matters

http://bit.ly/1R6B54I

Social vulnerability to climate change in Erie County



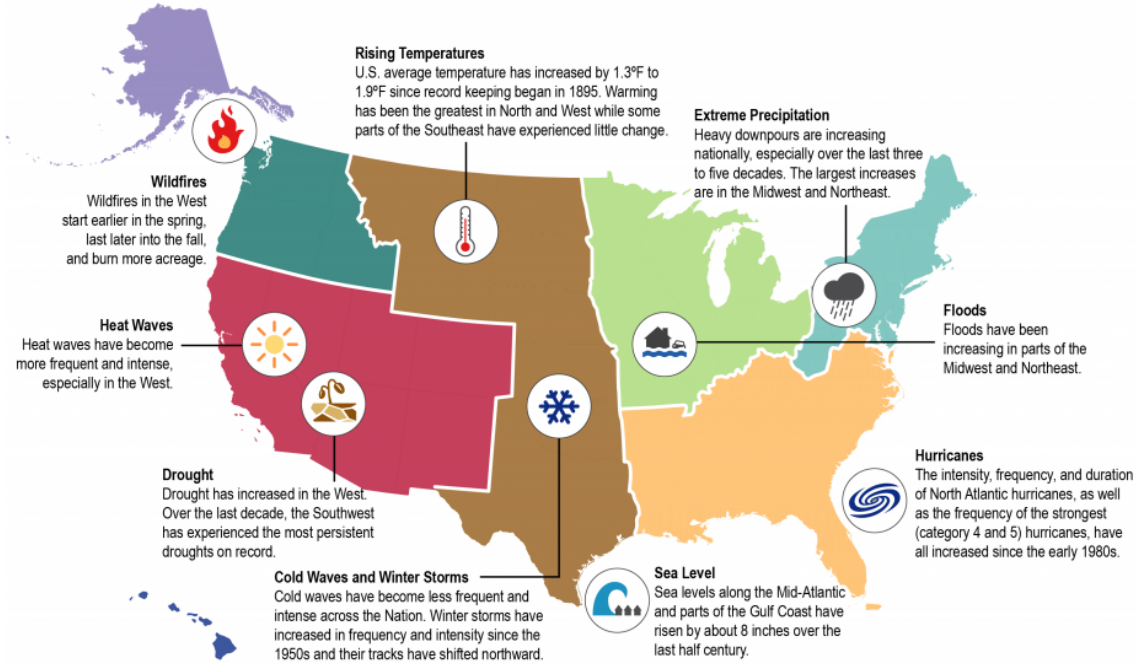
Map extracted from *Resilient Buffalo Niagara*, a climate action strategy document for One Region Forward.

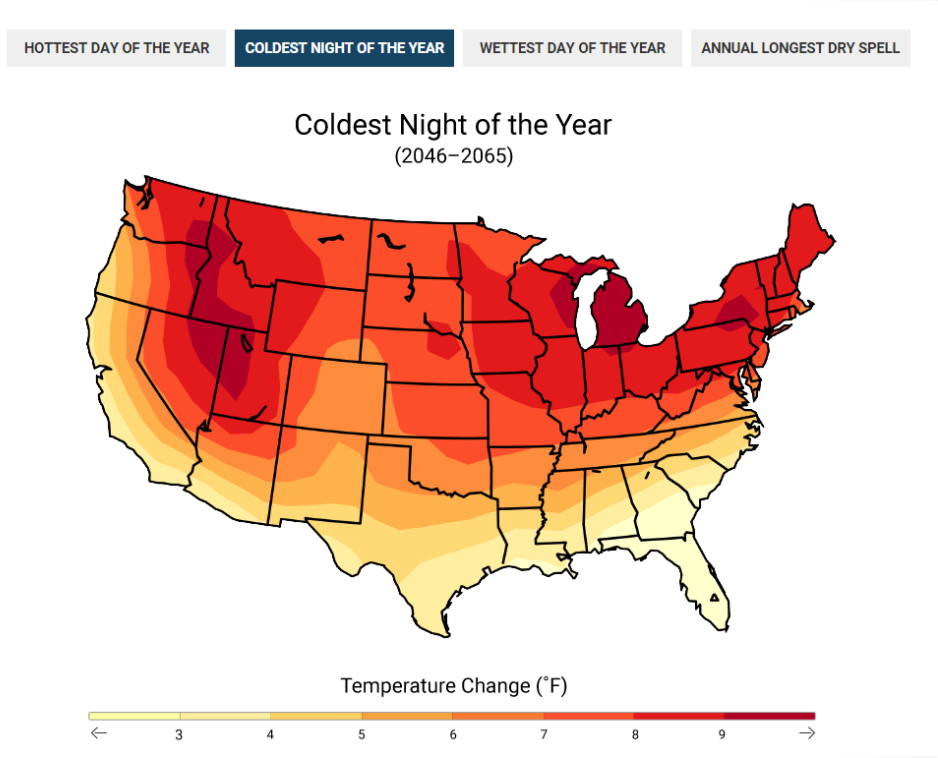
Source: US Census Bureau, American Community Survey, 2013

