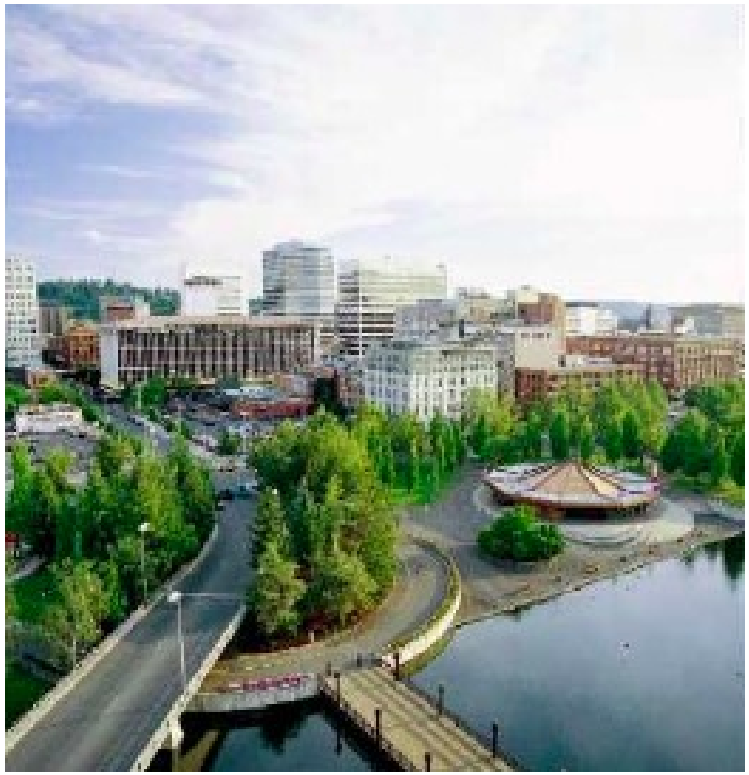

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Spokane, WA

Pioneer Cities: Leadership

What if…

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Every neighborhood needed no outside energy for heating & cooling, produced a significant share of its electricity & fresh water, managed all of its organic waste and sewage, produced significant amounts of fresh foods, and was home to a diversity of wild species that thrive in urban habitat?

New Language for Communities

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Ecosystem services ++

- Shelter
- Food & water
- Mobility
- Respect
- Comfort
- Connection
- Interaction
- Feedback

What does it mean to go 'native'? ~ William McDonough

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A central question for communities in the 21st Century relates to getting to the smallest scale possible for achieving each element of the 'ecosystem services ++'

Economical
Adaptable
Resilient
Engaged
Self-generating
Innovative
Nimble

=

Sustainable
Community
Development

Critical Role of Local Government

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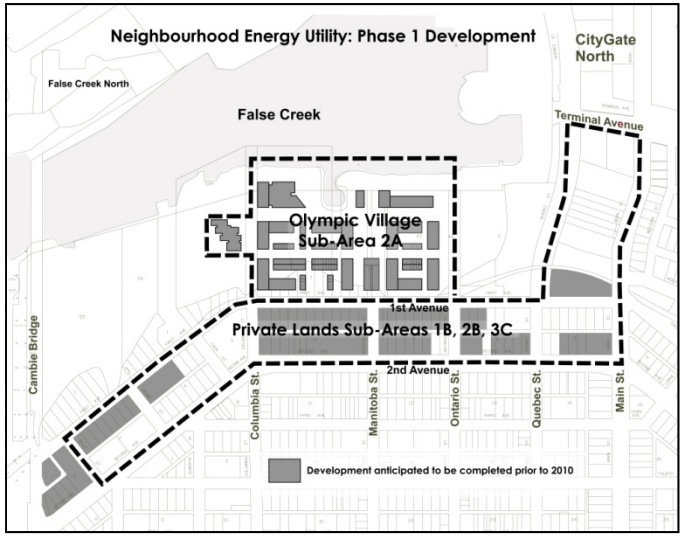
- Create scale
- Accelerate & deepen actions
- New tools to bridge finance gap
- Enable through rate regulation
- Tie to better performance
- Reduce revenue risk
- Regional economic development
- Connect to other policy goals



