



DEFINING GREEN JOBS FOR FLORIDA

*A Report of the Sustainability/Infrastructure Committee of
Workforce Florida, Inc.*

LILA JABER, CHAIR

June 2009

**A REPORT BY
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ACKNOWLEDGMENTS

The Sustainability and Infrastructure Committee of the Workforce Florida Board of Directors offers many thanks to Governor Charlie Crist for his leadership in creating a green economy in Florida. We also thank Jeremy L. Susac and the Florida Energy and Climate Commission, Rebecca Rust and the Labor Market Statistics Center of the Agency for Workforce Innovation, Cindy Tindell and Florida Power & Light Development Group, J.B. Clark, and Al Stimac and the Manufacturers Association of Florida. We also gracefully acknowledge and appreciate the input of several members of the public in the development of this report.

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I. EXECUTIVE SUMMARY

“There’s gold in green.” — Governor Charlie Crist

Transforming Florida into a green economy is a massive and defining challenge for our time. It involves cross-agency collaboration and coordination, and the work of thousands of Floridians, performing the jobs needed to build the green economy. This report provides information on how best to define green jobs within the State of Florida. The analysis and recommendations are based upon input and suggestions from invited subject matter experts ranging from the Executive Office of the Governor, governmental agencies, organized labor, business and non-profit industry associations.

With input from the experts, as well as recommendations from the public, Workforce Florida’s Sustainability/Infrastructure Committee has determined that the green Florida economy is based on efficient energy use, reducing polluting emissions and protecting our natural resources with a focus on using renewable power sources. A green economy uses these investments to create new opportunities and good jobs, and is based on many occupations that already exist in today’s marketplace. In the absence of any federal or state-level definition, a primary goal is to bring more certainty to Florida’s training and workforce development efforts that support skilled talent development, advance future economic development opportunities and result in cost-efficient and non-duplicative training activities.

An objective of this report is to provide a summary of advice from key experts regarding what the best definition of a green job is within Florida’s economy, and to offer recommendations and suggest next steps to ensure that Florida maximizes the opportunity to earn its fair share of additional stimulus funds available through the U.S. Department of Labor and other federal agencies. Moreover, a definition of green jobs should assist in preparing a skilled workforce that is poised to respond to today’s and future investments aimed at energy efficiency and new market opportunities that result due to sound and deliberate workforce policy decisions. The need for these additional investments in the Florida economy could not be more urgent, as no other state in the country has lost more jobs than Florida. At the time of this report, Florida had lost 380,300 jobs and its unemployment rate was at 9.6 percent. The March 2009 unemployment rate—9.7 percent—was the highest experienced by the state since 1976.¹

We focus on recommendations that creatively address the cultivation of sound workforce-development policy that is market-relevant, responsive to industry needs and flexible enough to address changing market conditions. The recommendations also emphasize alignment in partnerships among education, workforce development and economic development organizations—state and local—to maximize gains from the American Recovery and Reinvestment Act (Federal Recovery Act) funding. How well Florida navigates today’s challenging economic times and positions itself to seize emerging economic opportunities, such as the green economy, will depend greatly on the quality of our state’s workforce. Ultimately, we hope to use the definition for a green job in Florida and carefully crafted next

¹ March 2009 Labor Statistics, Labor Market Statistics Center, Florida Agency for Workforce Innovation.

steps to put the State of Florida at the forefront of responsive workforce development policy, bolstered by the infusion of additional stimulus funds.

What is clear from this report is that there is a once-in-a-generation opportunity to embrace the economic and workforce development potentials ahead, with obvious benefits to Florida's economy and individuals who seek to benefit from the "greening" of the state's economy. Now more than ever, government needs to embrace innovative approaches to significant challenges. As stated by U.S. Department of Energy Secretary Steven Chu, "Opportunities for growth in the green economy are not low-hanging fruit. It is fruit on the ground ready to be picked up." Workforce Florida, as the state's principal workforce policy organization, is uniquely positioned to aid in this effort to capitalize on opportunities for Floridians in the green economy.

II. WORKFORCE FLORIDA, INC.'S STRUCTURE AND PURPOSE

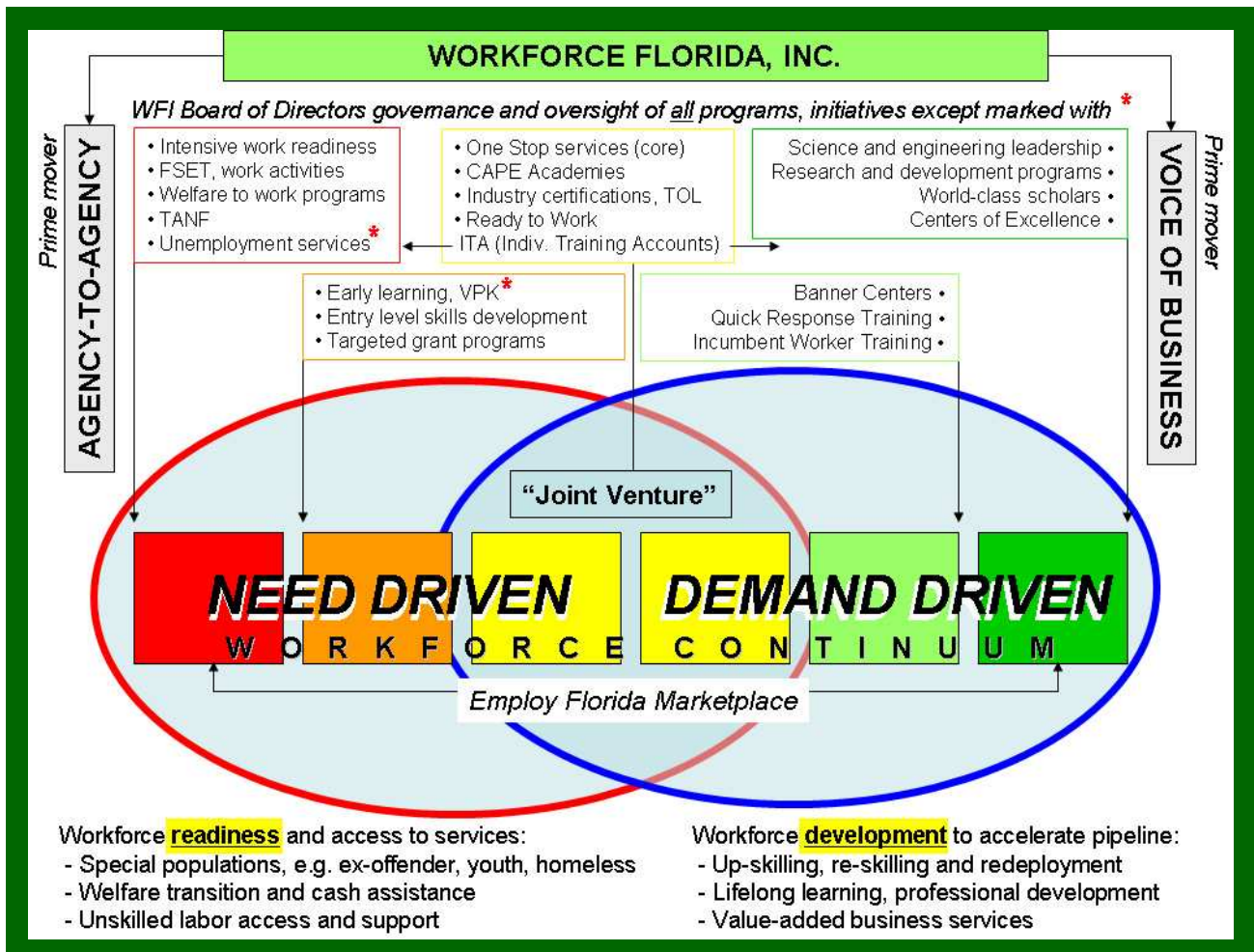
Created in 2000, Workforce Florida, Inc. serves as the principal workforce policy organization for the state, and is a catalyst for creating and nurturing world-class talent. Its mission is to design and implement strategies that help Floridians enter, remain in, and advance in the workplace, becoming more highly skilled and successful, benefiting these Floridians, Florida businesses, and the entire state, and to assist in developing the state's business climate.²

