presented by: Climate Solutions
PRACTICAL SOLUTIONS TO GLOBAL WARMING

Albany City Council and the Albany Community Leadership Roundtable

invite you join your fellow business, civic, and municipal professionals
to help build a shared strategy for making
Albany a regional and national leader in the new energy economy.

Albany

Pioneer Cities: Leadership

Climate Solutions

New Energy Solutions

A central question for communities in the 21st Century is how to deliver key community services – e.g., energy, water, waste/recycling – at a scale that allows for system-level planning & change?

Economical
Adaptable
Resilient
Engaged
Self-generating
Innovative
Nimble

=

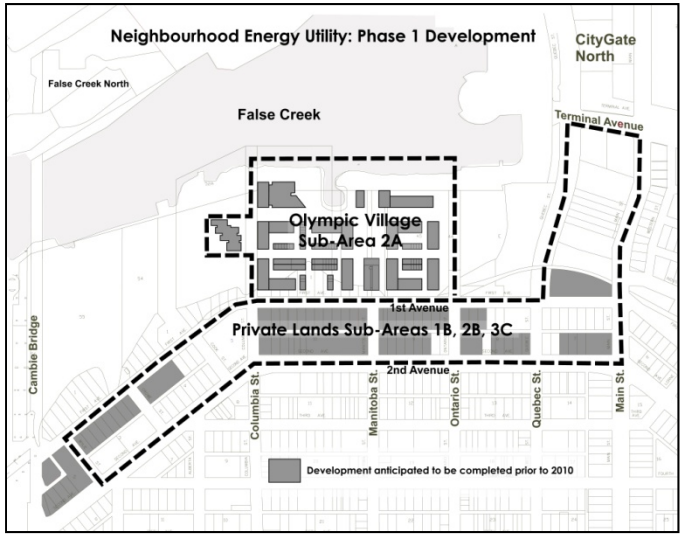
Sustainable Community Development

Critical Role of Local Government

Climate Solutions

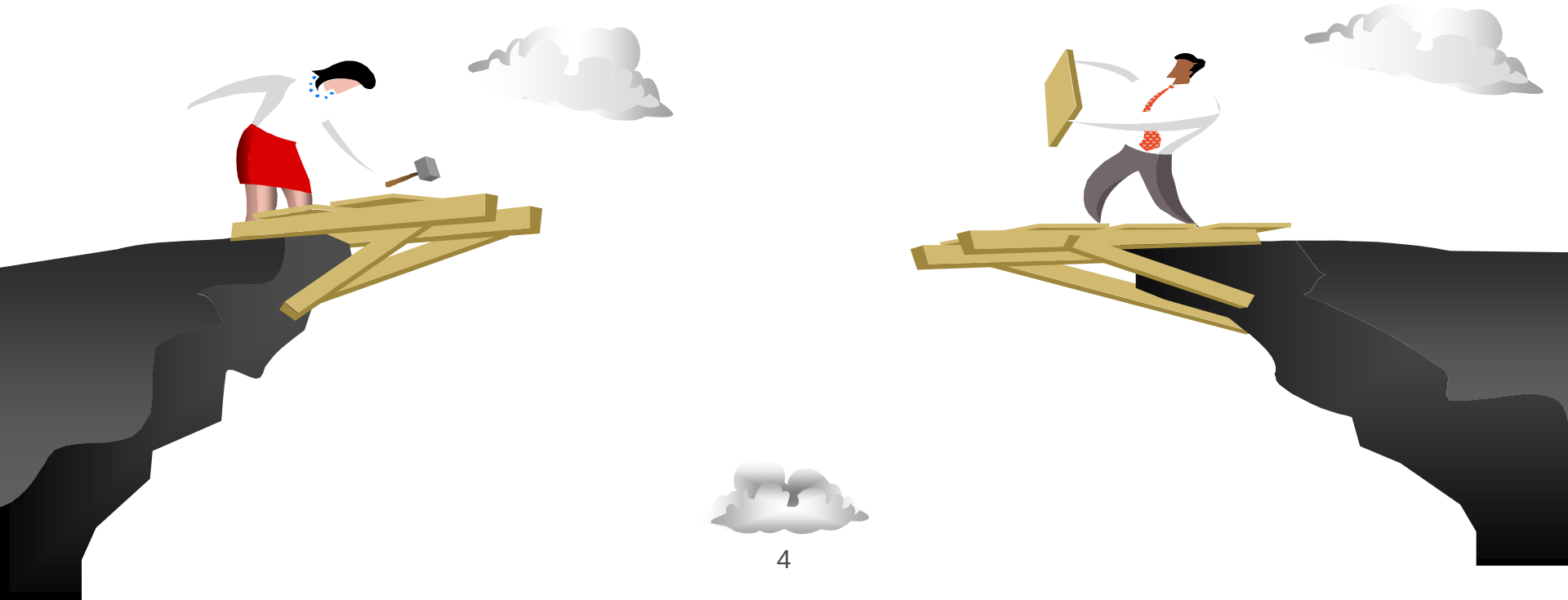
New Energy Solutions

- Create scale
- Accelerate & deepen actions
- New tools to bridge finance gap
- Enable through rate regulation
- Tie to better performance
- Reduce revenue risk
- Regional economic development
- Connect to other policy goals



Climate Solutions

New Energy Solutions



Climate Solutions

New Energy Solutions

The greatest sustainability challenges are not technological or economic. They are institutional.

