

# TN Governor's Energy Policy Task Force

November 14, 2008

## Clean Tech Workgroup Presentation of Preliminary Recommendations

Miles Burdine, Kingsport Chamber of Commerce  
(Chair, TN Clean Tech Work Group)

Dr. Jonathan Raab, Raab Associates & MIT  
(Facilitator and Consultant to TN Task Force)



# Clean Tech Work Group: Process to Date

- ◆ Governor Appoints Clean Tech Work Group (7/16)
  - ◆ Chair, Miles Burdine, Kingsport Chamber of Commerce\*
  - ◆ Matt Kisber (and Ryan Gooch), TECD
  - ◆ Dana Christensen, ORNL
  - ◆ Jack Holder, TN Valley Industrial Committee
  - ◆ Kalee Kreider, Office of Honorable Al Gore
  - ◆ John Noel, Southern Alliance for Clean Energy
  - ◆ Joe Hoagland, TVA (drafted by Work Group)

\*Miles Burdine additionally represents the TN Chamber of Commerce & Industry and the TN Business Roundtable

# Clean Tech Work Group: Process to Date

- ◆ Governor's Summit on Clean Energy Technology: Oct. 14-15
- ◆ Two meetings: 10/15, 11/13
  - ◆ Last WG meeting: 12/3
- ◆ Several Conference calls
- ◆ Public listening session: Burdine, Vandenberg, Raab-10/3: approximately one dozen presenters

# Governor's Summit on Clean Energy Technology

## October 14-15 (Knoxville)

- ◆ Partnership with ORNL, TVA, Howard Baker Center for Public Policy
- ◆ Over 325 attendees from business, government, public policy, economic development, clean energy, education, research and development
- ◆ 37 World-class speakers, moderators and panelists
  - ◆ Governor Bredesen
  - ◆ Senators Baker, Corker and Alexander
  - ◆ Stefan Jacoby (President & CEO of Volkswagen Americas)
  - ◆ Anne Pope (Co-chair of the Appalachian Regional Commission)
  - ◆ Nicholas Fanandakis (VP at Dupont)
  - ◆ Thom Mason (Director of ORNL)
  - ◆ Dr. John Peterson (President of UT)
  - ◆ Tom Kilgore (President & CEO TVA)