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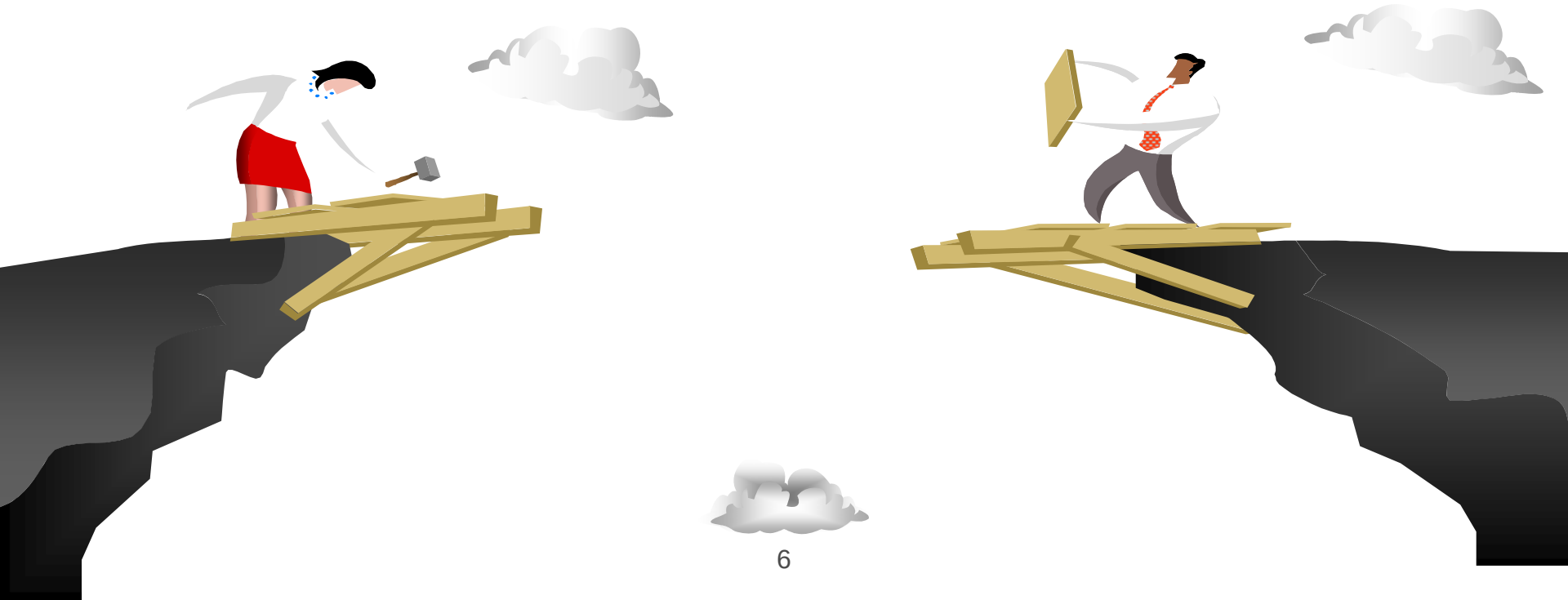

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The greatest sustainability challenges are not technological or economic. They are institutional.

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

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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

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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's Green Dividend

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Carbon-free prosperity

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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	5,688	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

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

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Thinking about green jobs

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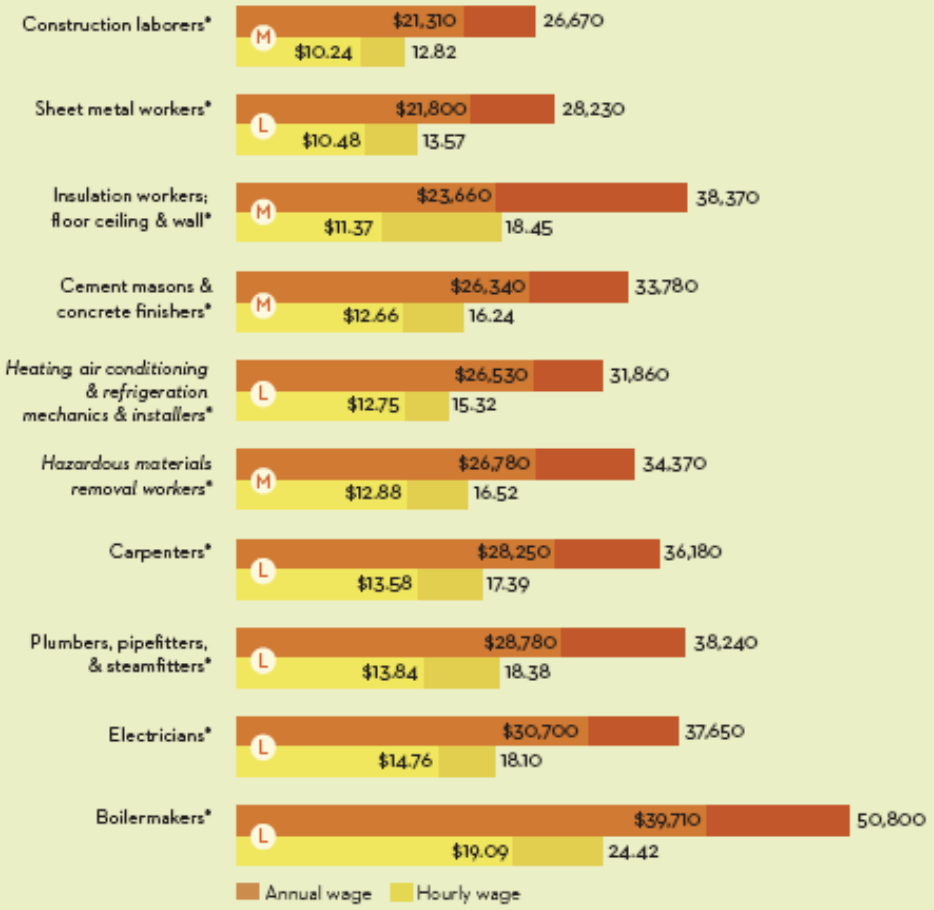
ENERGY EFFICIENCY JOBS AT-A-GLANCE