Dr. John Robinson
IPCC Lead Author; UBC

Myth

concern + best practice knowledge = action

Reality

concern + best practice + institutional capacity = action

Alex Boston
HB Lanarc

Three Big Levers

Climate Solutions
New Energy Solutions

Strong, forward-looking policies

- Energy & climate change
- Buildings & communities
- Land use & transportation
- Economic inclusion & participation
- Housing affordability
- World-class education & training

Engage community, connect collaborative networks

- Center of excellence - place for collaboration
- Business networks - engaged & supportive
- Community engagement - social marketing linked to values

Mobilize new investment resources

- Public finance - innovation & leverage
- Private - access to patient capital

Climate Solutions

New Energy Solutions

Our challenges require a level of change that demands that we engage people in order to start making changes

Need to offer a positive vision of where we are headed, without getting tied into having all the answers

PORTLAND
ECONOMIC DEVELOPMENT STRATEGY

ECONOMIC DEVELOPMENT STRATEGY

A Five-Year Plan for Promoting Job Creation and Economic Growth

Investing in Portland's Future

PDC
PORTLAND DEVELOPMENT COMMISSION

www.pdxeconomicdevelopment.com

THE OPPORTUNITY:

Portland is poised to become the capital of the global green economy

FARSIGHTED INVESTMENTS IN LAND USE, TRANSIT, DENSITY AND CENTRAL CITY REVITALIZATION **POSITION PORTLAND TO THRIVE**

- Large and growing concentration in Clean Tech industries
- Deep manufacturing capacity to design and supply parts and components
- Shared values & decades of leadership regarding environmental impact
- Public policy environment that fuels innovation and experimentation
- Remarkable influx of talent

THE GOAL:

Create 10,000 Net New Jobs Within Five Years

PORTLAND WILL UTILIZE ITS HISTORIC ASSETS AND LEVERAGE THE CREATIVITY AND ENERGY EMBODIED BY NEW TALENT TO CREATE **THE WORLD'S MOST SUSTAINABLE ECONOMY**

Sustainable Economy definition: an economy that creates wealth and health for people and restores the environment

THE STRATEGY:

Maximize Competitive Environment

ECONOMIC SUCCESS DEPENDS ON CREATING AN ENVIRONMENT **WHERE INNOVATION CAN HAPPEN** MORE QUICKLY THAN IN OTHER REGIONS

Cluster Strategy
International Focus
Higher Education
Workforce Development

THE STRATEGY:

Drive Urban Innovation

NEXT GENERATION BUILT ENVIRONMENT

Oregon Sustainability Center, Eco-Districts

VIBRANT CENTRAL CITY

Redevelopment focused on job creation and higher ed

MARKET/BRAND PORTLAND

Own the Brand

THE STRATEGY:

Neighborhood Business Vitality

SCALE SMALL BUSINESSES WITH HIGH GROWTH POTENTIAL

Economic Gardening/Grow Our Own

COMMERCIAL CORRIDOR REVITALIZATION

Main Streets Program

COORDINATE SMALL BUSINESS SERVICES

Small Business Web Portal

THE APPROACH:

Align Strategic Partners Behind 3 Key Goals

Climate Solutions AND CLEAN EDGE
THE CLEAN-TECH MARKET AUTHORITY

OCTOBER 2008

CARBON-FREE PROSPERITY 2025

How the Northwest Can Create Green Jobs, Deliver Energy Security, And Thrive in the Global Clean-Tech Marketplace

MEDIUM GROWTH JOBS ESTIMATES

Year	Solar PV Manufacturing	Wind Power Development	Green Building Design Services	Bioenergy	Smart-Grid	TOTALS
Current	800	2,217	3,826	3,207	1,280	11,330
2010	1,863	3,043	4,284	3,224	1,491	13,905
2015	3,677	2,650	6,899	4,100	1,715	19,041
2020	9,260	3,408	10,137	5,698	2,209	30,703
2025	14,182	4,507	12,937	6,946	2,669	41,241

ACCELERATED GROWTH JOBS ESTIMATES

Year	Solar PV Manufacturing	Wind Power Development	Green Building Design Services	Bioenergy	Smart-Grid	TOTALS
Current	800	2,217	3,826	3,207	1,280	11,330
2010	1,912	3,749	4,284	4,030	1,935	15,910
2015	4,643	3,861	7,719	6,151	2,781	25,155
2020	13,080	4,541	12,432	8,533	4,478	43,064
2025	22,560	6,083	16,834	10,419	7,212	63,107

Climate Solutions AND CLEAN EDGE
THE CLEAN-TECH MARKET AUTHORITY

OCTOBER 2008

CARBON-FREE PROSPERITY 2025

How the Northwest Can Create Green Jobs, Deliver Energy Security, And Thrive in the Global Clean-Tech Marketplace

Climate Solutions
New Energy Solutions

10-POINT ACTION PLAN AT-A-GLANCE

1. Put a price on carbon
2. Increase Washington RPS to 25% by 2025
3. Implement low carbon fuel standards
4. Pass aggressive green building codes
5. Foster regional cooperation
6. Ensure public funding for clean technology via public employees retirement system investments and through targeted clean-tech funds
7. Implement effective tax credits for renewables development
8. Deploy clean-tech workforce development programs
9. Establish government procurement policies for clean-tech products and services
10. Build out regional smart grids and 21st century transmission backbone

