What is needed to grow a local and regional Green Economy (GE) that brings good jobs with good wages, benefits, and secure careers?

- There is a need for more and stronger research-industry partnerships. Greater collaboration would help align industry needs and emergent discoveries, streamlining the commercialization process and fostering economic development.

- The area needs to better attract and secure large funders. Perhaps because of the wide breadth of research being conducted, the area lacks recognizable “clusters” in industry and leadership. Large investors tend to invest in highly specialized areas, causing many of the area’s emergent businesses to relocate to areas with larger and better funding opportunities (e.g., Nashville, Charleston, Atlanta, and Raleigh/Durham). As result, the area is losing the economic benefits associated with retaining those companies.

- More support is needed for non- (or minimally) technologically based innovations that nurture green markets (e.g., permaculture, rainwater catchment systems, and reclaimed materials use). Like the area’s green growth, support is concentrated in the high-tech energy sector.

What current strategies address these needs?

- Initiatives like the Tennessee Venture Challenge, SPARK, Start-Up Day, and RAMP are facilitating the commercialization of the area’s research and driving economic development. Often co-hosted by leaders, such as the UT Research Foundation (UTRF), Tech 2020, and Launch Tennessee, these ventures promote technological development and entrepreneurialism among students, researchers, and community members.

- The recent launch of the Institute for Advanced Composites Manufacturing Innovation (IACMI) will help position us as a region for advanced manufacturing. IACMI, a $259 million consortium comprised of 123 members, is working to established leadership and production in the manufacturing of composites used in automobiles, wind turbines, and compressed gas storage tanks. In addition to IACMI, the area is experiencing other bursts of new advanced manufacturing activity (e.g., Fresenius Medical Care, Local Motors, and ProNova). Such robust activity suggests the area is on its way to becoming a hub of advanced manufacturing.

Assets- what other current activity can be leveraged to support specific strategies in place?

- The UT, ORNL, and TVA nexus is often described as Knoxville’s three-legged stool. Within and between these institutions, research and development efforts are driving innovation in a wide variety of fields (specifically, in advanced manufacturing, agriculture, energy, transportation, and medicine).
• Serious federal money is currently being funneled into green innovation, especially via grants from organizations like the DOE, EDA, USDA, and ARPA-E. However, many of these grants, including the Small Business Innovation grant, contract with industry. Without an industry partner, UT and ORNL researchers fail to qualify.

Obstacles- what keeps these assets from being more successfully pursued at this time?

• Multiple demands (i.e., research, teaching, and service) make it difficult for UT and ORNL researchers to become (and be expected to perform like) entrepreneurs or business professionals. While understanding the technical side of research commercialization, many researchers lack the knowledge or resources necessary to be successful business leaders. For this reason, many institutions like Georgia Tech and others won’t license a technology to a researcher as a CEO. As a result, the rights and profits to local and regional innovations (which tend to follow the CEOs) are often relocated, hindering the development of the area’s green economy.

• Over the last decade, growth in research expenditures by Tennessee institutions, including UT and ORNL, has been unparalleled by gains in patents, licenses, invention disclosures, and start-ups. Reasons for the lag include: lack of engagement with industry, unavailability of funding, limited staffing (specific to the commercialization process), an overemphasis on securing external funding, and rushing discoveries to market.

• Among area leaders, there is little overt effort to specifically support green innovation. Federally funded organizations, such as UTRF, are actually prohibited from such discrimination. Despite this, there has been an influx in green innovation. Better market alignment is credited as the reason.

What are some suggested strategies?

• To strengthen industry-research partnerships, host various seminars on research commercialization issues and developments in the area. The seminars could target specific entities (e.g., businesses, entrepreneurs, and governments) to strengthen networks and increase awareness of emergent discoveries.

• To better link researchers and industry leaders, develop an information clearinghouse that showcases major UT and ORNL discoveries.

• To better capture gains from UT discoveries and strengthen its commercialization process, The UT Institute of Agriculture has put forth three solutions: (1) develop an Ag-specific angel investment group; (2) hire a full time staff person to work specifically on the issue; and, (3) establish AgInnovations, an incubation center that would also serve as an avenue for spin-offs, double as a consulting firm, and provide advisory to the public.

• To help align green innovation and markets, advocate for stronger government regulations, such as higher CAFE, green building, and emission standards.

Action priorities- what to do and in what order? Stay tuned for the breakout session.