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

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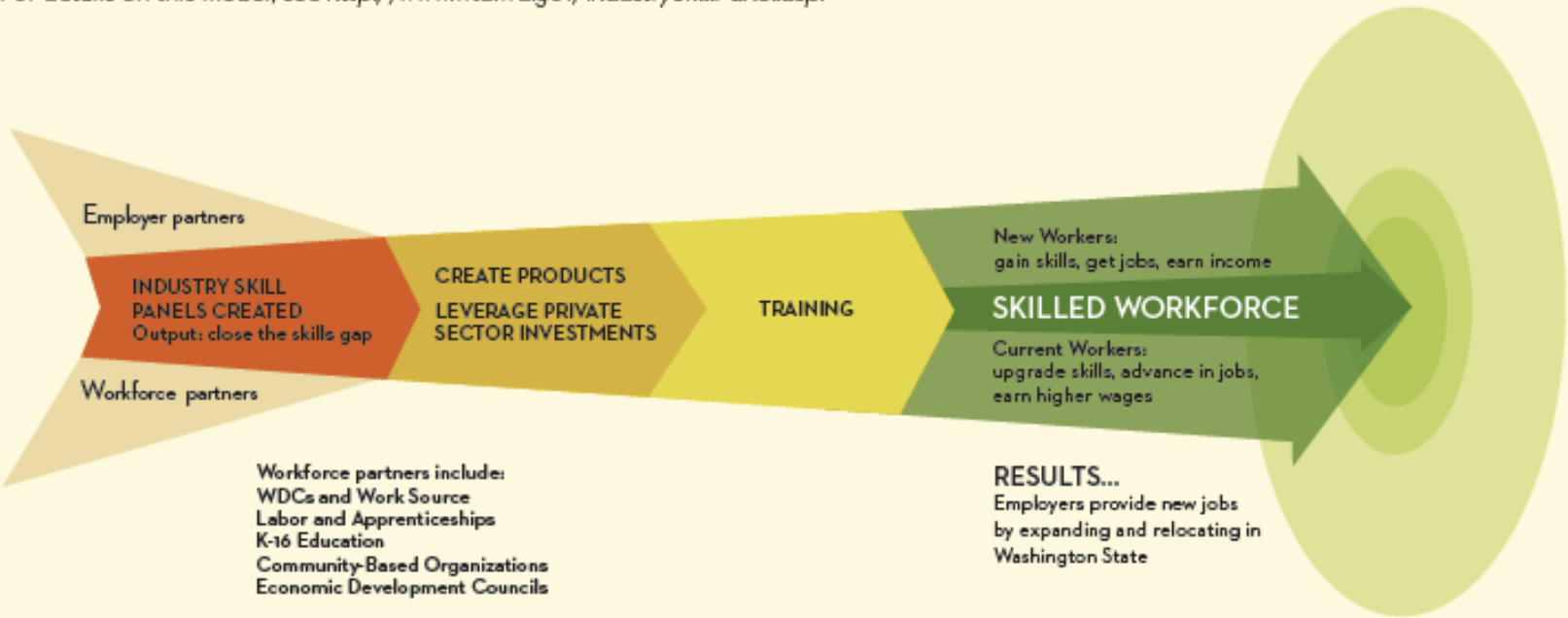
Models for Green-Collar Job-Training Partnerships