- One of the largest planned wind farms in the world
- Largest U.S. solar crystalline photovoltaic (PV) manufacturing facility
- World's first silicon feedstock production facility completely dedicated to solar
- Most LEED-certified buildings in the U.S.
- Top global manufacturer of advanced meter readers (AMR)

We're Not Alone

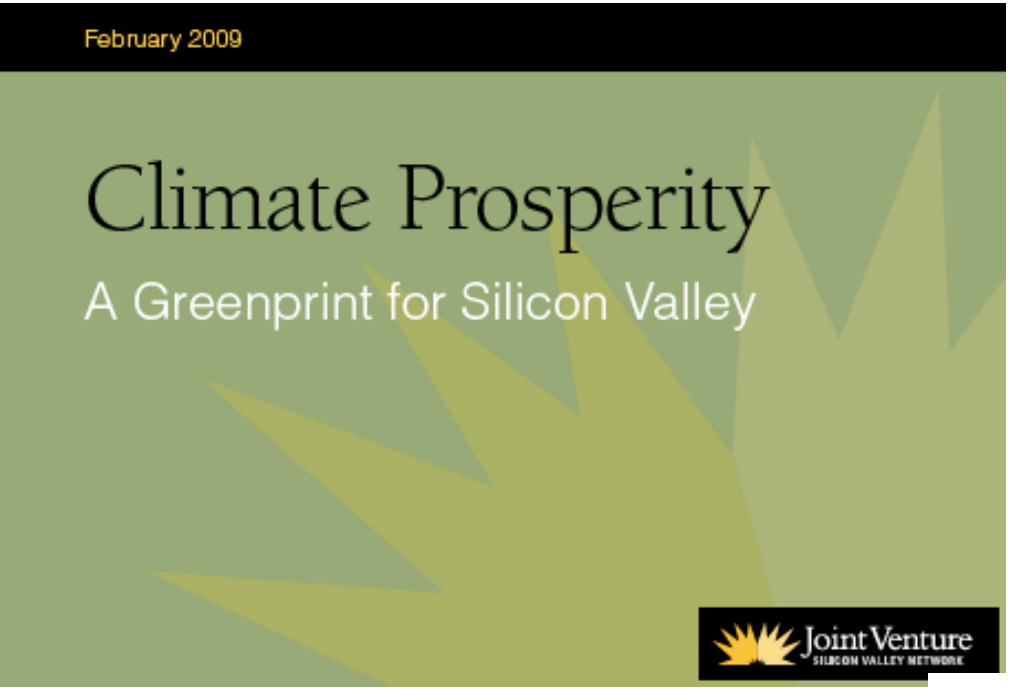
Oregon and Washington may be leading in a number of critical ways, but other regions are aggressively pursuing the clean-tech opportunity. In the U.S. alone, dozens of cities, states, and regions large and small have set up initiatives to claim their piece of the clean-tech prize. Below is a sampling of some recent studies that outline how some of these regions are positioning themselves to participate in, if not dominate, various clean-tech sectors.

Title	Authors/Producers	Release Date
A Strong Clean Energy Cluster Can Bring $1 Billion in Incremental Investment to New England by 2012	New England Clean Energy Council; Topline Strategy Group	June, 2008
Energizing Michigan's Economy	Environment Michigan	February, 2007
Cleantech: A New Engine of Economic Growth for New York State	The New York City Investment Fund	January, 2007
Creating the California Cleantech Cluster: How Innovation and Investment Can Promote Job Growth and a Healthy Environment	NRDC; Environmental Entrepreneurs (E2)	September, 2004 (with updates since)
Harnessing San Francisco's Clean-Tech Future	Clean Edge; SF Dept. of Environment	October, 2004
Enriching Economy and Environment: Making Central Texas the Center for Clean Energy	Austin Clean Energy Initiative; IC2 Institute, University of Texas at Austin	November, 2002

