



CLCPA

What are we Solving for?



A&WMA-NFS Seminar

DENNIS ELSENBEC

Head of Energy and Sustainability

Phillips Lytle

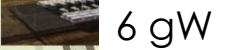
January 26, 2022

Beyond the Scoping Plan

- ▶ **New York's Climate Leadership and Community Protection Act**
 - ▶ Goals are not Problem or Opportunity Statements
 - ▶ Policy versus Market Driven Solutions
 - ▶ Defining the Electric System as an Efficient Market System
 - ▶ Balancing Supply, Demand & Delivery = Resiliency and Energy Cost Control
 - ▶ Align with Economic Development – Site Preparation and Business Attraction/Expansion
 - ▶ Balancing Environmental and Economic Sustainability
- ▶ **Scoping Plan**
 - ▶ What is the Cost to Achieve?
 - ▶ Costs Viewed as Barriers versus Benchmarks
 - ▶ Natural Gas Transition to Electric – What is the Electric Transition?
 - ▶ Final DAC Definition and Metrics
 - ▶ Green Energy Supply Chain Marketing Plan

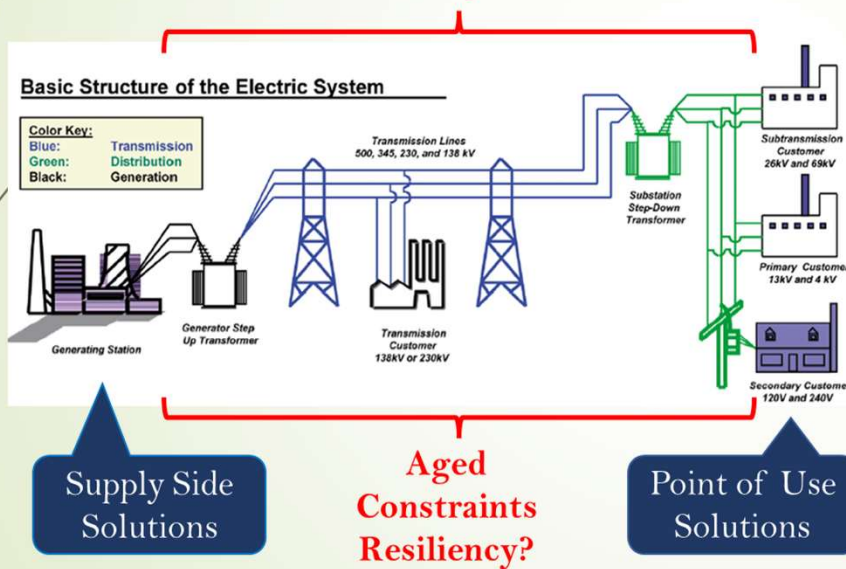
CLCPA Goals and the Electric System

Supply



Delivery

Efficiency – 70%?



Demand



Supply Side (15% of GHG)