Workforce Florida is governed by a 47-member, business-led Board of Directors, largely appointed by Governor Charlie Crist, with the House Speaker and Senate President each appointing two of their chambers' members to serve on the board. The Board, which seeks to design strategies to develop Florida's world-class talent and respond to workforce demands and challenges, both today and on the horizon, is chaired by Belinda Keiser of Keiser University. As required by federal and state law, the Board of Directors must comprise representation from a majority of private-sector business. This ensures that business influences workforce policy and investment to drive employment, training and economic development. It is important to ensure that businesses, as ultimate customers of the workforce system, are integral participants in developing and implementing policies and programs of that system, and that the workforce system is designed with the needs of employers, as well as employees, in mind.

The Agency for Workforce Innovation (AWI) is Workforce Florida's primary state-level workforce partner. AWI is responsible for implementing the policy developed by Workforce Florida, administering federal and state funds and providing technical assistance to 24 regional workforce boards, which primarily are responsible for delivering services to job seekers and businesses. Other state agencies serving on the business-led Workforce Florida Board of Directors are: the Department of Education, the Department of Children and Families, the Department of Elder Affairs, the Agency for Persons with Disabilities, the Department of Community Affairs and the Department of Juvenile Justice. Additionally, Workforce Florida works closely with other vital statewide organizations such as Enterprise Florida, Space Florida, the Florida Chamber of Commerce and the Florida Economic Development Council, among many others.

The chart below demonstrates the workforce continuum that ensures that Florida's workforce system is responsive to the needs and demands of the marketplace.

² Florida Statutes s. 445.004(2).



Workforce Florida oversees about \$307 million in federal workforce funds (2009-2010 Fiscal Year), most of which are distributed to the 24 regional workforce boards throughout the state, to meet regional employment needs. In March of this year, Florida’s workforce system received an additional \$165 million in stimulus funds through the Federal Recovery Act. The Act stipulates the funds are “intended to preserve and create jobs, promote the nation’s economic recovery, and to assist those most impacted by the recession.” The Training and Employment Guidance Letter (TEGL) No. 14-08 emphasizes:

- Serving low-income, displaced and under-skilled adults and disconnected youth as well as those needing special assistance (e.g., ex-felons, the disabled, and military veterans);
- Providing re-employment services, helping unemployed workers quickly find work;
- Green Jobs to include renewable energy infrastructure, energy-efficiency home retrofitting, biofuel development and advanced drive train/vehicle development and manufacturing. The guidance also recognized that not all “green jobs” are necessarily new or unique occupations, but represent layers of green skills upon existing occupations;

- Connecting to other Federal Recovery Act investments, recognizing the jobs and opportunities for unemployed workers in areas such as: electronic medical records and health information technology, school renovations and constructions, Veterans Affairs hospital and medical-facility construction, repair and restoration of public facilities, parks and Department of Defense facilities, construction of highways, public transportation, and air and rail transportation infrastructure.

To fulfill their critical roles in the U.S. economic recovery, states are encouraged to take an expansive view of how the funds can be integrated into transformational efforts to improve the effectiveness of the public workforce system, where all citizens and businesses prosper, and through a more innovative system, enable future economic growth and advanced prosperity.

Florida's workforce system is designed to be demand-driven and nimble to respond to local and statewide demands, economic shifts and strategic priorities. The workforce system serves more than 1 million Floridians annually seeking jobs and/or training and is guided by its five-year strategic plan. This year—2009—will be a pivotal year for charting the course of Florida's workforce system for the next five years and beyond. This important work, done in cooperation with Workforce Florida's many workforce, education, economic development, business and industry and community partners, will proceed during tough economic times for Florida and the nation as we weather a recession. However, the challenge and focus for Florida's workforce system is clear—helping Floridians find and retain employment during the current economic downturn with an eye toward securing the state's future as the economy rebounds.

Directing Florida's workforce-development strategy is accomplished through four policy councils of the Board: Business Competitiveness, Workforce Readiness and Performance, Finance and Administration and Strategy. Specific charges to each of these councils are identified in Workforce Florida's strategic plan. For the purposes of this report, special emphasis is given to the Business Competitiveness Council's charge, which includes providing advice and counsel on current and emerging business climate and workforce competitiveness issues to build Florida's talent pipeline and supporting the creation of world-class talent. Examples of issues to be addressed by this Council include, but are not limited to:

- Aerospace workforce transition from Shuttle to Constellation;
- Employ Florida Banner Centers;
- Rural support; and
- Sustainability sectors of interest including energy, water resources and green economy talent development.

Another focus of the Business Competitiveness Council is to create a platform for dialogue for the members of the Council, its committees, stakeholders and other partners. Given these critical responsibilities in today's economic climate and the promise of green jobs for the Florida economy, Council Chairman Dwayne Ingram assigned its Sustainability/Infrastructure Committee to identify the types of jobs and skills that are and will be in demand in Florida's green future as well as other factors affecting the growth of the state's workforce. Although Florida's population growth has slowed due to the recession, these sustainability issues are and will be vital to helping secure Florida's current and future economic health. Toward that end, the Committee scheduled a public workshop on May 8, 2009, to solicit input on how best to define green jobs for Florida.

Sustainability/Infrastructure Committee Members

Lila Jaber, Chair
Kay Cowling
Jennifer Grove
Tom Pelham/Janice Browning
Linda Sparks
Larry Bishop*
Mark Bontrager*
Claude Revels*

*Invited, non-voting member, subject matter advisor

III. WORKFORCE FLORIDA LEADS THE DISCUSSION TO DEFINE GREEN JOBS

The law that creates Workforce Florida and defines its purpose³ also provides that it may take action that it deems necessary to achieve the purposes of this section, including, but not limited to:

- Creating a state employment, education and training policy that ensures that programs to prepare workers are responsive to present and future business and industry needs and complement the initiatives of Enterprise Florida, Inc.;
- Establishing policy direction for a funding system that provides incentives to improve the outcomes of career education programs and of registered apprenticeship and work-based learning programs, and that focuses resources on occupations related to new or emerging industries that add greatly to the value of the state's economy;
- Providing policy direction for a system to project and evaluate labor market supply and demand using the results of the Workforce Estimating Conference⁴ and the career education performance standards;⁵
- Reviewing the performance of public programs that are responsible for economic development, education, employment and training. The review must include an analysis of the return on investment of these programs; and
- Expanding the occupations identified by the Workforce Estimating Conference to meet needs created by local emergencies or plant closings or to capture occupations within emerging industries.