More, newer strategies

Climate Solutions

New Energy Solutions



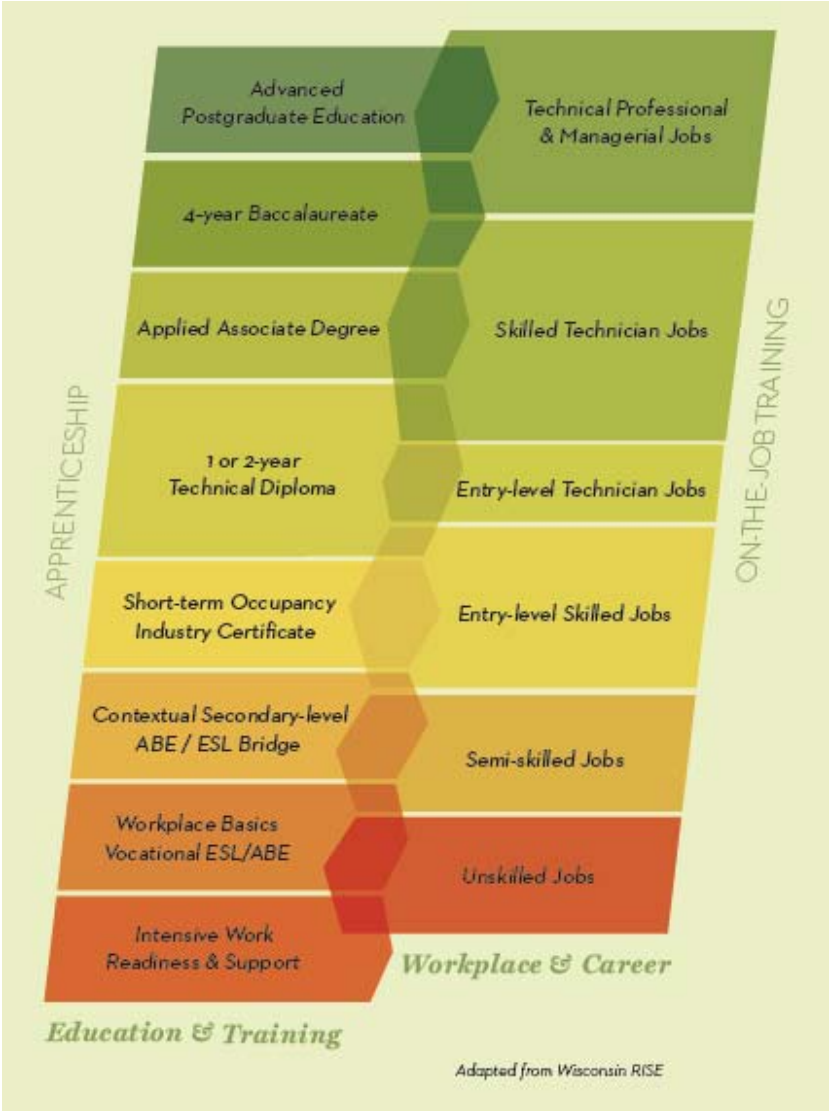
Thinking about green jobs

Climate Solutions

New Energy Solutions

JOBS THAT WILL BUILD THE GREEN U.S. ECONOMY AND FIGHT GLOBAL WARMING

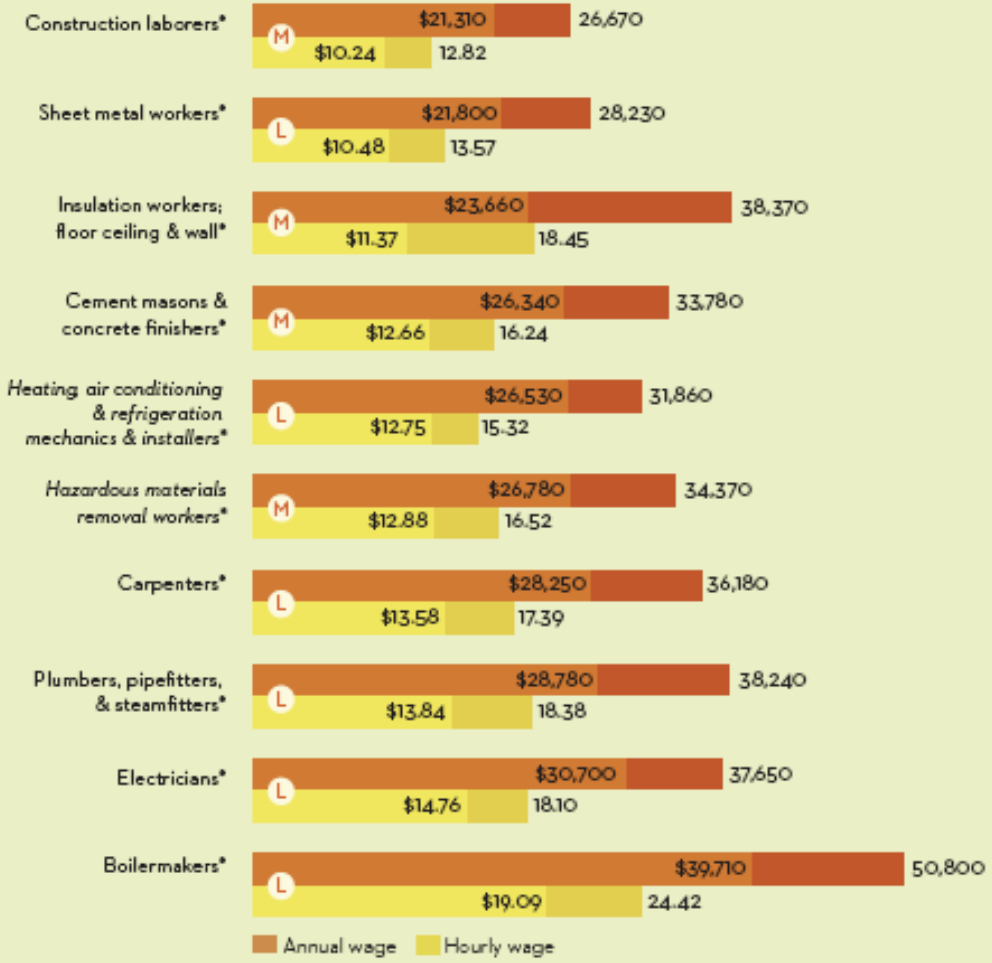
Strategies for Green Economy Investments	Representative Jobs
Building Retrofitting	Electricians, Heating/Air Conditioning Installers, Carpenters, Construction Equipment Operators, Roofers, Insulation Workers, Carpenter Helpers, Industrial Truck Drivers, Construction Managers, Building Inspectors
Mass Transit	Civil Engineers, Rail Track Layers, Electricians, Welders, Metal Fabricators, Engine Assemblers, Production Helpers, Bus Drivers, First-Line Transportation Supervisors, Dispatchers
Energy-Efficient Automobiles	Computer Software Engineers, Electrical Engineers, Engineering Technicians, Welders, Transportation Equipment Painters, Metal Fabricators, Computer-Controlled Machine Operators, Engine Assemblers, Production Helpers, Operations Managers
Wind Power	Environmental Engineers, Iron and Steel Workers, Millwrights, Sheet Metal Workers, Machinists, Electrical Equipment Assemblers, Construction Equipment Operators, Industrial Truck Drivers, Industrial Production Managers, First-Line Production Supervisors
Solar Power	Electrical Engineers, Electricians, Industrial Machinery Mechanics, Welders, Metal Fabricators, Electrical Equipment Assemblers, Construction Equipment Operators, Installation Helpers, Laborers, Construction Managers
Cellulosic Biofuels	Chemical Engineers, Chemists, Chemical Equipment Operators, Chemical Technicians, Mixing and Blending Machine Operators, Agricultural Workers, Industrial Truck Drivers, Farm Product Purchasers, Agricultural and Forestry Supervisors, Agricultural Inspectors