# Clean Tech Summit: Key Observations What We Heard?

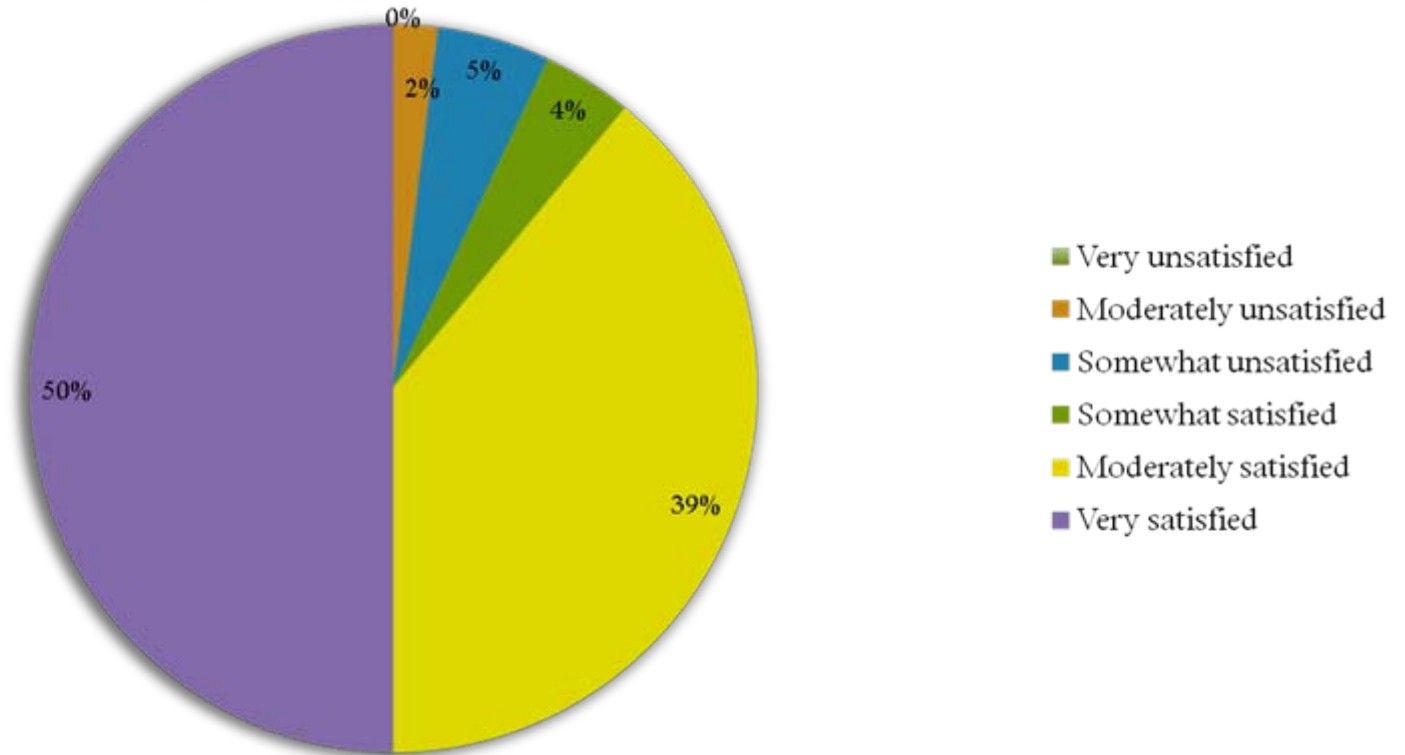
- ◆ “Clean Tech is the greatest opportunity of a generation – opportunity disguised as an insoluble problem.”
- ◆ “No silver bullet – TN needs a diverse portfolio of energy resources – but energy efficiency should be the highest priority.”
- ◆ “Tennessee can lead the U.S. in ‘sustainable mobility’...develop an alternative fuels corridor.”
- ◆ “Clean energy is not about a lack of technology or capital, but a lack of public policy which brings both together.”

# Clean Tech Summit: Key Solution Areas What We Heard?

- ◆ Educate students/train workforce in Clean Tech
- ◆ Develop incentives to grow Clean Tech businesses, and to promote energy efficiency and renewable installations in homes, businesses, and government in TN
- ◆ Back-stop with regulation (e.g. building codes, sustainable fuels and renewable portfolio standards)
- ◆ Prepare TN for 2011-2012 “sustainable mobility” rollout of cellulosic biofuels, electric vehicles, and clean diesel

# Summit Evaluations

How would you rate your overall satisfaction with the Summit?\*



\* As of 11/12, 53 responses counted

# Clean Tech Work Group

## What We Will Likely Recommend?

1. Growing Clean Tech businesses in Tennessee
2. Education and training to foster a Clean Tech citizenry and workforce
3. Incentives for Clean Tech products/services
4. Regulations & standards
5. High-level energy leader with adequate staff

# Existing TN Clean Tech Business Related Incentives

- ◆ Green Energy Tax Credit
- ◆ Green Island Corridor Program
- ◆ Small Business Energy Loan Program
- ◆ Clean Energy Technology Grant Program
- ◆ Biodiesel Infrastructure Grants

# Growing Clean Tech Businesses

- a. Identify Clean Tech sector as “Qualified Business Enterprise”
- b. Provide additional Clean Tech business incentives
- c. Spearhead Clean Tech research, design, and development
- d. Educate and train workforce (see next section)

# Incentives for Clean Tech Start Ups: Massachusetts Green Jobs Act

- ◆ Massachusetts Green Jobs Act (2008), established the MA Clean Energy Center, with \$68 million over 5 years. Center administers Clean Energy industry/workforce programs:
  - ◆ Clean Energy start-ups; available funding \$2-\$5 million/year
  - ◆ Clean Energy Fellowship program, for experienced MA entrepreneurs seeking to move into Clean Energy industry
  - ◆ Clean Energy education and job training at universities and community colleges, and to provide low-income job training