Florida law gives Workforce Florida sufficient authority and responsibility to lead the discussion on defining green jobs. The Florida Legislature has empowered Workforce Florida to create employment, education and the training policy that will produce a skilled workforce for the state's economy to include current and emerging industries. Further guidance also may be derived from Governor Charlie Crist's Executive Orders⁶, executed in July 2007, which focus on reducing greenhouse gas emissions. Directives listed in Phase II of Executive Order Number 07-128 give specific direction that is instructive to Workforce Florida. That is, "strategic investments and public-private partnerships in Florida to spur economic development around climate-friendly industries and economic activity that reduces emissions in Florida;" and "strategies and mechanisms for the long-term coordination of Florida's public policy in the areas of economic development, university-based research and technology development, energy, environmental protection, natural resource management,

³ Florida Statutes ch. 445.004(6)(a)-(g).

⁴ Created in Florida Statutes, s. 216.136.

⁵ Identified in Florida Statutes, s. 1008.43.

⁶ Executive Order Number 07-126 "Establishing Climate Change Leadership by Example: Immediate Actions to Reduce Greenhouse Gas Emissions from Florida State Government; Executive Order Number 07-127 "Establishing Immediate Actions to Reduce Greenhouse Gas Emissions with Florida" and Executive Order Number 07-128 "Establishing the Florida Governor's Action Team on Energy and Climate Change."

growth management, transportation and other areas as needed to assure a future of prosperity for Floridians in reducing greenhouse gas emissions.”

Conceptualized to be fully responsive to present and future business and industry needs and new or emerging industries, such as the green economy, the very composition of the Workforce Florida Board of Directors, and the complement of state agency heads that serve on it, places the organization in a strong position to develop sound workforce policy that aligns with the statewide goal of reducing greenhouse gas emissions.

How well Florida navigates today’s challenging economic times and positions itself to seize emerging economic opportunities, like the green economy, will depend greatly on the quality of our state’s workforce. In fact, Workforce Florida’s unique and vital role in meeting the workforce challenges of difficult times without losing sight of the need to create a foundation for responding to our future workforce needs was the subject of comments by several presenters during Workforce Florida’s November 2008 Board of Directors meetings. Among those addressing the board was Amy Baker, the Chief Economist of the Florida Legislature, whose remarks highlight Workforce Florida’s importance. Her commentary also sums up why it is appropriate for Workforce Florida to be leading the discussion on defining green jobs for the Florida economy, its businesses and workforce.

The shape of Florida’s workforce is going to be changing so much and the issues that we will be dealing with are so new to us that they are going to take a lot of thought and a lot of time and there are not a lot of entities that have the ability to focus on the future.

Within state agencies and within the legislative process, we focus (on) today. We don’t have a lot of time to put on what’s happening in the future. That is a very important role for (Workforce Florida).⁷

⁷ Amy Baker, Chief Economist of the Florida Legislature, November 18-20, 2008, Workforce Florida Board of Directors meeting.

IV. PURPOSE/OVERVIEW OF WORKSHOP

The promise of green jobs is rapidly gaining momentum as addressing energy efficiency, renewable energy and climate change are Obama administration priorities and key to national and international economic growth. Additionally, Governor Charlie Crist has articulated statewide goals on renewable energy, energy efficiency and furthering a green economy. One of the most articulate proponents of the green economy is *New York Times* columnist Tom Friedman, who insists that perhaps the most important thing the United States can do is make itself into the world leader in energy-efficient products and clean power systems. The huge challenge of trying to build an emissions-free grid “could be the biggest transformative concept that’s come along in a long time,” Mr. Friedman says. The effort might equal “a green New Deal to not only reconnect us with the world and to reconnect us at home, but to really propel us forward economically, scientifically, educationally, industrially, into the 21st Century.”

The federal and state priorities hold important implications for workforce development. Significant discretionary funds are available to states and local workforce regions to further address green jobs and training. The Federal Recovery Act sets aside \$500 million for future competitive grant opportunities to support research, labor exchanges and job training projects that prepare individuals for careers in industries as defined by the Green Jobs Act of 2007. The grant opportunities are expected to be announced in June 2009.

Yet neither federal nor state law defines a “green job.” To ensure Florida’s preparation to compete effectively for a share of federal discretionary funding opportunities, and the public workforce system’s effective use of funds already provided to us through the Federal Recovery Act, the Sustainability/Infrastructure Committee invited key subject matter experts to offer advice to the Committee, during the public workshop, on how best to define green jobs for Florida. The presenters also were asked to identify the types of jobs that can be considered “green” as well as the skills required of workers in these jobs. Finally, the presenters were asked to look ahead to the types of jobs that might be on the horizon and the workforce implications resulting from these future trends. A reference to the workshop agenda is included in the endnotes.

V. OBSERVATIONS/FINDINGS OF SUBJECT MATTER EXPERTS – SUMMARY OF REMARKS

Jeremy L. Susac

Mr. Susac, appointed by Governor Charlie Crist, serves as Executive Director of the Florida Energy and Climate Commission, leading the state’s primary energy and climate change programs and policies.⁸

Since green jobs are not defined in Florida Statutes, Mr. Susac offered this strawman’s definition for purposes of discussion: “Green jobs increase the conservation and sustainability of natural resources for the benefit of the People of Florida.” The Florida Legislature’s definition of renewable energy includes technologies, i.e. solar, wind, ocean, geothermal and hydrogen while green technologies offer energy efficiency, updates to out-of-date energy infrastructure (smart grid), battery storage, plug-in hybrids and economic dispatch technology.

Mr. Susac added that Florida will receive four sources of energy stimulus funds from the U.S. Department of Energy as a result of the Federal Recovery Act:

- *State Energy Projects (SEP)*: These projects encourage development of renewable energy sources and conservation and energy efficiency measures. By doing so, these measures will stimulate jobs in the renewable energy or energy conservation market. This endeavor will “lead by example.”
- *Energy Efficient Community Block Grants (EECBG)*: Most of these funds will go to large cities and counties through the Department of Energy to assist in creating and implementing strategies to reduce fossil fuel emissions and total energy use. Florida will receive \$18 million to be competitively awarded to small cities and counties that were not funded directly.
- *Energy Star Home Appliance Rebate Funds*: The 2009 Energy Star Rebates will be a new program offered through the Green Governments Grants Program.
- *Weatherization*: The Weatherization funds will increase energy efficiency in low-income homes by improving heating and cooling, insulation, lighting and weather stripping. The poverty level for eligible participant has increased from 150 percent to 200 percent making funds available for more homes.

⁸ Before the formation of the Commission, Mr. Susac served as Director of the Florida Energy Office at the Florida Department of Environmental Protection. He serves as Governor Crist’s alternate on the Southern States Energy Board and works on a broad range of issues from renewable generation, alternative transportation fuels, and energy efficiency and conservation.

The Federal Recovery Act are designed to create and save jobs, to reduce energy consumption, to decrease the reliance on imported energy by promoting renewable sources, and to reduce green house gases.