Thinking about green jobs

Climate Solutions
New Energy

ENERGY EFFICIENCY JOBS AT-A-GLANCE



NOTES

This chart depicts national wage data for selected middle-skill occupations in the residential building construction industry.

The 25th percentile describes wages at the lower end of the labor market.

Median wage marks the center of the wage distribution in a given occupation.

Italics indicate that BLS projects faster than average growth for this occupation across all industries over the next decade.

* In-Demand occupation per DOL, regardless of overall occupational growth levels, because the work is central to a high-growth industry, like energy or construction.

Regional wage ranges and more precise occupational projections by industry can be run on a state-by-state basis.

Typical education and training path:

Ⓜ Moderate-term on-the-job training: Requires from one to twelve months of training, which typically occurs at the workplace.

Ⓛ Long-term on-the-job training: Requires more than one year of on-the-job training, or combined work experience and classroom instruction, and may include apprenticeships of up to five years.

These are general indicators; there may be other pathways into the occupation, as well as additional educational, training or licensing requirements.

Source: U.S. Bureau of Labor Statistics

Thinking about green jobs

Climate Solutions

New Energy Solutions

Models for Green-Collar Job-Training Partnerships

WASHINGTON'S INDUSTRY SKILL PANELS

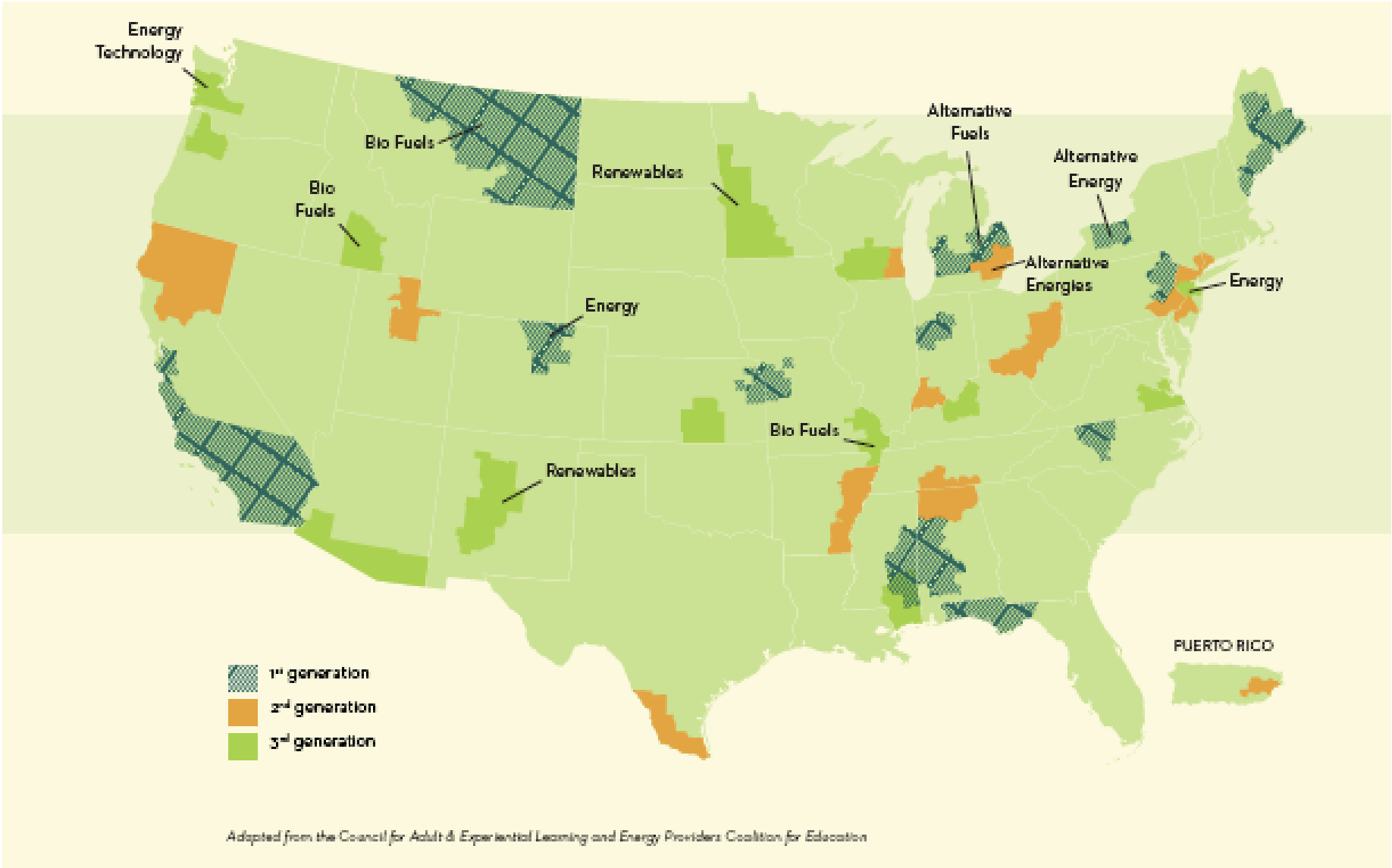
Industry Skill Panels (ISPs) bring business, labor, and education together in public-private partnerships to build a skilled workforce in key industry sectors. Energy is a targeted sector, but there is no dedicated clean energy panel. New legislation described in chapter 5 plans to green the ISPs. For details on this model, see *http://www.wtb.wa.gov/IndustrySkillPanel.asp*.