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

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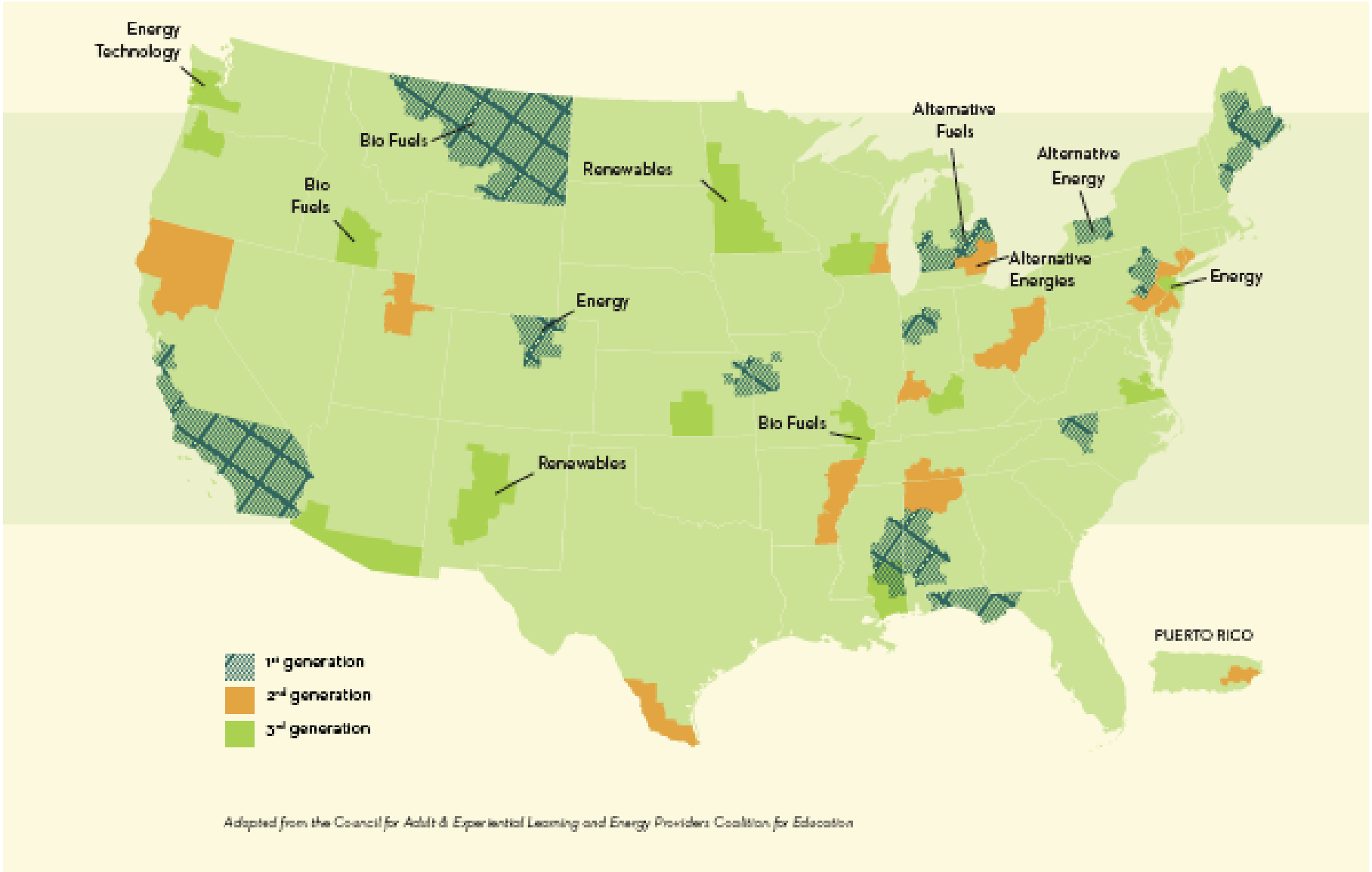

Adapted from the Council for Adult & Experiential Learning and Energy Providers Coalition for Education

Sustainable Economy Roadmap

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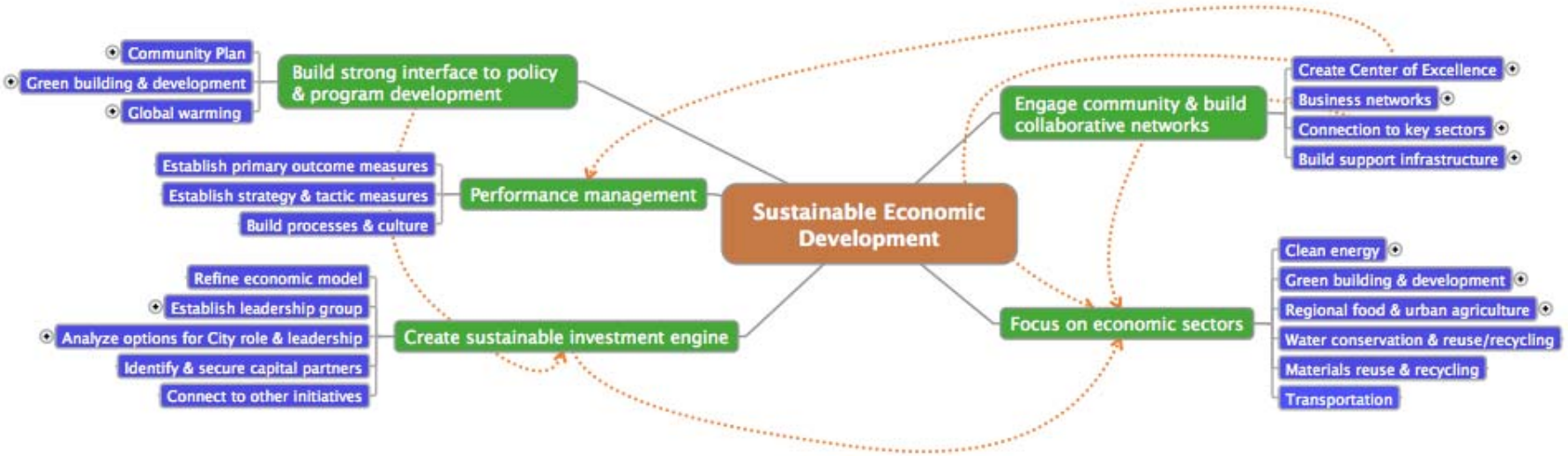