In addition to the Florida Energy and Climate Commission, Florida's Department of Environmental Protection offers several sustainable initiatives. These programs are voluntary, non-regulatory and designed to assist Florida industry and citizens in protecting the environment. The programs include Clean Marinas, Clean Vessels, and Green Lodging. The goals of these programs are to meet the needs of present population without compromising the ability of future populations. Each program encourages the industry to conserve and protect Florida's natural resources.

Rebecca Rust

Ms. Rust has served as the Director of the Labor Market Statistics Center, Florida's Agency for Workforce Innovation (AWI) for 19 years.⁹

Ms. Rust opened her presentation by stating that "Green is pervasive and is difficult to isolate and measure." When determining which jobs are green jobs, labor market economists look at industries and occupations; production versus practice; and concentration of "green." Examples of these include an accountant at a wind mill manufacturer versus a wind mill technician at a petroleum company; production of wind blades or solar panels versus practice at green hotels.

Green could include industries, emerging industries, suppliers to green industries, or could include clean energy or only energy efficiency and renewable energy.

Occupational classifications are as difficult, i.e. green building construction versus traditional building construction. Some occupations require new skills while others require new applications or skills upgrade training. A few new and emerging green occupations could include energy auditor, energy manager, wind generating installer, hybrid and fuel cell automotive technicians carbon reduction manager, greenhouse gas assessor, intelligent building specialist, smart grid engineer, carbon trader and environmental compliance specialist.

Green jobs could be found in the broader economy, outside of energy, or could be a subset of the energy industry. This approach would include construction, reforestation and land restoration. It could include clean energy, nuclear, solar, alternative, suppliers to green industries and emerging industries. Wages also play a part in the definition.

Commonly cited green industries identified by state workforce agencies include renewable energy (solar, wind, biomass, geothermal, ocean); energy efficiency (weatherization, building retrofits); alternative auto fuels and advanced storage batteries; green construction and

⁹ Before then, Ms. Rust was an Economic Analyst in Labor Market Information for 10 years and previously held Economist positions with the Public Service Commission, Florida Tax Watch and the Governor's Office. She has also served as an Adjunct Professor in Labor Economics at Florida State University for more than 10 years.

remodeling; consulting services (environmental, Energy Service Companies); environmental restoration and preservation (clean up mines); recycling and waste management (reuse of water); agriculture (crops and biomass or biofuels); and manufacturing (Energy Star appliances and re-manufacturing). Some unique but not commonly cited green industries identified include hydroelectric power generation, nuclear power generation, clean coal, natural and sustainable product manufacturing, green hotels, organic farming, transportation vehicle manufacturing, and government.

The AWI's Labor Market Statistics Center has embarked on a number of "green job" activities. These include:

- Collecting definitions of "green jobs" and "green industries" from other states and published reports to create a national inventory;
- Preparing for a possible green jobs survey;
- Developing a Green Jobs Flyer based on research;
- Creating a dedicated section on labormarketinfo.com to green activities;
- Joining the Greenforce Florida Team;
- Participating in the Growing Florida Green program aimed at consumers;
- Joining the National Association of State Workforce Agencies' Green Workgroup;
- Joining the U.S. Department of Labor Bureau of Labor Statistics Green Workgroup; and
- Participating in Florida's Great Northwest WIRED Region Renewable Energy Advisory Council.

Cindy Tindell

Cindy Tindell is a Senior Director in Florida Power & Light's (FPL) Development Group, leading fossil-fueled and solar thermal generation development. She also is responsible for investments in new technologies.¹⁰

FPL Group, Inc., parent of FPL, is one of the largest electric utility holding companies in the United States. It is the world's leader in renewable energy with renewable investments totaling over \$9 billion in 27 states and Canada. In Florida, FPL is a vertically integrated and retail rate-regulated utility with 4.5 million customer accounts.

Ms. Tindell asserted that green jobs are those that result in reduced carbon emissions and an improved environment. FPL is pursuing more than \$20 billion in new clean energy projects that could bring thousands of these new green jobs to Florida. She cited new solar and wind generation facilities, new and conversion of older plants into state-of-the-art, natural-gas-fired facilities, new and upgraded nuclear units, and a proposed 300-mile natural gas pipeline project. These projects could yield significant environmental benefits to the people of

¹⁰ Previously, Ms. Tindell was responsible for unregulated investments in power and energy assets and businesses at FPL Group's unregulated NextEra Energy Resources. She was formerly an official at the U.S. State Department covering the Middle East and is a member of the Council on Foreign Relations. Ms. Tindell received a BS from Georgetown University, a MA from Columbia University and a MBA from the Harvard Business School.

Florida, create sustainable green job growth and stimulate the local economy. However, only through the active support of Governor Crist, the Florida Legislature and the Public Service Commission, can FPL develop these projects, grow Florida's renewable energy industry and create new green jobs.

Some of FPL's projects, either in construction or in active development include:

Fossil Clean Energy

West County Units 1 and 2

West County Next Generation Clean Energy Center (Unit 3)

Riviera Beach Next Generation Clean Energy Center

Cape Canaveral Next Generation Clean Energy Center

Renewable

Martin Next Generation Solar Energy Center

Desoto Next Generation Solar Energy Center

Space Coast Next Generation Solar Energy Center

St. Lucie Wind Project

Babcock Ranch

Nuclear

St. Lucie and Turkey Point Upgrades

Turkey Point Units 6 and 7

Natural Gas Pipeline

Florida EnergySecure Line, spanning 14 Florida counties that will create 3,500 jobs and have more than \$400 million in economic impact, scheduled to be in service by January 2014.

Other Alternative Energy Projects and Technologies

Landfill / waste energy

Concentrated solar photovoltaic

Ocean current and ocean thermal

FPL also participates in a number of educational partnerships including Associate's Degree programs at Indian River State College, Miami Dade College and Palm Beach Community College; and research, grant and training partnerships at the University of South Florida. FPL also is developing Energy Miami programs with Florida International University and the University of Miami.

J. B. Clark

Mr. Clark attended the engineering schools at Georgia Tech and the Southern Technical Institute and subsequently graduated from a four-year Registered Electrician Apprenticeship Program in Florida and obtained a Master Electrician License. During some 20 years thereafter he worked for major electrical contractors throughout the southeast on construction projects that included both nuclear and fossil fueled power plants.¹¹

Mr. Clark presented reports and documentation from a number of publications and experts, as listed below:

National Joint Apprenticeship and Training Committee—Special Bulletin, May 2009

For the electrical industry, “green jobs” mean the creation of respectable work opportunities in a manner that justifies sustainable, environmentally secure “new” jobs in the United States. Green-collar jobs define the need for just and fair transition for workers and their families affected by climate change and/or government decisions to cut carbon emissions. Green jobs have received a variety of definitions, but there is a consensus that, at a minimum, green jobs should:

- Provide a just wage to support a family.
- Support careers, not project futures.
- Reduce harmful emissions and reduce the environmental impact of the construction project.

American Federation of Labor and Congress of Industrial Organizations Announces Center for Green Jobs

Union leaders announced a major program to help working Americans prepare for the next generation of jobs by creating a Center for Green Jobs. The Center and partners are working to engage in more than 1,100 training programs to create the skilled workforce needed for a clean energy future.