Adapted from Industry Skill Panels 2005. Washington Work Force Training and Education Coordinating Board: www.wtb.wa.gov

Workforce innovation

Climate Solutions

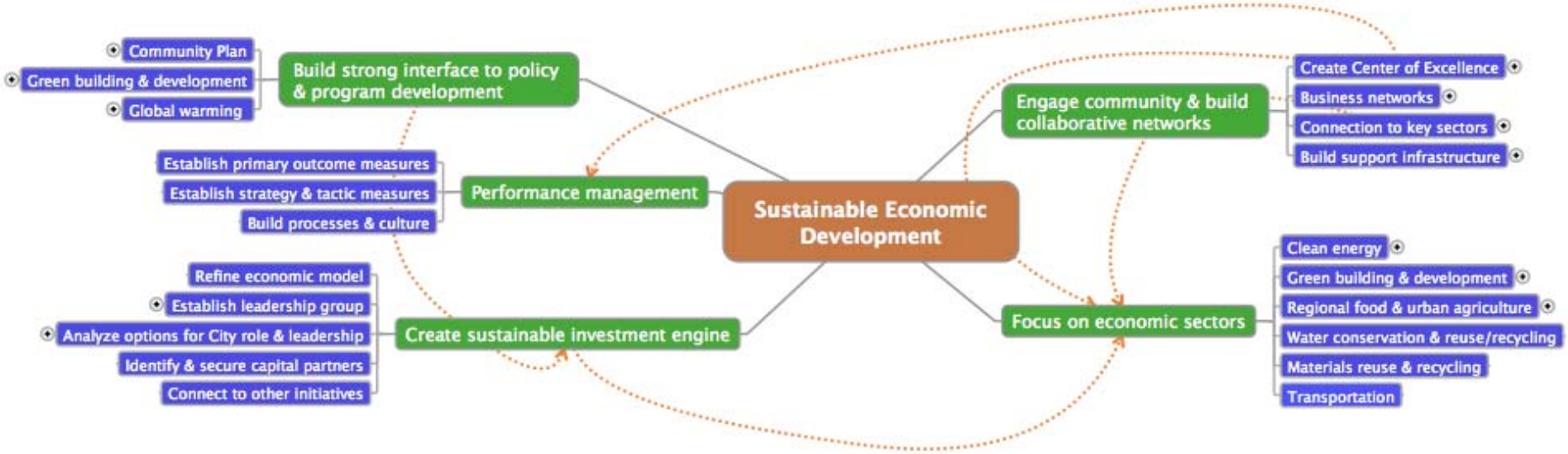
New Energy Solutions



Sustainable Economy Roadmap

Climate Solutions

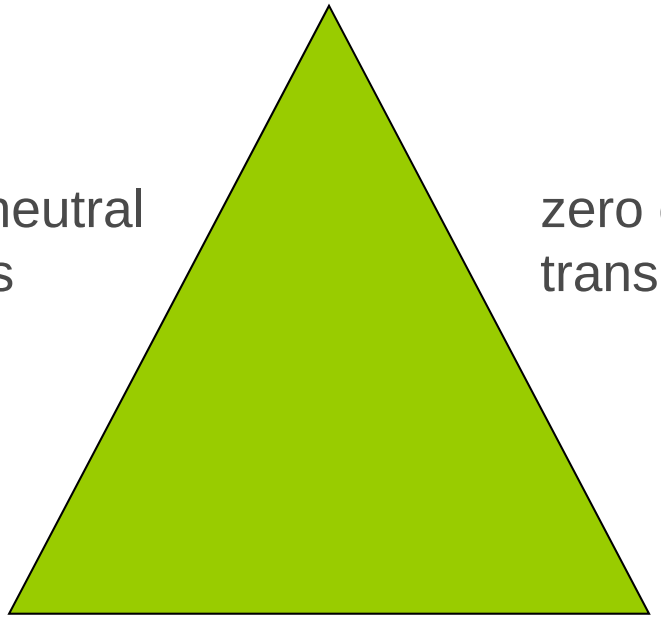
New Energy Solutions



Simple Framework

Climate Solutions
New Energy Solutions

Climate protection in cities



carbon neutral buildings

zero carbon transportation