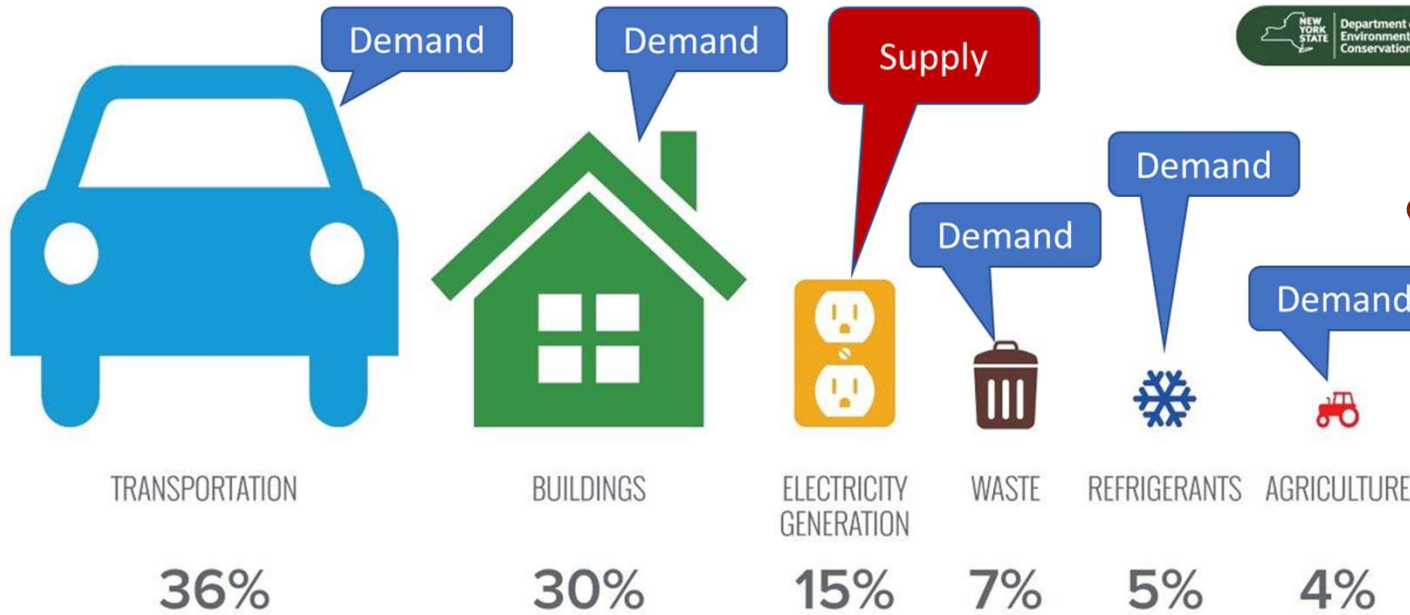
- Solar Farms
- Wind Farms
- Long Duration Storage
- Transmission Upgrades
- Construction Jobs

Demand Side (85% of GHG)

- Commercial Buildings
- Industrial Buildings & Production Process
- Residential Housing
- Disadvantaged Communities
- Economic Development
- Smart Growth
- Distribution Upgrades
- Manufacturing Jobs

GHG Impact on Economic Sectors

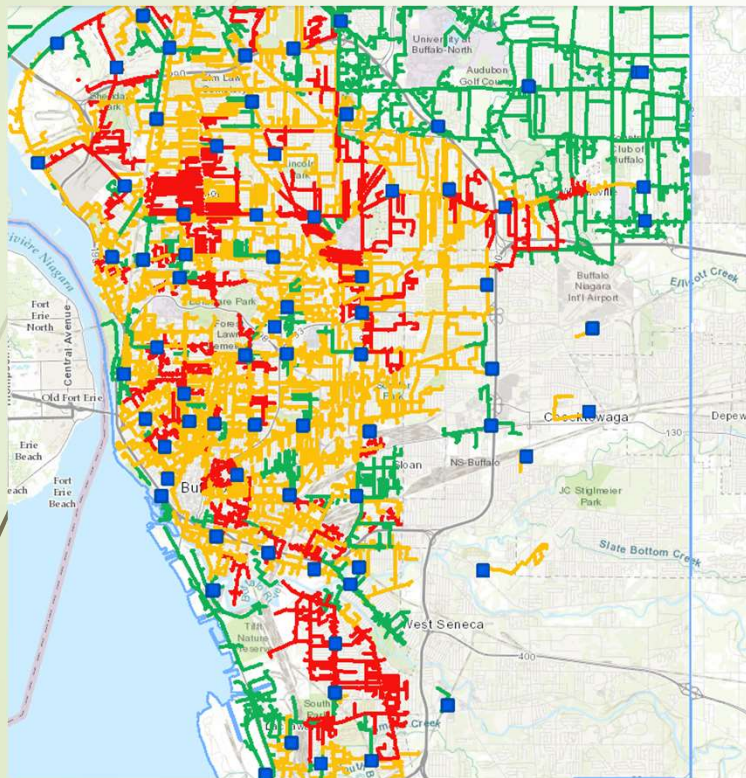
Main Sources Of Greenhouse Gases in NYS



85% of NY's GHG is on the Demand Side of the Electric System

100% EV Sales, 100% Electric Buses, 2 Million Heat Pumps, Electric Appliances, etc...