Interstate Renewable Energy Council (IREC)

The IREC reports, “Green jobs are found in industries and organizations dealing with renewable energy, energy efficiency and energy conservation. Jobs include products, services, research and design that contribute to environmentally sustainable practices. Jobs include new jobs, and greening of conventional jobs with training set to industry standards and with opportunities for economic advancement.

Mr. Clark also referenced California’s *Green Jobs Guidebook, Employment Opportunities in the New Clean Economy*. This resource profiles more than 200 green jobs expected to be open for the next generation of workers. A large portion of the green jobs in the Guidebook are found

¹¹ Mr. Clark, a former Workforce Florida Board member, is well-known for his work in the Florida Legislative process on issues including electrical and construction contracting; building codes; solar energy; electrical utility and telecommunication regulation; workplace toxic substances; tort reform; apprenticeship regulation; workforce education; election law; child labor and gender balance; business taxes; professional licensing and healthcare.

in the traditional employment sectors of manufacturing, installation, fabrication and operations. Other opportunities exist in both urban and rural settings with industry sectors like green building, renewable energies, energy efficient auditing, power plant operations, facilities management and farming. All these jobs offer affordable living wages with healthy and safe working conditions with opportunities for advancement. The complete *Green Jobs Guidebook* is available at www.edf.org/cagreenjob.

Al Stimac

Mr. Stimac is the President of Manufacturers Association of Florida and Metal Essence. He currently serves on the Board of Directors of the National Association of Manufacturing. He helped start the Manufacturers Association of Florida and has served as the President since the beginning.¹²

According to the National Council for Advanced Manufacturing (NACFAM), the overarching definition for green jobs in manufacturing includes jobs that contribute substantially to preserving or restoring environmental quality. However, in its application to manufacturing there are several general “shades of green” or categories on which to concentrate, such as:

- Greening existing manufacturing jobs. These jobs can help make manufacturing facilities more efficient. Jobs in this category cover many efficiency-related topics including, but not limited to, the following:
 - Energy efficiency and renewable energy
 - Resource efficiency
 - Waste efficiency
 - Water efficiency

- Jobs manufacturing “green” or “sustainable” products. Some examples of these types of products include:
 - Photovoltaic panels
 - Wind turbines
 - Products containing recycled or remanufactured components
 - Products to facilitate more efficient means of transportation
 - Many more products and product categories

¹² A Workforce Florida Board member, Mr. Stimac continues his career of helping manufactures through his new company, Machining Solutions, LLC, started in 2002. He now consults for other manufactures in equipment selections, process improvement, fixture/tooling designs and programming aimed at improving the viability of the sector in Florida.

- Jobs in the economy that are enabled through sustainable manufacturing. These can include:
 - Collection centers & materials recovery
 - Reuse
 - Recycling
 - Remanufacturing
 - Efficient transportation between points
 - Entrepreneurial opportunities

It is imperative that flexibility and progression are built into the Committee's definitions of jobs that are considered green. For example, as energy efficiency capabilities improve and become more affordable, the green jobs related to manufacturing applicable products will change accordingly. NAM believes the ability for our definitions and categorizations of green jobs to change over time must be built into the definition in order to stay up-to-date and progressive. Lack of that flexibility in the definition could be a detriment to sustainable manufacturing and effectively quash or restrain innovation.

VI. PUBLIC COMMENTS AND ADDITIONAL INPUT RECEIVED

The workshop agenda provided for a period to receive public comments. Names of those individuals and their affiliations are accessible via a reference in the endnotes. Additionally, written comments were welcomed by the Committee, if received by May 15. Following is a summary of the public comments received:

- The green job definition recommended for Florida by the Committee should go beyond the immediate window of opportunity associated with the U.S. Department of Labor discretionary funds and Recover Act stimulus dollars. The definition should be flexible and focused on current and future opportunities.
- The green job definition should be limited to green products or services. For example, solar product sales staff should be excluded as well as governmental lobbyist advocating for clean energy.
- Consider existing best practices from other states and municipalities and how those entities address green jobs and a green economy.
- More certainty, through definition and alignment in state policies, will grow the market for both green products and services.
- Consider the full spectrum of green jobs, from entry-level through to mid-level and degreed positions.
- The definition should be broad enough to include water and wastewater systems, as well as those efforts that focus on reclaimed water usage, process optimization, technology enhancements or equipment improvements, or protect the environment through efficient practices.
- Carefully distinguish between single jobs or occupations and green projects so as to better estimate the actual number of green jobs. For example, a contractor will count persons employed from project-to-project whereas labor market information typically counts people in a job.
- Industry needs to get engaged and stay engaged through the workforce training and curricula development process, particularly as the community college level. Education partners need to ensure their services are appropriately calibrated to today's needs.
- The definition of green sustainable jobs should consider land conservation to include composting.
- Establish a common nomenclature, then structure appropriate organizations to be involved.
- Energy efficiency and green house gas emissions reductions must include the role of automobiles. We need to ensure that our workforce, particularly Automotive Service Technicians, is prepared to deal with alternative fuels and new engine technologies.
- Structure definition to gauge or measure occupations, i.e. green point system based on environmental impacts and occupational wages.

VII. UPDATED GUIDANCE RECEIVED FROM U.S. DEPARTMENT OF LABOR FOLLOWING THE WORKSHOP

The U.S. Department of Labor issued a Training and Employment Notice on May 15, 2009. According to this notice, states will play a key role, working with public and private sector partners, in gathering information on skill qualifications for existing, new and emerging careers, and will publicize this information. State Workforce Investment Boards, like Workforce Florida, will also play a key role in developing plans and leading renewable energy and energy efficiency employment efforts across partnerships and implementing training programs in local and regional workforce areas. One-Stop career centers and a variety of organizations will benefit from state research and planning efforts to meet the training needs of workers and employers in emerging renewable energy and energy efficiency industries.

The guidance identifies five areas of opportunity as identified below. In all cases, the underlying foundation for all grant submissions will be the Green Jobs Act of 2007.¹³ The energy efficiency and renewable energy industries¹⁴ include:

- Energy-efficient building, construction, and retrofits industries;
- Renewable electric power industry;
- Energy efficient and advanced drive train vehicle industry;
- Biofuels industry;
- Deconstruction and materials use industries;
- Energy efficiency assessment industry serving the residential, commercial, or industrial sectors; and
- Manufacturers that produce sustainable products using environmentally sustainable processes and materials.

State Labor Market Information Improvement Grants — This category will consist of an open competition among state workforce agencies or consortia of state workforce agencies to collect, analyze and disseminate labor market information as well as develop a labor exchange infrastructure to direct individuals to careers in the energy efficiency and renewable energy sectors. Forming consortia is strongly encouraged. Grantees will track workforce trends resulting directly or indirectly from Federal Recovery Act investments as well as related state, local or private sector investments that create jobs in energy efficiency and renewable energy sectors. Additionally, grantees will improve labor exchange infrastructure to populate occupational listings in job banks. Grantees also will focus on job placement for individuals who finish training in green sectors. This grant will focus on identifying the existing and emerging needs of employers in the green sector, both by required skill sets and job openings, and making available the use of employee job placement tools to match workers with those jobs.