complete, compact communities

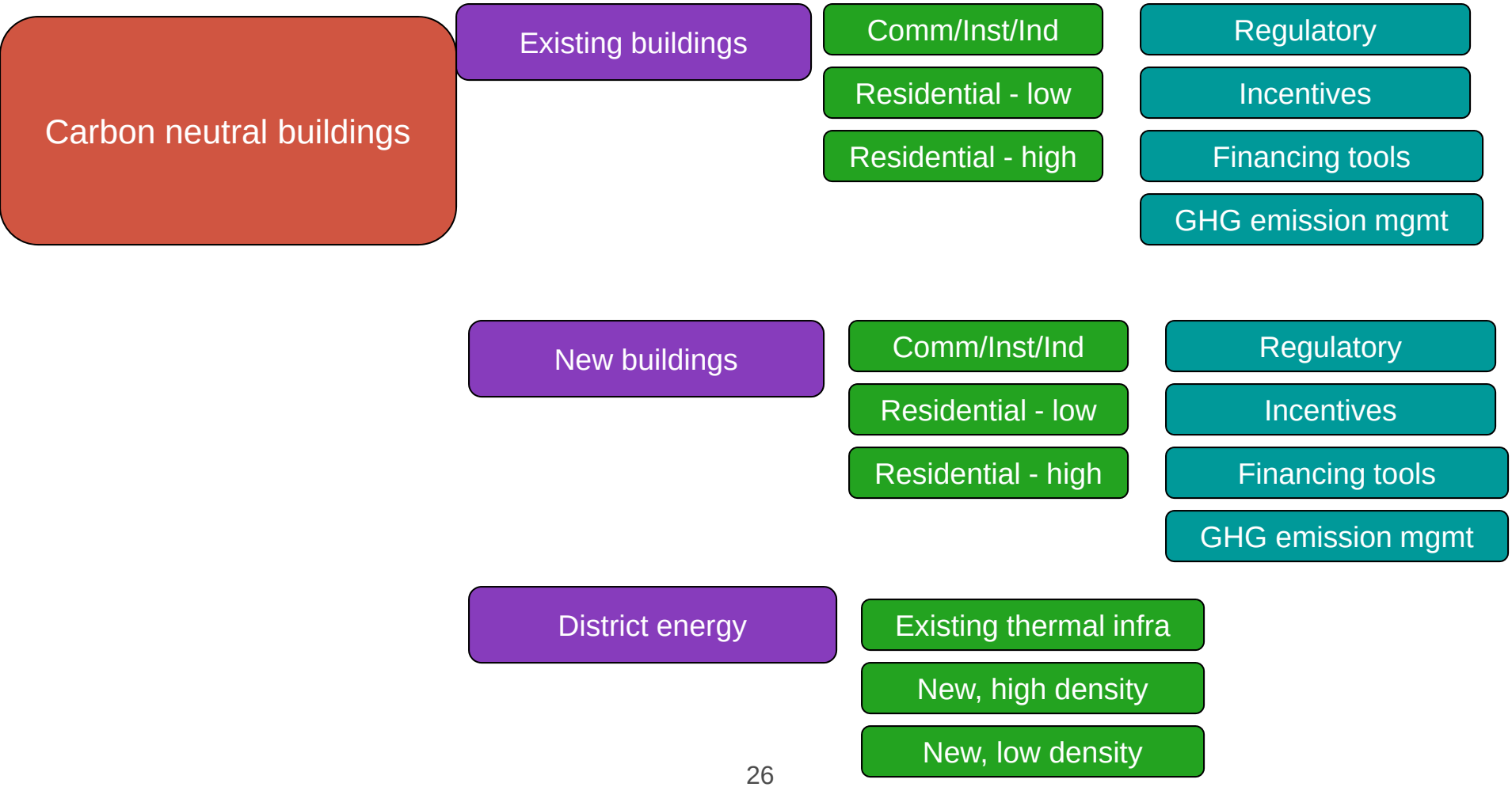
Simple Framework

Climate Solutions
New Energy Solutions

- Buildings
  - 2030 Challenge [architecture2030.org]
  - thermal grid & building retrofits
- Transportation
  - active transportation
  - electrification of urban mobility
- Urban agriculture
  - set aggressive production target
  - transform public realm
- Zero waste
  - neighborhood-scale systems
- Social enterprise for food and zero waste