Program Impact on Electric Distribution



- **Hosting Capacity**

- Denotes Distribution Feeder Capacity
- Typical Feeder Utilization 45 to 55%

- **Tech Based Incentives**

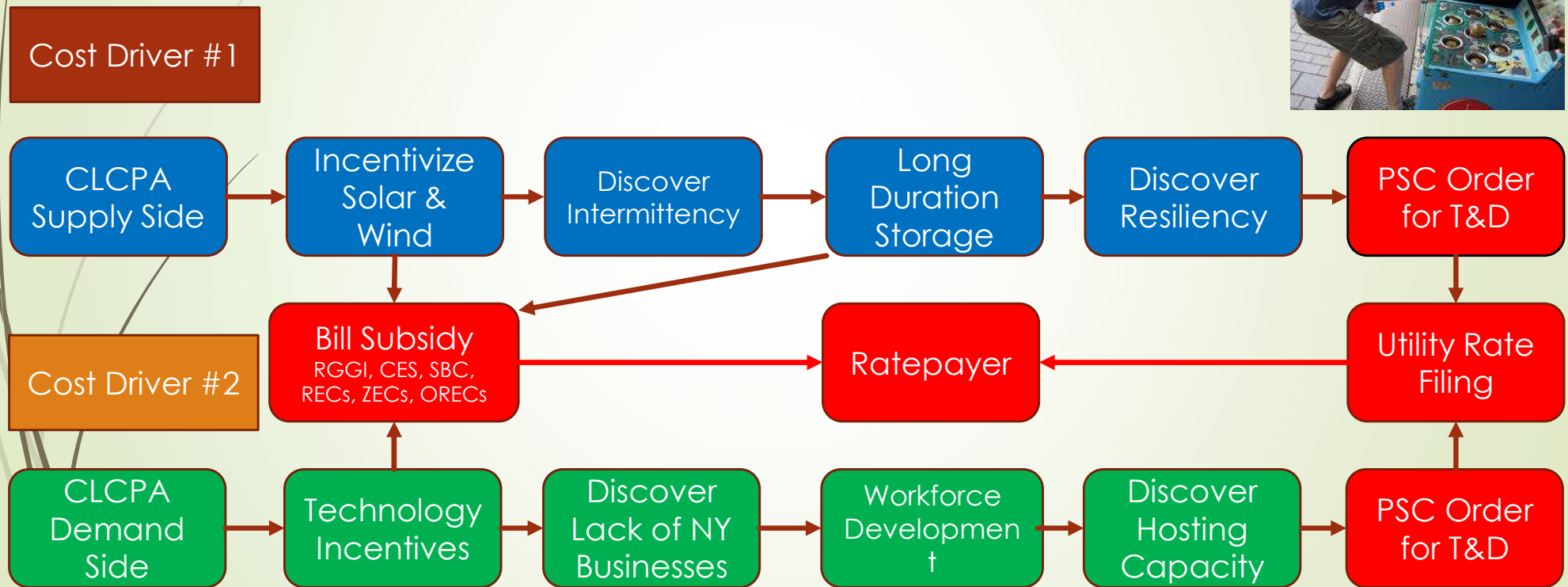
- Traditional Programmatic Solutions
- Roof Top Solar
- Heat Pumps
- Electric Vehicles
- Electric Appliances

- **Consumer Focus**

- System/Holistic Solutions
- Point of use Battery Storage
- District Htg/Clg Loops
- Micro Grids

City of Buffalo Electric Feeders = Red (at Capacity); Yellow (near Capacity); Green (Ok)