Simple Framework

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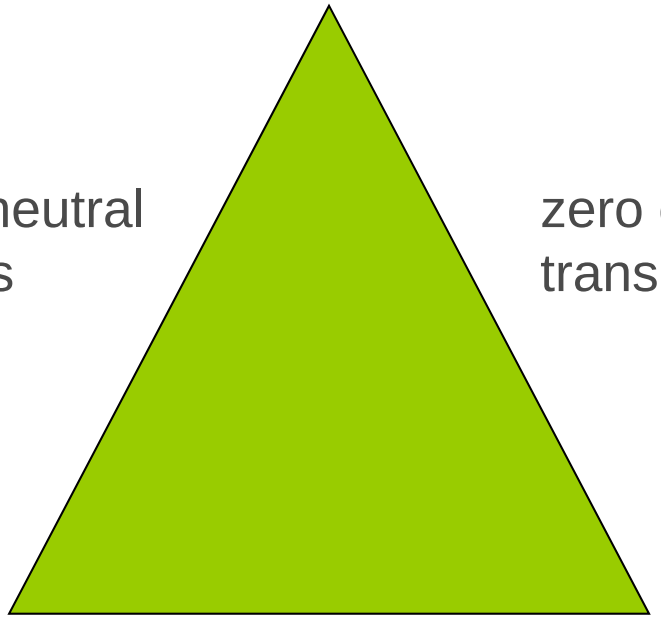
Climate protection in cities



carbon neutral buildings

zero carbon transportation

complete, compact communities

Simple Framework

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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

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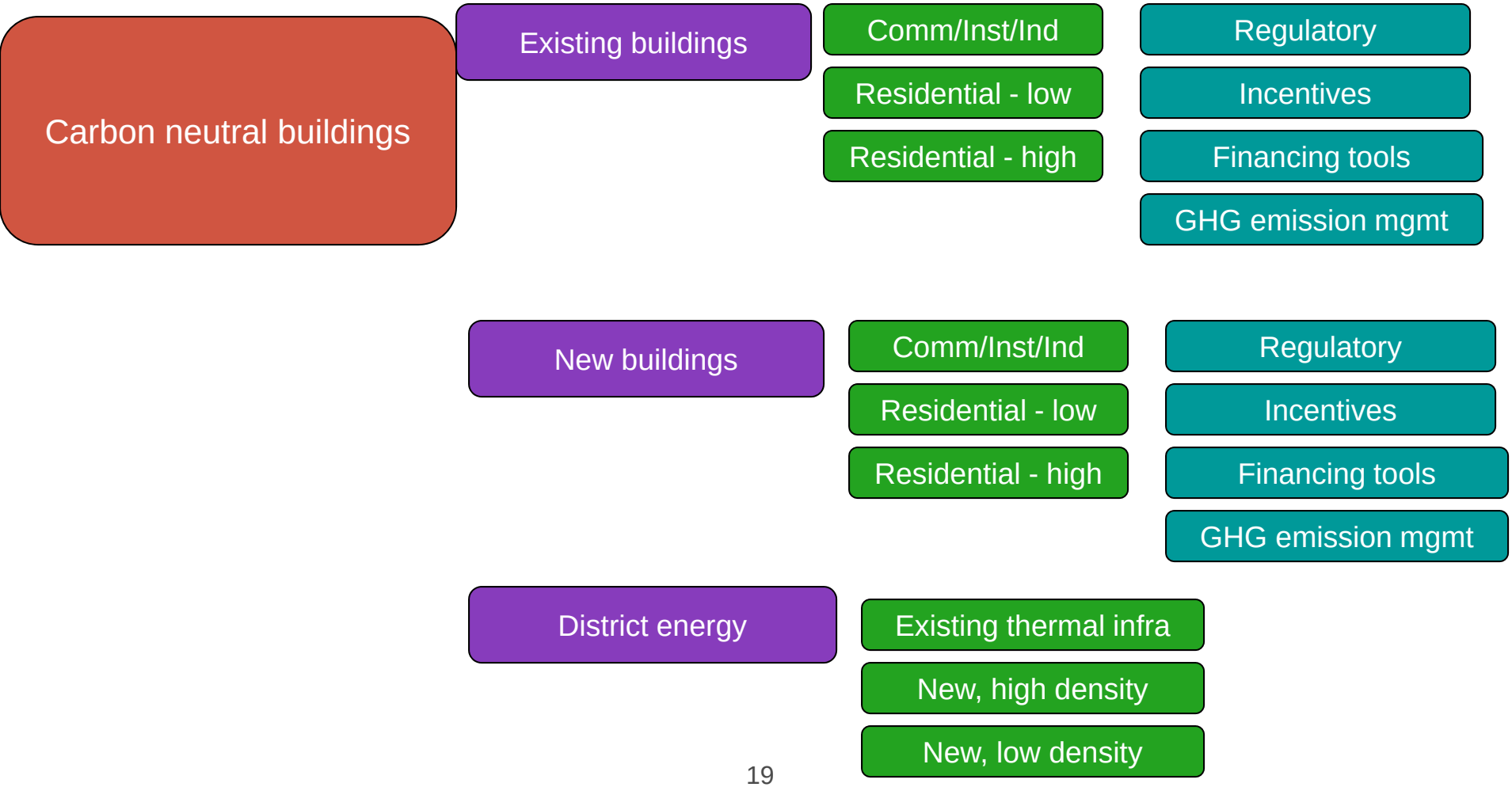

