Appendix 9: Green Economy Industry Sectors for the Hudson Valley: A Preliminary Framework

Below is a preliminary list of business sectors, sub-sectors, and activities that may provide substantial future revenue streams and significant opportunities for business expansion and investment as the economy transitions to a carbon net zero economy.

Transportation

Electrification of Transport
  o Electric Vehicles sales and service
  o Charging Station Networks and Maintenance
  o Charging Station Technology Improvement
  ● Electric Transit Vehicles and Systems design and manufacturing
  ● Electric Transit operations and maintenance
  ● Renewably powered maritime transportation
Aviation
  o Highly efficient aircraft designs and propulsion systems,
  o Renewable aviation fuels
  o Energy-optimized flight operations
Micro mobility (Lightweight, flexibly deployed vehicles)
  o Mechanically powered transportation e.g. bicycles, scooters, small boats
  o Electric Bicycles and Scooters
  o Micro-mobility dispatch software and associated services
“Sustainable” fuels for hard-to-electrify local uses (e.g. biogas, biodiesel)

Buildings and Infrastructure

  ● Sustainable Design, Engineering, and Construction
  ● Green Building Materials
    o Low Carbon and GHG Sequestering Concrete
    o Sustainably Harvested Timber
    o Hemp Lime and Wood Fiber Insulation
    o Low Embodied Carbon Materials and Design
  ● High Efficiency Equipment
  ● Green Building Tech/Operations
    o Refrigerant Management
    o Next gen appliances and systems
    o Maintenance and service
    o Appliance recycling and refrigerant recovery
  ● Communications Infrastructure – Smart Cities/ Resource Efficiency
  ● Technologies for Resilience (e.g. cool roofs, stormwater management systems)
  ● Disaster Recovery and Rebuilding
  ● “Green” Infrastructure for Stormwater Management, Cooling, Waste Management etc – e.g. stormwater capture systems
• Green infrastructure Plants, Growing Media, Structural materials and products, turn-key systems and service

Power

• Renewable Power Generation
  o Solar
  o Wind
  o Hydro
  o Tidal
  o Geothermal
  o Biomass
• Grid Modernization and Resiliency
• Flexibility and Energy Storage
• Power System Tech and Analytics
• Decommissioning Power Plants
• Thermal Conversion
  o Pyrolysis
  o Torrefaction
  o Hydrothermal Conversion
  o Gasification

Waste/Materials Management

• Recycling and Waste Diversion (Including Reuse)
  o Conventional collection and behavioral program approaches
  o Circular economy - reuse and recycling based industries
  o Circular economy – product design for reuse/ remanufacturing
• Repair Services
• Consumer Electronics – design for repairability
• Sustainable Packaging – low- or no-packaging products
• Sustainable Fashion – recycled or upcycled textiles, resource-efficient production
• Food Waste Reduction
• Enablers of Materials Reuse
• Industrial and Mature Minerals Processing.
• Materials Processing Innovation

Agriculture and Land Use

• Sustainable Forest Management
• Forest Products industries
• Landscape Management (lawns, golf courses, commercial and recreational properties etc)
• Land Preservation (parks, preserves)
• Agricultural Production
• Sustainable Agricultural Inputs
• Sustainable Agricultural Equipment
• Regenerative Agriculture Practices, Materials, Products
• Alternative Proteins
• Sustainable Aquaculture
• Nature-Based Climate Solutions production and application (e.g. biochar, enhanced weathering)
• Local Food Distribution

Water

• Water Supply
  o Drinking water supply systems, including bottled water alternatives e.g. filling stations
  o Pumps, irrigation systems, and water pressure and storage tanks
  o Water quality testing/assurance and filters and disinfection
  o Transportation of water (e.g. aqueducts)
• Water Pollution Control/ Prevention/ Remediation
  o Leach field, septic tank, pump station installation and maintenance
  o Water pollution control and prevention technologies
  o Swimming pool maintenance
  o Water-efficient appliances and industrial processes
  o Water-purifying natural systems
• Stormwater Management
  o Storm drain, catch basin, and pond outlet installation and maintenance
  o Wetland design, installation, maintenance and reporting
  o Stormwater management systems
  o Roof and gutter systems
  o Green roof retrofit, new green roofs, growing media production and maintenance
  o Rain barrel installation and maintenance, rain garden plant and mulch supplies
• Wastewater Treatment
  o Chemical and biological processes
  o Plant design, engineering, construction
  • Biosolids for fuel or fertilizer, and other byproducts
• Water-Based Transportation, Recreation, Production
  o Navigation including barges/ shipping
  o Ferries, including alternative powered
  o Small boat building and restoration: kayaks, canoes, sailboats
  o Fisheries and hatcheries, aquaculture
  o Marinas and shoreline infrastructure, soft engineering options
  o Fishing supplies, education, location, easements
• Water-Energy Linkages
  o Hydro power
  o Tidal power/hydrokinetic power
  o Ground source heat pumps using drilled wells or horizontal coils
- Closed cycle technology for power plants
- Power generation from wastewater biogas
- Cooling water in power plants
- Water quality in connection with natural gas and oil extraction

**Carbon Management**

- Carbon Capture Utilization and Sequestration
- Carbon-Offset Markets
- Carbon Tracking and Measurement