¹³ As described in the Workforce Investment Act Section 171(e)(1)(B)(ii).

¹⁴ Identified in the Green Jobs Act (Section 1002, (1)(ii)).

Energy Training Partnership Grants — This category will consist of separate applicant pools: one will be comprised of eligible national labor-management organizations with local networks, and the other, with statewide or local strategic nonprofit partnerships consisting of labor-management organizations, labor, business, workforce investment boards like Workforce Florida or Florida's 24 regional workforce boards and other organizations. These grantees will deliver training that leads to employment in careers in energy efficiency and renewable energy sectors. Grantees are expected to form partnerships to design and distribute training approaches that lead to portable industry credentials and employment, including registered apprenticeship, and will focus on dislocated and incumbent workers.

Pathways Out of Poverty Grants — This category will consist of separate applicant pools: one will be comprised of eligible national community-based and faith-based organizations with local networks, and the other, local partnerships that include community-based organizations, education and training institutions, business and labor organizations. Targeted populations include low-income and under-skilled workers, unemployed youth and adults, high-school dropouts or other underserved populations, with priority given to highly impoverished areas. Successful training programs for these populations will include sound recruitment and referral strategies; will integrate basic skills and work-readiness training with occupational skills training; will combine supportive services with training services to help participants overcome barriers to employment; and will provide services at times and locations that are easily accessible.

State Sector Training Grants — This category will be open to State Workforce Boards in partnership with their state workforce agency, local boards, or regional consortia of boards. Grant funds will be used to provide training and job placement activities aligned with a workforce sector strategy that will target energy efficiency and renewable energy sectors. The strategy will reflect state energy policies and how they impact the work of local board to prepare workers for the energy efficiency and renewable energy sectors. Grantees will demonstrate strong partnerships to develop the energy efficiency and renewable energy workforces; relationships with other state agencies receiving Federal Recovery Act funding to support strategic planning and implementation efforts; and the ability to implement a workforce development approach that targets the needs of a specific industry sector and provide an integrated system of education, training and supportive services.

Green Capacity Building Grants — This category of grant competition is aimed at building the capacity of *current* U.S. Department of Labor grantees to prepare targeted populations for employment in the energy efficiency and renewable energy sectors. These awards will support organizations as they update existing training and job placement programs for the emerging green economy in order to facilitate the success of other projects under the Green Jobs Initiative. Key activities will include the purchase of equipment, staff professional development, curriculum development and/or adaptation, partnership development, and where necessary, the hiring of additional staff. Florida has several regions that are current U.S. Department of Labor grantees that might be considered under this category: First, the WIRED (Workforce Innovation for Regional Economic Development) grant awarded to Florida's Great Northwest in 2005 which concludes next year. Green technologies are one of several industry targets under this grant. Second, the CLEAN (Certifying, Licensing, and

Educating of Apprentices for the Nuclear Energy Industry) grant awarded in 2008 to WorkNet Pinellas, Plumbers and Pipe fitters Local Union 123, Bechtel Corporation, Progress Energy and others in an 11-county area. This grant will develop a pipeline of certified welders to fill the critical shortage of skilled craft labor associated with major industrial projects (e.g., nuclear power plant).

Finally, the notice provides a timeframe for upcoming Solicitation for Grant Applications opportunities. The first solicitations are expected to be announced in June 2009 with awards anticipated in the fall.

VIII. OTHER STATES' APPROACHES: GREEN JOBS/GREEN ECONOMY, DEFINITIONS AND INDUSTRY SURVEYS

Rebecca Rust, Director of the Labor Market Statistics Center, Florida's Agency for Workforce Innovation, presented the committee with a matrix of Selected Definitions of Green Industries and Green Jobs from 16 states. The matrix is included in its entirety in the appendix. Each state approached the definition of "green" in a different manner. Some focused solely on energy, renewable or energy efficiency, others on green occupations or industries. Below is a summary of those states and how their definitions are founded.

California

California's Employment Development Department defines green or clean as any activity or service that performs at least one of the following (using the acronym, **GREEN**): **G**enerating renewable energy, **R**ecycling existing materials, **E**nergy efficient product manufacturing, construction, installation, and maintenance, **E**ducation, compliance and awareness, **N**atural and sustainable product manufacturing. Generating and storing renewable energy includes alternative energy generated by, but not limited to: wind, solar, water, biofuels, biomass, and hydrogen fuel cells.

To estimate current green jobs and to identify the occupations that are emerging or evolving toward a more green economy, California conducted a mail survey with follow-up phone calls. The sample size is 51,000 out of 1 million employers. Survey results have not been published.

Colorado

Through a study by the American Solar Energy Society and Management Information Services, Inc., Colorado's green definition centers on Renewable Energy and Energy Efficiency. A job in the Renewable Energy (RE) industry consists of an employee working in one of the major RE technologies included in this study — wind, photovoltaics, solar thermal, hydroelectric power, geothermal, biomass (ethanol, biodiesel, and biomass power), fuel cells and hydrogen. In addition, in this study, jobs in RE include persons involved in RE activities in the federal, state, and local governments, universities, trade and professional associations, non-governmental organizations, consultants, investment company analysts, etc.

A job in the Energy Efficiency (EE) industry consists of an employee working in a sector that is entirely part of the EE industry, such as an energy service company or the recycling, reuse, and remanufacturing sector. It also includes some employees in industries in which only a portion of the output is classified as within the EE sector, such as household appliances, heating, ventilation and air-conditioning (HVAC) systems, construction, etc. Finally, in this study, jobs in EE include people involved in EE activities in the federal, state, and local governments, universities, trade and professional associations, non-governmental organizations, consultants, investment company analysts, etc.

Connecticut

Connecticut, through the Department of Labor, focuses on Green occupations and industries and defines these as any occupation whose Standard Occupational Classification (SOC) definition indicated that the occupation in question contributes directly to preserving and enhancing the quality of the environment. Green industries is defined as any North America Industry Classification System (NAICS) industry defined as producing a product or service that contributed directly to preserving and enhancing the quality of the environment. Connecticut also addresses climate change through the Governor's Steering Committee on Climate Change's *Climate Change Action Plan 2005*, by reducing green house gas emissions through action in transportation and land use; residential, commercial and industrial; agriculture, forestry and waste; electricity generation; and education and outreach.

District of Columbia

The District of Columbia, through a study by Louis Berger Group, says green jobs are career-track employment opportunities in emerging environmental industries as well as conventional businesses and trades, created by a shift to more sustainable practices, materials, and performance. The definition includes both lower and higher skilled employment opportunities that minimize the carbon footprint of all necessary inputs and directly result in the restoration of the environment; generation of clean energy and improved energy efficiency; creation of high performing buildings; and conservation of natural resources.