	Variable	Effect on Social Vulnerability
1	High percentage of the population over 65 years	Increase
2	High median dollar value of owner-occupied housing	Decrease
3	High percentage of the population that is African American	Increase
4	High percentage of the civilian labor force that is unemployed	Increase
5	High percentage of the population living in poverty	Increase
6	High percentage of the population that is 25 years or older with no high school diploma	Increase
7	High percentage of female-headed households, no spouse present	Increase
8	High percentage of households receiving social security income	Increase
9	High percentage of population employed in primary extractive industries (e.g., agriculture, forestry, mining, and fishing and hunting)	Increase

Sources: Cannon 1994, Morrow 1999, Smith 2013, Fothergill and Peek 2004

Big Picture – What's the big problem

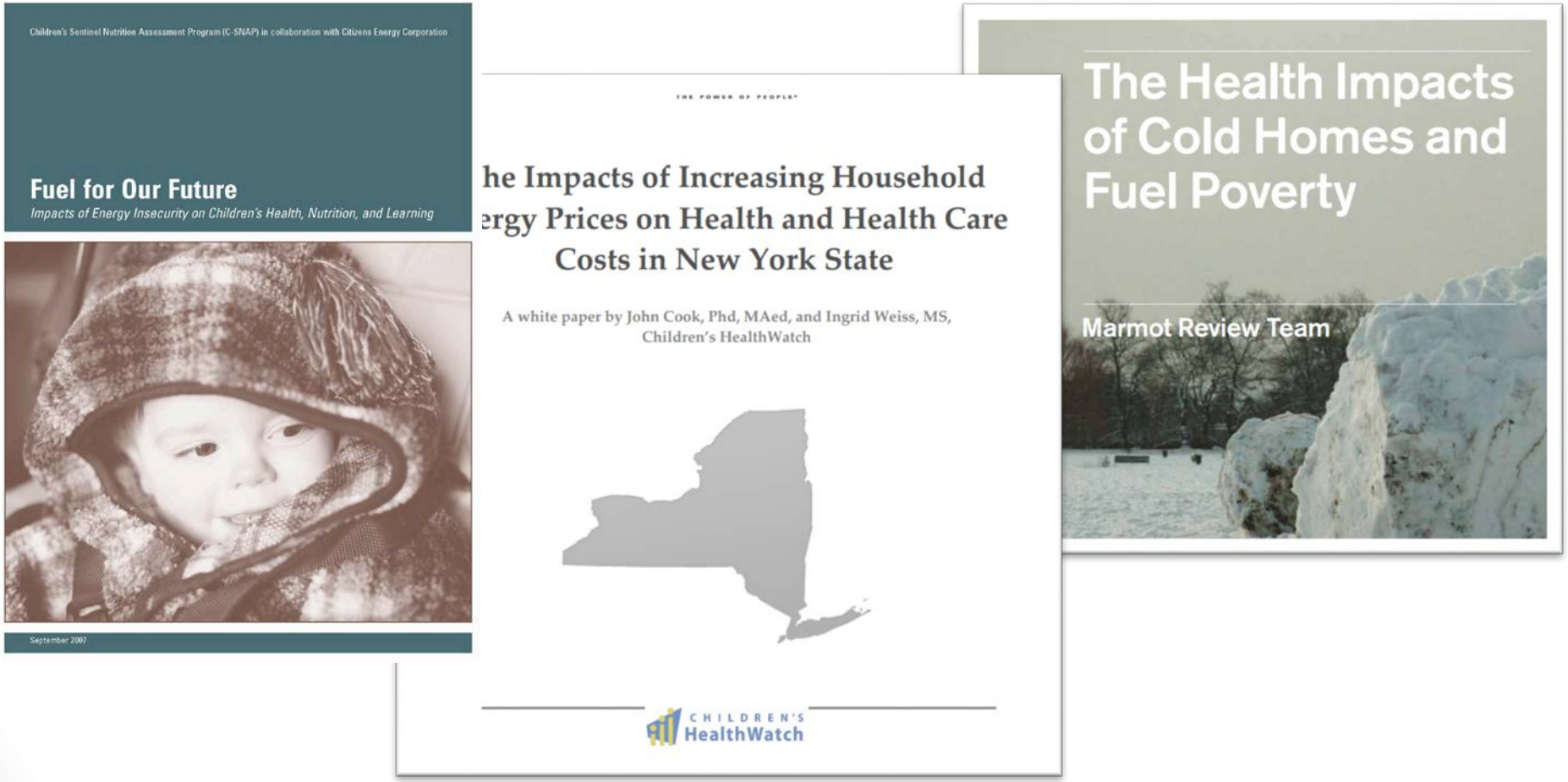




Key Finding 3: Social Determinants of Health Interact with Climate Factors to Affect Health Risks

USGCRP, 2016: The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment.

Research Support



Big Picture – What's the big problem

Big Picture – What's the big problem

Home Energy Affordability Gap

Erie County (2015)	Individual Shortfall	Number of Households	Aggregate Shortfall	Home Energy Burden
Less than 50% of FPL	$1,226	26,508	$32,491,886	23.7%
50% - 99% of FPL	$862	29,750	$25,629,818	12.6%
100% - 124% of FPL	$471	15,266	$7,194,217	8.4%
125% - 149% of FPL	$211	16,405	$3,462,956	6.9%
150% - 184% of FPL	-	22,600	-	5.7%
185% - 199% of FPL	-	8,876	-	4.9%
		119,405	**$68,778,877**	

Fisher, Sheehan & Colton, April 2016

Even as solar PV prices continue to fall, the barriers to low income solar will remain without targeted policies.