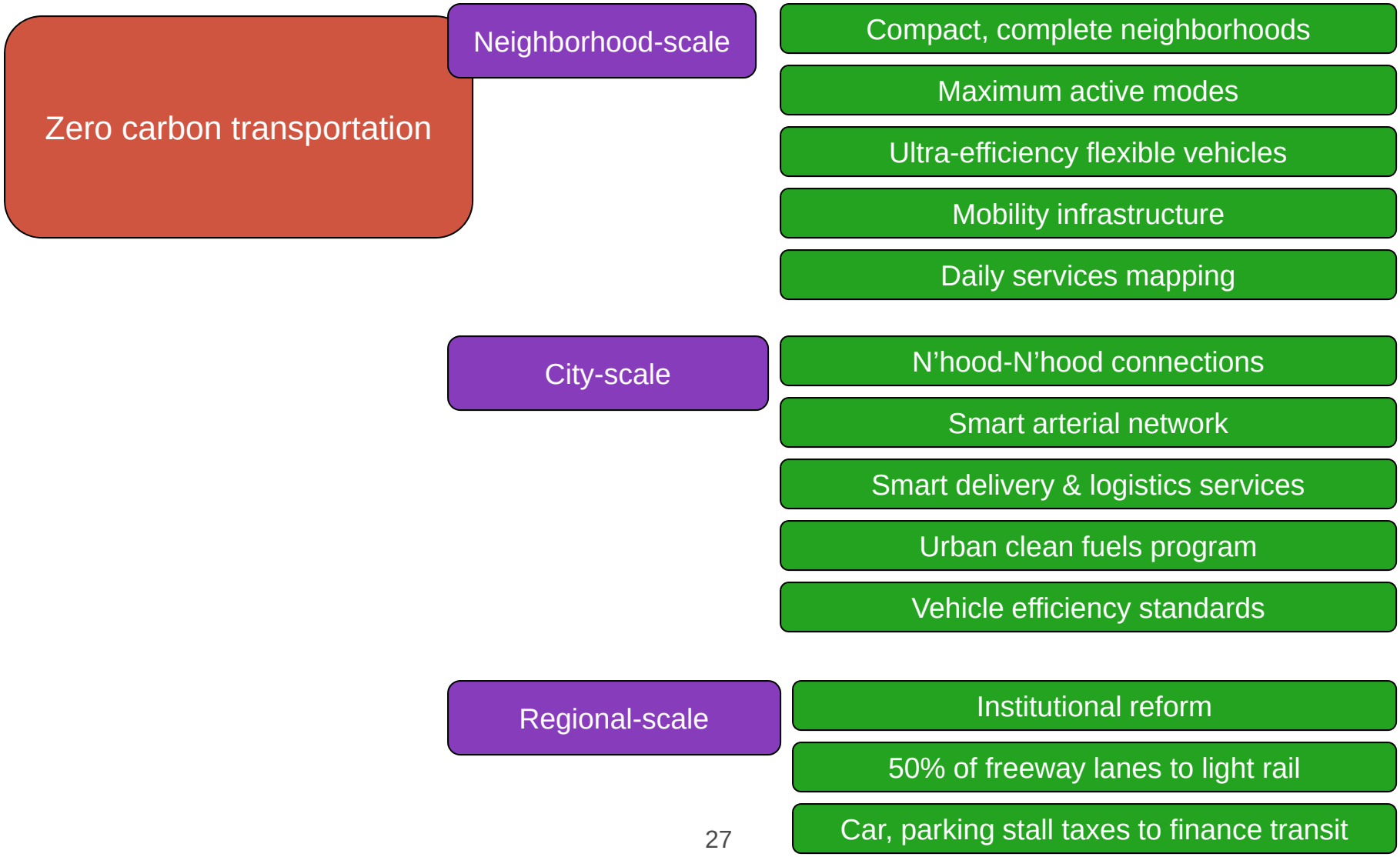
Strategy elements - buildings

Climate Solutions
New Energy Solutions



Strategy elements – mobility systems

Climate Solutions
New Energy Solutions



Education & Community Engagement

Climate Solutions
New Energy Solutions

- A concerted public outreach and education effort is needed to bolster commitment to a program of this scale (annually $5+ million per year)
- More detailed information specific to Albany is needed for this effort
- Phasing is a challenge to communicate
- A mechanism and process is needed for those who choose to not participate

Planning

Climate Solutions
New Energy Solutions

- This energy strategy needs to be aligned with Albany's long-term issues and planning activities – e.g., infrastructure, major development, etc.
- Planning process needs an aggregation mechanism for consolidating multiple properties and owners into districts for energy purposes
- City needs to forge long-term partnerships in order move forward
- What do we do next?

Capacity

Climate Solutions
New Energy Solutions

- City of Albany must drive this to make it fly
- The City needs capacity to pursue this initiative
- The City has not had an established sustainability effort, to help frame this initiative
- Business champions need to be identified, nurtured and supported as a strategic introduction of this effort
- Roles for Linn, Benton Counties, other cities in area

Financing

Climate Solutions
New Energy Solutions

- First funding is a challenge, but has opportunities related to economic security and plant closure
- Cost of energy is lot lower than some locations, so messaging has to build long-term energy stability focus

Project Considerations

Climate Solutions
New Energy Solutions

- Industrial buildings could make a very attractive aggregate project; industrial zone first point of focus
- Millersburg paper mill closing – could we engage owner about the energy facility, for a possible next-generation Co-generation energy plant?
- Albany historic district has community identity
- Could the Central Willamette become a new energy corridor? Bring Corvallis, Lebanon, etc. together

Questions for Catalytic Projects

Climate Solutions
New Energy Solutions

- Downtown efficiency?
  - ✓20-year power contract
  - ✓Lock in price long-term
- Food processing?
  - ✓ Multiple plants/McKinstry
  - ✓ Energy Trust accelerate resource inventory
  - ✓Waste-to-energy potential
- Co-Gen plant from Millersburg pulp plant?
  - ✓Bio-fuels/grass seed