Illinois

Illinois has conducted a green survey but has no definition listed. Some of the prevalent green collar jobs include: energy raters for homes and commercial buildings; green cleaning and building maintenance staff; alternative energy service providers (solar, wind, geothermal); installer/maintenance of storm water management systems (green roof, permeable pavement, rain water collection); urban agriculture (landscaping, farming, and agriculture) and green-related services (recycling, retail, and manufacturing). Conducted research identified four green collar job sectors:

- Urban Agriculture and Horticulture
- Building Construction, Operations and Maintenance
- Green Products and Services
- Energy Efficiency and Alternative Energy

Michigan

Michigan defines green jobs as jobs directly involved in generating or supporting a firm's green related products or services. The state's green economy is defined as being comprised of industries that provide products or services in five areas: agriculture and natural resource conservation; clean transportation and fuels; increased energy efficiency; pollution prevention or environmental cleanup; and renewable energy production.

Potential Core Green-Related Activities:

- Producing renewable energy, renewable energy parts and equipment, or supplying related products or services, conducting research and development or providing consulting assistance (solar, wind, hydro, geothermal heat, biomass).
- Increasing energy efficiency (insulation, retrofitting, green building design, energy demand reduction, production of energy efficient household appliances, engineering, consulting or research services).
- Clean transportation and fuels (advanced batteries, fuel cells, electric and hybrid vehicles, alternative fuels, public transit, activities related to meeting fuel efficiency standards).
- Agriculture and natural resource conservation (no till conservation tillage, organic farming, community supported agriculture, methane capture in animal and/or food waste management, planting trees or grasses, forest and land management, water conservation, environmental consulting services, environment, conservation, and wildlife organizations).
- Pollution prevention and environmental cleanup (controlling industrial and commercial emissions, water treatment, recycling center operation, waste treatment, environmental remediation, Brownfield redevelopment, hazardous waste cleanup, wetlands restoration).

Michigan conducted a statewide survey to estimate the number of green jobs (both direct and support) in the Michigan economy. The study identified 96,767 direct green jobs and 12,300 support green jobs, or a total of 109,067 green jobs, currently representing 3.4 percent of total private sector employment. Using Washington State’s model, Michigan defined five “green core areas” and asked employers to classify themselves:

- The Clean Transportation and Fuels core area accounts for 39,300 or 41 percent number of the state’s green jobs.
- Nearly one-quarter of green jobs in the state were attributable to the Energy Efficiency core area, and most of these positions were associated with the state’s construction industry.
- Conservation supplied about 12,000 green jobs each.
- Renewable Energy chipped in nearly 9,000 green jobs.

Michigan used a three-pronged approach: survey mailed to employers, analytical work using labor market information, and focus groups to better understand workforce issues. The sample size was 13,303 out of a population of 121,279 establishments. The response rate was 40 percent.

Minnesota

Minnesota’s Governors Green Jobs Task Force defines green jobs as the employment and entrepreneurial opportunities that are part of the green economy,¹⁵ including the four

¹⁵ As defined in Minnesota Statute 116.437J1.

industry sectors of green products, renewable energy, green services and environmental conservation. Minnesota's green jobs policies, strategies and investments need to lead to high quality jobs with good wages and benefits, meeting current wage and labor laws.

Green Products are industries related to the manufacture of products that reduce environmental impact and improve use of resources such as energy efficiency, water conservation and use of environmentally preferred materials; used in one of the following four areas:

- Building
- Transport
- Consumer Products
- Industrial Products

Minnesota has not yet published the results of a statewide and twin cities survey to identify green job titles and training requirements for future training. The report is expected to identify green opportunities for emerging green industries and identify transferable skills to meet hiring needs of such green industries.

New York

The New York Lieutenant Governor's Renewable Energy Task Force was charged with three primary goals: to identify barriers in New York State to wider deployment and installation of renewable energy; to recommend policies, including financial incentives, to overcome those barriers to attract clean industries to economically depressed regions of the state; and to identify future market areas where additional research and development investment is necessary. After the Task Force's initial meeting, it was determined that it would break out into four subcommittees:

- *Renewable Fuels*: focusing on corn-based and cellulosic ethanol, biodiesel, butanol, liquefied biogas, hydrogen, and electric-based transportation;
- *Energy Efficiency*: focusing on electric, natural gas and oil efficiency (vehicle as well as building);
- *Renewable Electricity Central Generation*: addressing generation facilities selling into the wholesale electricity market, with specific focus on wind, sustainably produced biomass, hydropower, and tidal power; and,
- *Renewable Electricity Distributed Generation*: focusing on "customer-side" applications of solar photovoltaic (PV), solar thermal, sustainable biomass, anaerobic digesters, geothermal, small wind, small hydro (including kinetic power), and fuel cells.

Oregon

Oregon defines a green job as one that provides a service or produces a product in any of the following categories:

- Increasing energy efficiency
- Producing renewable energy
- Preventing, reducing, or mitigating environmental degradation
- Cleaning up and restoring the natural environment
- Providing education, consulting, policy promotion, accreditation, trading and offsets, or similar services supporting the categories above

The state has conducted a statewide green jobs survey to include job titles and job descriptions, any special requirements or licenses, wage ranges and projected number of jobs that worked in green areas. Two mailings of the survey went out and telephone follow-up was conducted. Results of the survey are expected in June, 2009.

Tennessee

Tennessee focuses on energy efficiency and conservation, using alternative fuels and renewable energy sources and developing clean-energy technology. The state goes further to say green jobs have been defined as family-supporting jobs that contribute significantly to preserving or enhancing environmental quality. Green jobs reside primarily in sectors that compose the clean energy economy – efficiency, renewables, alternative transportation, and fuels.

Washington

The Washington State Legislature directed the Employment Security Department to conduct a survey to determine the number of jobs that directly support environmental protection and clean energy goals. The survey covers firms that produce any goods or provide services that support any of the following four core areas and goals:

- Increasing energy efficiency;
- Producing renewable energy;
- Preventing and reducing environmental pollution ; and
- Providing mitigation or clean-up of environmental pollution.

The green economy is rooted in developing and using products and services that promote environmental protection, energy independence, and economic development. Environmental protection includes the preventing and reducing environmental pollution as well as efforts to mitigate environmental pollution.

More than 47 percent of participating employers reported that they hold industry certifications in one or more green core areas. Construction accounted for 54 percent of all reported certifications. The study recommends a subsequent survey to expand analyses of green economy industries and occupations to address anticipated labor shortages in many green jobs due to retirements, population trends, low enrollments in related education and

training programs, and a lack of career interest among K-12 students in the industries and occupations that support green economy growth. The survey was sent by mail with aggressive phone follow-up. The sample size was 17,221 establishments with a minimum of 200 employees out of a population of 27,284 establishments. The response rate was 61.1 percent.

IX. SUMMING IT ALL UP: STAFF ANALYSIS OF INPUT RECEIVED

Gearing up Florida’s workforce system to effectively respond to produce and/or re-tool workers needed in the green economy will require a comprehensive strategy. However, to form that strategy will require—as a first step—a foundation based on a common understanding of the green economy in Florida. That foundation will require an agreed-upon definition for a green job, identifying in what industry sectors the jobs currently exist and how to quantify them. It also will require us to think differently about the duration of individual jobs and distinct industry sectors in context of a rapidly evolving and changing economy. For example, the vast majority of green jobs may be traditional jobs where workers are put to task on a green project rather than a green industry. Green work may be episodic and related to sequential activities with finite start and end terms. This is an important point of emphasis, since green jobs are a subset of the larger green economy. For example, a welder hired by a general contractor to construct a solar powered energy plant will move on to a different project once that plant is constructed. So, workers may shift between traditional static industries (e.g., construction) and green industries. Defining the green economy and green jobs also will require that we evaluate Florida’s natural resources, and its assets and strengths as well as its limitations, in order to determine where future job growth trends might evolve. For example, given the low wind velocity in Florida, we may not realize significant power generated from wind, until technology improvements allow for lower wind speed capture.