LOW-INCOME FAMILIES:

- are less likely to own roofs due to higher rates of living in multi-family buildings and being renters
- have limited access to financing due to lower savings, less income to borrow against, and lower credit scores that further reduce access to capital.
- are more likely to live in older buildings that require other upgrades to support solar
- are unable to realize solar value in cases where they do not pay utility bills

PERCENT OF HOUSEHOLDS WHO ARE RENTERS

40% Households with incomes below $40,000

21.8% Households with incomes above $40,000

49.1 million U.S. households

EARN LESS THAN

$40,000 of income per year

THESE HOUSEHOLDS MAKE UP

40% of all US households

BUT ACCOUNT FOR ONLY

<5% of solar installations

GW Solar Institute
THE GEORGE WASHINGTON UNIVERSITY

GW planet FORWARD

What makes Erie County think it's such a good fit for developing a low income centered CCA?

We're already a convenor

WNY
Stormwater
Coalition

Western New York
Sustainable Business Roundtable

Creating an environmentally and economically resilient Buffalo-Niagara

Erie County
Environmental Management Council

We have a built-in multi channel marketing apparatus

And our target demographic generally comes to us!

We're already an aggregator!

- Erie County **already** bulk purchases natural gas and electricity for over **two dozen municipalities** in Western New York
  - Approximately 1.6 BCF of natural gas
    - Includes 678,000 MCF thru the Public Assistance Cooperative for Energy (PACE)
  - 219 million kWh (calendar 2015)

So, what's your **big idea**?

Big Picture

- Data as a way to solve problems
  - Cumulative hardship of basic needs
  - Many programs and efforts to mitigate problems
  - Data helps us find what is impactful