Strategy elements – mobility systems

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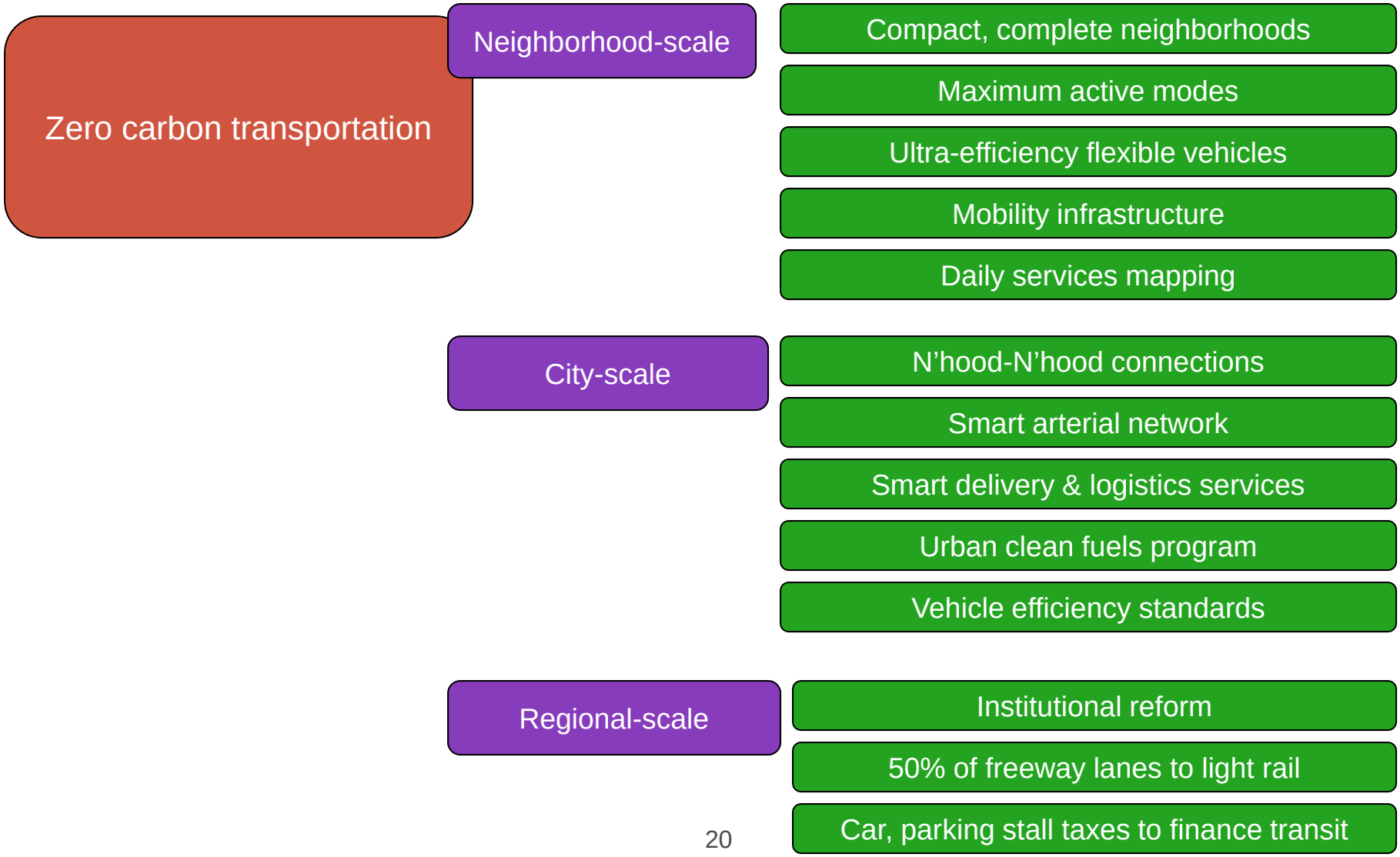