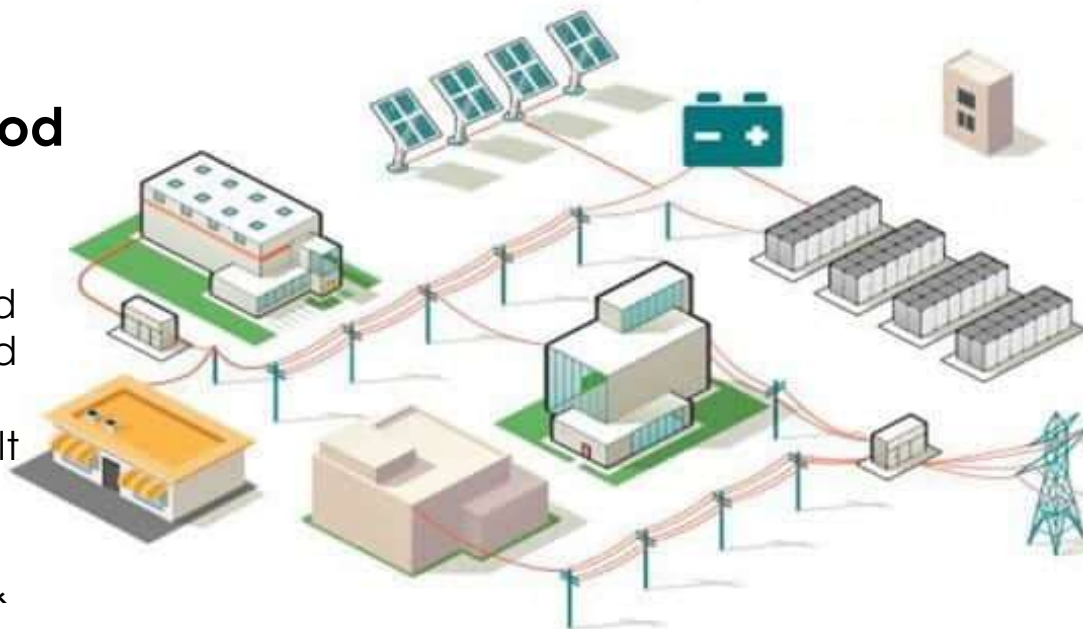
Traditional Policy Driven Cost to Achieve



System Versus Technology Solutions

Rust Belt Neighborhood

- East Side of Buffalo
- CLCPA Defined Disadvantaged Community
- Typical Rust Belt Neighborhood Lacking Infrastructure & Capacity