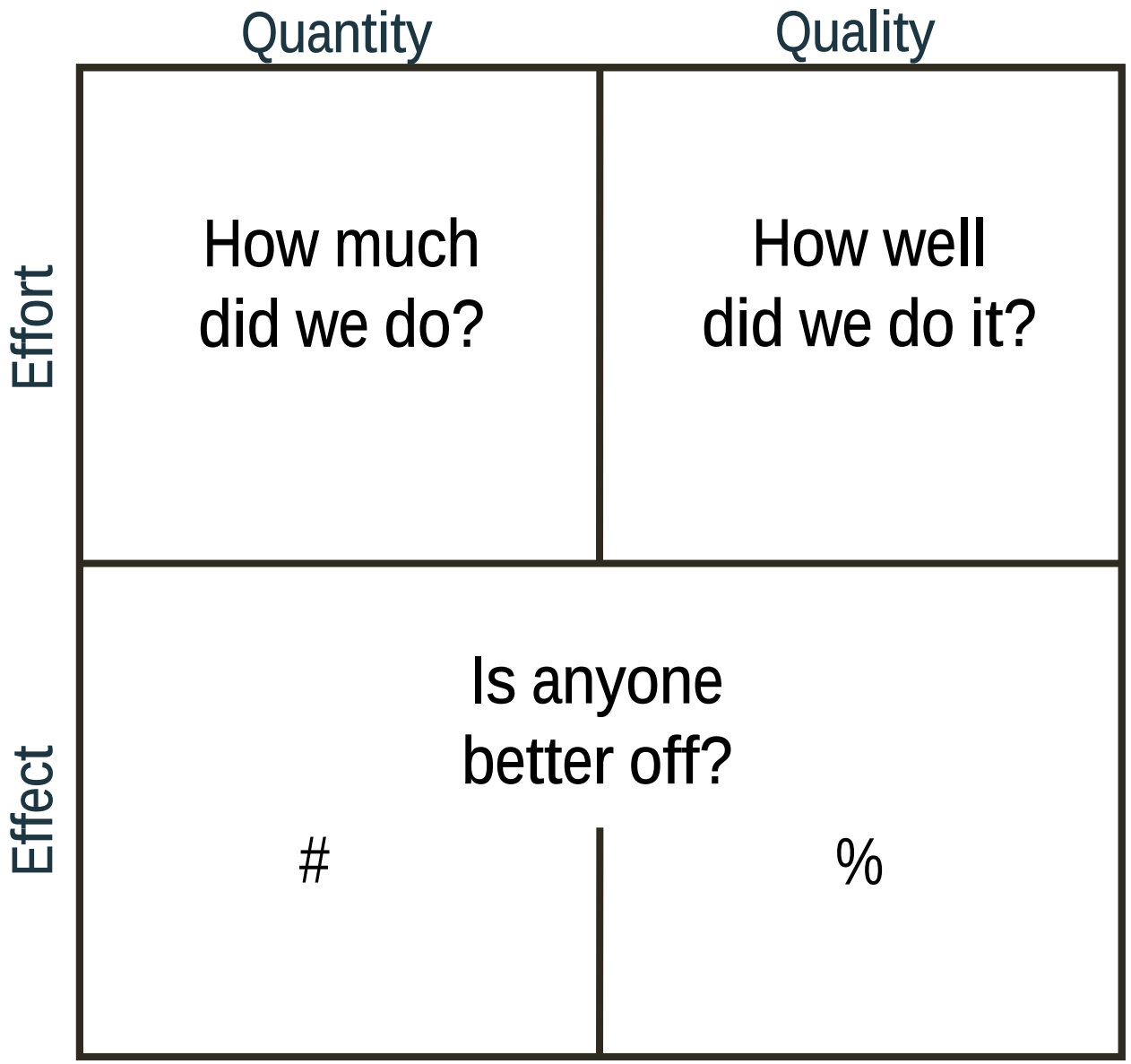
Data, Dashboards, Evaluation

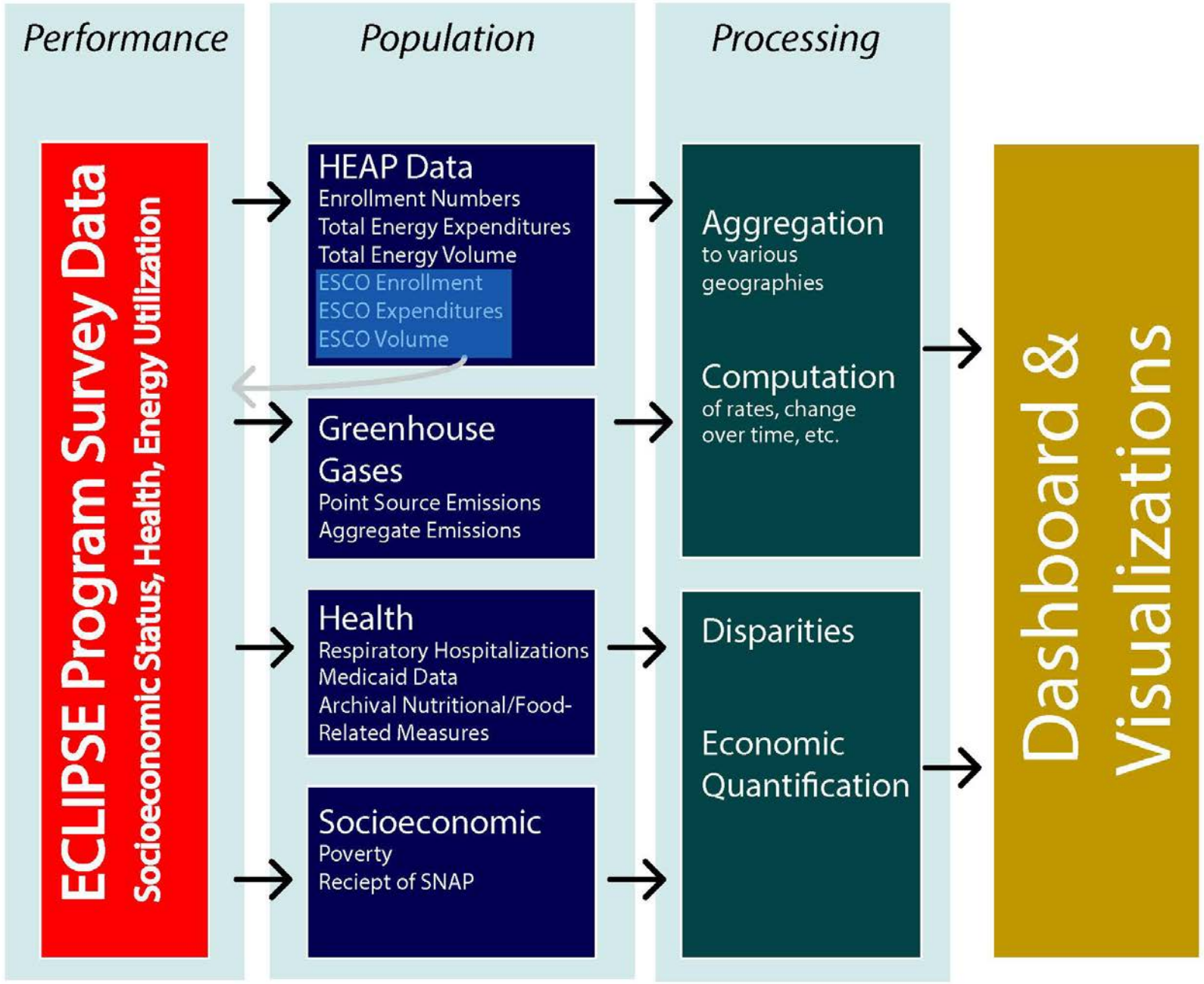
- Integrated, multi-level data collection and evaluation framework
  - Bridge between business, government and scientific communities
  - Data-driven decision-making
    - Continuous quality improvement
    - Results-based Accountability to link program performance metrics and aligned population-level outcomes