Steps to 20-Year Strategy

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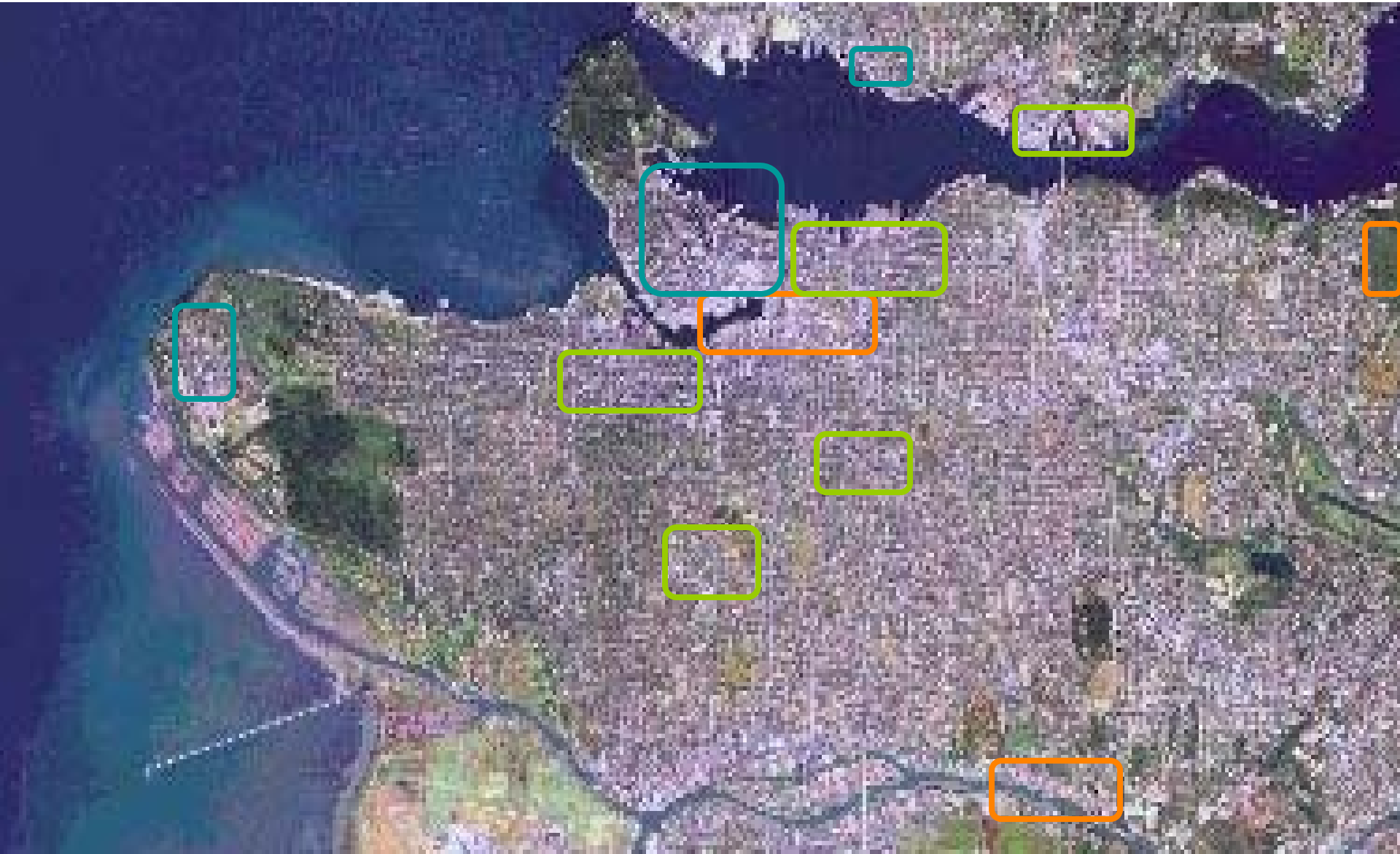