# Clean Tech RD&D

- RD&D Collaboration between ORNL, TVA, TN research universities, industry (e.g., Sharp, auto industry), and state government to drive research, innovation and TN-focused Clean Tech business expansion
- The Colorado Renewable Energy Collaboratory combines Nat'l Renewable Energy Lab (NREL), universities, industry, and state government for new research in renewable energy
  - Current projects include a biofuels and biorefining lab, and 2<sup>nd</sup> generation solar energy conversion

# Clean Tech Education & Training

- a. Graduated, multi-disciplinary state energy curriculum for K-12
- b. Expanded public education for years 13-14 w/starting focus on Clean Tech
- c. Certificate-based trainings at community colleges (e.g., HERS raters, energy building code inspectors, energy efficiency and solar installers)
- d. Partnerships between businesses and schools for implementing all of above
- e. TN State Workforce Development Board could oversee advances in training

# Incentives for Energy Efficiency & Renewable Energy

- a. Sales tax exemption for qualifying efficiency equipment, renewables, and autos
- b. Qualify certain Clean Tech equipment as “certified pollution control equipment”
- c. Incentives for retailers, specifiers, and installers
- d. “Smart” meters and “time-sensitive” pricing
- e. Electric vehicle recharging at park-and-ride lots and public parking; expand Green Corridors program to include rapid electric recharging

# Sales Tax Exemption for Renewables and Energy Star

Energy Star	Renewables	Energy Star & Renewables
Missouri	Arizona	Connecticut
North Carolina	Florida	Georgia
South Carolina	Idaho	Vermont
Texas	Kentucky	
Virginia	Maryland	
W. Virginia	New Mexico	
	Utah	
	Others: MA, MN, NJ, NY, RI, WY, WA	

# Energy Star Product Sales in Tennessee (2007)

	Clothes Washers	Dishwashers	Refrigerators	Room ACs	Freezers	Total
Average Price of ENERGY STAR unit	\$966	\$620	\$1,470	\$360	\$500	-
Total 2007 appliance sales in TN	150,923	106,795	144,586	78,168	14,219	-
Energy Star market share in TN	30%	90%	26%	41%	8%	-
2007 ENERGY STAR sales (units)	44,900	96,222	37,882	32,033	1,138	-
2007 ENERGY STAR sales (\$)	\$43.4M	\$59.7M	\$55.7M	\$11.5M	\$.6M	<b>\$170M</b>
2007 ENERGY STAR Sales tax (7%)	<b>\$3.0M</b>	<b>\$4.2M</b>	<b>\$3.9M</b>	<b>\$.8M</b>	<b>&gt;\$.1M</b>	<b>\$11.9M</b>
Sales tax if 50% increase in Energy Star market share	\$4.5M	\$4.6M	\$5.8M	\$1.2M	\$.1M	\$17.8M

# Sales Tax Recommendations

- On-going sales tax exemptions, no holidays
- Eligibility: renewables (e.g., solar, wind, geothermal); only Energy Star products without mature market penetration (e.g., <50%), electric and plug-in hybrid-electric vehicles
- List of eligible measures updated annually by TN
- Possible sunset or ramp down over time, and sliding-scale exemptions

# Regulations & Standards

- a. Streamline and expedite siting and permitting for renewables, CHP, and efficient buildings
- b. Interconnection standards for customer sited renewables and distributed generation
- c. (Encourage) Renewable Portfolio Standard (RPS)
- d. Clean vehicle fuel standard
- e. Support the Clean Tech sector regulations and standards advocated by the Residential Work Group (e.g., Building Codes, Labeling)

# Leadership and Staffing

- ◆ TN businesses and citizens spending \$15-20 billion/year on energy (state buildings and fleets \$150-200 million)
- ◆ Clean Tech WG (and other WG) recommendations should reduce energy usage, expenditures and emissions--and produce jobs
- ◆ Need on-going state involvement to properly implement WG recommendations
- ◆ Must have strong leader and adequate staffing