Data, Dashboards, Evaluation

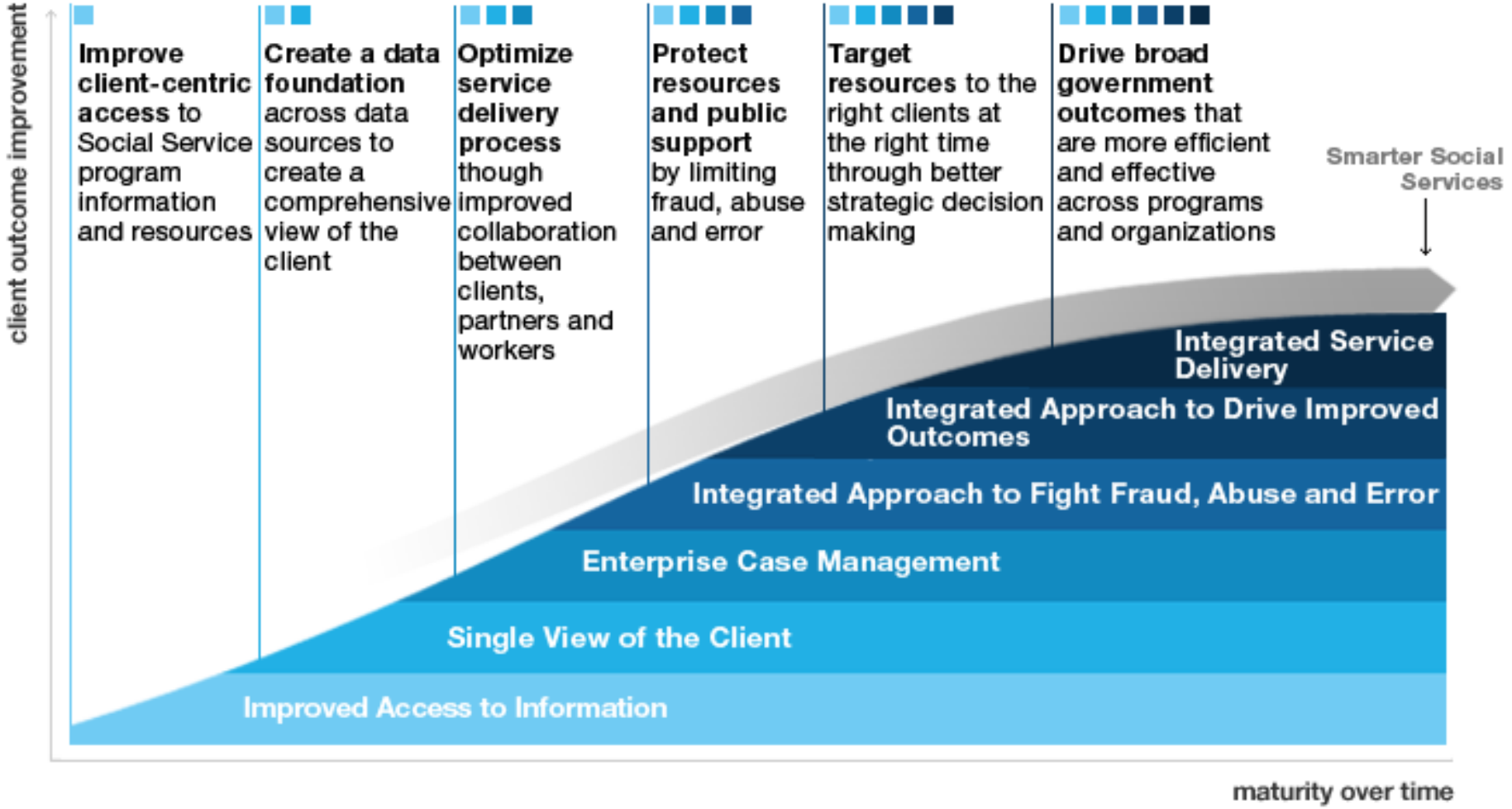
- We can’t robustly test the outcomes
  - Align data to help us understand the contribution of the program’s efforts to changing the outcomes
    - Make data useful!
  - Prioritize disparate populations, including by geography
    - Identify where/with who the program can make the biggest impacts

Program Performance Measures




Performance
Population
Processing
ECLIPSE Program Survey Data
Socioeconomic Status, Health, Energy Utilization
HEAP Data
Enrollment Numbers
Total Energy Expenditures
Total Energy Volume
ESCO Enrollment
ESCO Expenditures
ESCO Volume
Greenhouse Gases
Point Source Emissions
Aggregate Emissions
Health
Respiratory Hospitalizations
Medicaid Data
Archival Nutritional/Food-Related Measures
Socioeconomic
Poverty
Reciept of SNAP
Aggregation
to various geographies
Computation
of rates, change over time, etc.
Disparities
Economic Quantification
Dashboard & Visualizations

What we get if we're lucky



Source: IBM Center for Applied Insights, 2011

Open Data

- In the data and analyses, plus the methodology
- Interactive visualizations and data interface for program metrics
  - Participation
  - Utilization and cost savings
  - Greenhouse gas emissions
  - Survey data of program participants on health and behavior
  - Generative information for the development of "value added-services"

Transparency

- Beyond internal decision-making, convey economic and health impacts for:
  - Consumers
  - Policy-makers
  - Health professionals
  - Tax payers
  - Other stakeholders
- Changing the narrative the clean energy future
  - Beyond the privilege of consumptive decision making

Thank you!