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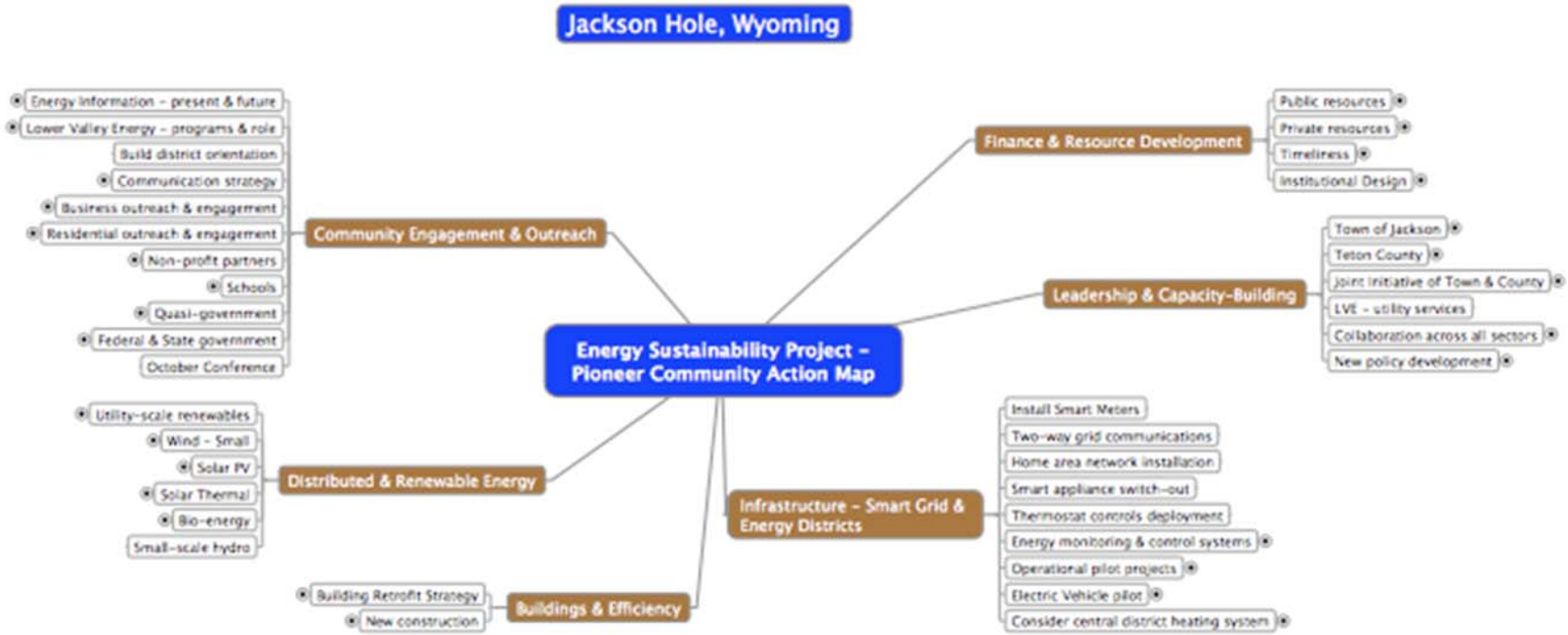
Jackson Hole Energy Sustainability Project


Jackson Hole, Wyoming
Energy Sustainability Project – Pioneer Community Action Map
Community Engagement & Outreach
Energy information – present & future
Lower Valley Energy – programs & role
Build district orientation
Communication strategy
Business outreach & engagement
Residential outreach & engagement
Non-profit partners
Schools
Quasi-government
Federal & State government
October Conference
Finance & Resource Development
Public resources
Private resources
Timeliness
Institutional Design
Leadership & Capacity-Building
Town of Jackson
Teton County
Joint initiative of Town & County
LVE – utility services
Collaboration across all sectors
New policy development
Distributed & Renewable Energy
Utility-scale renewables
Wind - Small
Solar PV
Solar Thermal
Bio-energy
Small-scale hydro
Infrastructure – Smart Grid & Energy Districts
Install Smart Meters
Two-way grid communications
Home area network installation
Smart appliance switch-out
Thermostat controls deployment
Energy monitoring & control systems
Operational pilot projects
Electric Vehicle pilot
Consider central district heating system
Buildings & Efficiency
Building Retrofit Strategy
New construction

Approach to Action Plan

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- Phase I (first six months) - capacity & preparation
- Phase II (6-18 months) - catalytic pilot projects, deep engagement & policy/program development
- Phase III (18-36 months) - learning, adapting and crafting 20-year strategy