Northland Workforce Training Center

- Microgrid Workforce Development

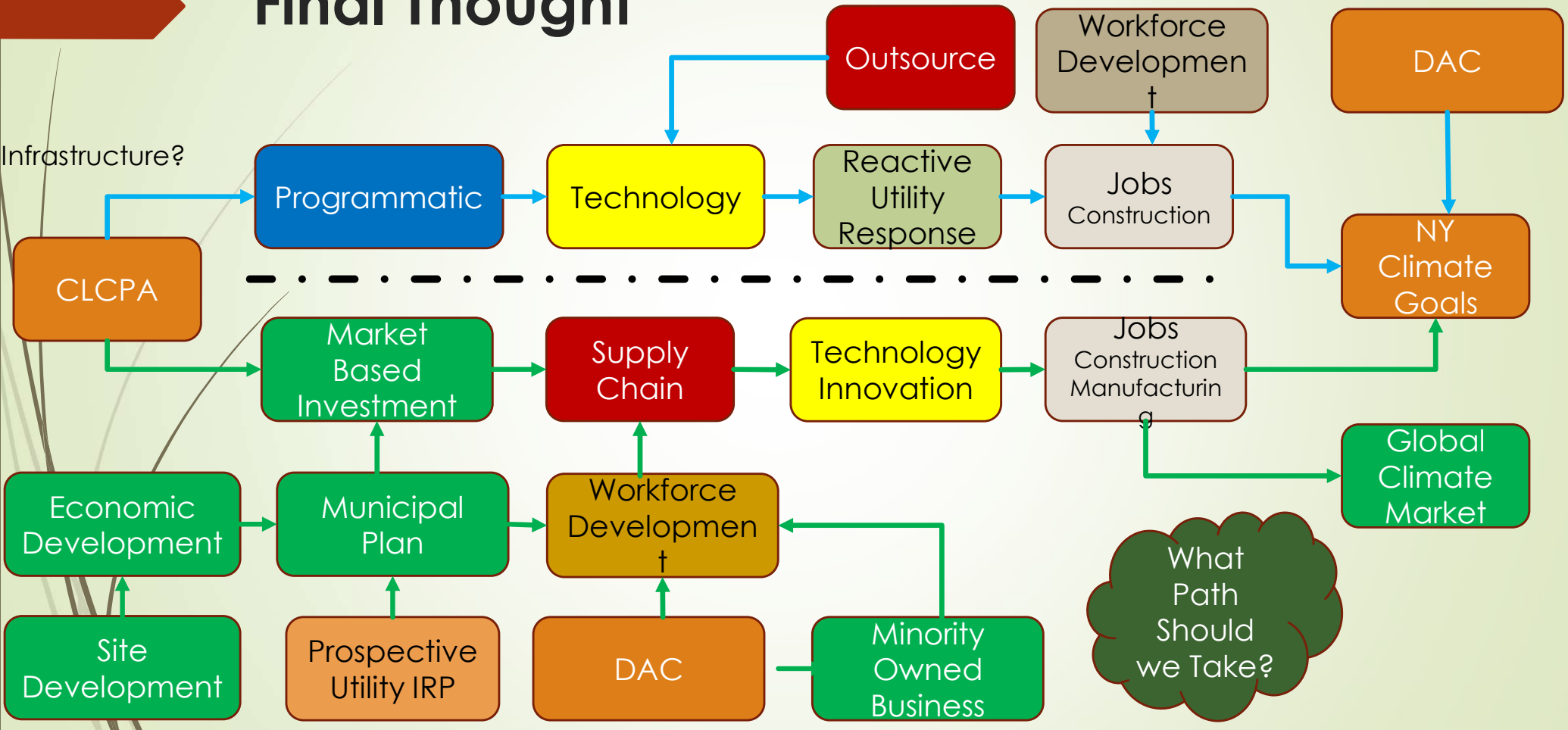
Buffalo Urban Development Corporation

- Microgrid Owner
- Enhanced Speed to Market
- Control of Pricing and Local Resiliency
- Build Back Better Funded

Global View of CLCPA

- **Climate Change is a Global Issue**
 - **Where Climate Related Products are Manufactured Matters**
 - China is a Leading Exporter of Wind, Solar and Lithium-Ion Batteries, as well as Heat Pumps
 - China Leads the World with Over 1,100 Coal Fired Generation Plants with Additional Plants under Design and Construction
 - The United States is 3rd with Approximately 250 Facilities and Reducing
- **Climate Change is an Economic Development Opportunity**
 - Break NY Goals into Supply Chain Components
 - Align Green Energy Supply Chain Development with DAC Revitalization
 - Integrate SUNY into the Optionality of the Natural Gas Asset
 - Align State Agencies on Market Solutions

Final Thought



CLCPA/IRA and NY Colleges and Universities

Build Back Better Award - \$63.7 Million

Battery-NY

Workforce Development

Supply Chain

Equity & Justice

Storage Innovation



Academia

Non-Profit

Government

New York State Award - \$50 Million

Questions

- **What Should the CLCPA Initiative Solve for?**
 1. Shut Down the Natural Gas System
 2. Achieve 85% Greenhouse Gas Reduction by 2050
 3. Dispatchable Supply
 4. Prioritized Combination of the Above Based on Impact
- **Should CLCPA Oriented Utility Transmission and Distribution Planning Include Economic Development as a Planning Factor? (Yes or No)**
- **What Must be Considered to Ensure a Safe Reliable Electric System Under the CLCPA?**
 1. Long Duration Storage to Mitigate Renewable Energy Intermittency
 2. Electric Transmission and Distribution Matched with Supply and Demand
 3. Dispatchable Non-Intermittent Supply
 4. All the Above