Building forward from a green job definition, we need to better understand what skills are sought by employers in the green economy, in both entry-level and professional-level workers. Through asset-mapping of our existing framework of educational programs, we need to better determine if we are producing trained workers with these skills in sufficient quantity. Or, if we have sufficient workers, how can the workforce system aid in re-tooling the existing skill sets of today’s workers for tomorrow’s opportunities. We also need industry to validate what industry-recognized certifications, if any, are relevant in the green economy.

At least 16 other states nationwide have taken first steps to define green jobs within their states. By doing so, this definitional foundation brings certainty, commonality among agencies’ responses, and therefore has potential to accelerate that state’s economic development activities. Most include all or the majority of those elements identified in the Green Jobs Act of 2007. A few others expand on energy efficiency to include “green” practices in state and local governments, universities, trade and professional associations, consultants and so forth. Several states also emphasize in their green job definition that such a job provides wages sufficient to support a family. All 16 states used an agreed to definition to shape an industry survey to better understand the green market in their respective states. The most comprehensive industry survey—from an economy-wide green job measurement perspective—was Washington State. That survey was constructed to solicit input on industry-recognized certifications, and anticipates a follow-up survey to uncover labor shortages due to retirements, population trends, low enrollments in education/training

programs, and a gap in career awareness among young students about jobs that support green economy growth. From a green talent development perspective, Michigan has set an example, through a combination of survey, focus groups and analysis, in estimating future hiring needs, assessing recruiting difficulties and identifying required green skill sets.

These states are ahead of the curve in developing responsive action plans that are anchored in statute and can drive growth in green jobs within their borders. Codification of the definition in state law and policy can help create a road map to drive alignment between education, workforce and economic development activities by focusing solutions to the priorities first articulated in Governor Crist's executive orders.

The promise of a green economy and its opportunities has generated a great deal of interest at all levels: from job seekers to the business community to those with entrepreneurial vision. The work accomplished to date through the Florida Energy and Climate Commission and the Florida Department of Environmental Protection to promote energy efficiency and renewable energy incentives and opportunities has created a wealth of information valued by all Floridians. Yet how do we better communicate the green economy *workforce* opportunities to the public and stakeholders statewide?

How do we partner together more effectively, across organizations and agencies, to compete for and thus garner "our fair share" of Federal Recovery Act discretionary funds? Are there existing collaborative efforts that can be tasked with identifying where Florida or its regions are at an advantage to secure these funds? It is clear that the Federal Recovery Act places emphasis on creating and saving jobs, reducing energy and reliance on imported fuels, reducing greenhouse gas emissions and promoting renewable energy. In a largely-populated state like Florida, however, the green economy must also be environmentally sustainable. For that reason, it is critical that Florida consider water resources—specifically both the production of potable water and elimination of waste water—in our workforce solution strategies. And how do we measure our progress going forward, especially through the use of Federal Recovery Act funds, but looking ahead to post-recession economy well-being.

Finally, how do we use the outcomes from the green jobs workshop and this report to drive action and change? The recommendations and next steps identified below focus on addressing those areas identified collectively by the subject matter experts and public comments received.

X. Committee Recommendations and Next Steps

Based on the advice of the invited subject matter experts and additional information received from public comments at the May 8 workshop, the Committee recommends that we adopt the following definition for green jobs. This definition is flexible and will be revisited following the results of a Florida industry survey recommended below.

“A green job increases the conservation and sustainability of natural resources for the benefit of Floridians. This includes jobs that reduce energy usage or lower carbon emissions, and protect Florida’s natural resources. Green jobs should provide worker-friendly conditions, pay sustainable wages and offer opportunities for continued skill training and career growth.”

The Committee also has identified the following issues and suggests the following recommendations and next steps to be implemented as soon as possible so that Florida’s workforce system is proactively prepared to respond to the U.S. Department of Labor discretionary grant fund opportunity (expected June 2009) as well as any other competitive funding options as they become known. The timeline is aggressive yet critical to success.

Issue 1: Once a green job is defined, Florida’s workforce system needs to better understand the magnitude of green jobs in the state economy.

Recommendation 1:

Estimate current and future projections through special industry surveys and labor market statistics to better understand the magnitude of green jobs and guide workforce development investment and training activities.

- Under the guidance of this Committee, Florida should submit a competitive proposal, led by the Agency for Workforce Innovation, Labor Market Statistics Center, to the upcoming U.S. Department of Labor’s State Labor Market Information Improvement Grants referenced in the May 15, 2009, Training and Employment Notice.
- Should Florida be unsuccessful in its grant submission, Workforce Florida should identify funds to conduct a green jobs industry survey and commission the Agency for Workforce Innovation, Labor Market Statistics Center, to do so with industry guidance and input.

Issue 2: We need to better understand what skills are sought by employers in the green economy, both in entry-level workers through to professional-level workers. Through asset-mapping of our existing framework of educational programs, we need to better determine if we are producing trained workers with these skills in sufficient quantity.

Recommendation 2:

Conduct gap analyses to identify training programs, skill sets and industry needs.

- Make full use of existing reports and analyses including the Center for Energy Workforce Development’s Energy Workforce Supply Report, prepared by Economic Modeling Specialists, Inc., and the Department of Education’s Greenforce Florida Alternative Energy Workforce Profile report.
- Better document market growth in Florida in key occupations that translate to expedited replication of market-relevant training programs statewide.

Issue 3: Once aligned to a common definition and road map, we need to better understand what organizations and agencies are doing to prepare for the “greening” of Florida’s economy and workforce. How can we better align our respective efforts?

Recommendation 3:

Create an aligned and sustainable green workforce action plan that ensures sufficient capacity for effective programs, results in a coordinated and flexible workforce development infrastructure, and creates a feedback mechanism that ensures training programs and curricula are driven by industry’s priority workforce needs.

- Under the direction of Workforce Florida, develop partnerships across organizations and agencies, specifically the Florida Energy and Climate Commission, the Florida Energy Systems Consortium, the Department of Community Affairs, the Department of Education, the Florida Energy Workforce Consortium, Florida’s regional workforce boards, among others, to create the action plan.
- Engage the Employ Florida Banner Centers for Energy, Alternative Energy and Construction and their industry advisory councils to offer best advice on closing training/education gaps.
- Identify secondary career academies that produce skills related to industry needs and build career awareness of the green economy.
- Formalize articulation or replication agreements and other linkages among training providers to expand the reach by *sharing* relevant training programs. Do not duplicate training or curricula.
- Where possible, focus on industry-recognized credential attainment resulting from training programs.

Issue 4: How can Floridians access information about green jobs and workforce training programs?

Recommendation 4:

Develop a statewide communications plan, including scope, tasks and schedule that provide the public access to information about green jobs, training and workforce development

resources, and Florida's online job-matching tool, the Employ Florida Marketplace at EmployFlorida.com.

- Debunk the myth that green jobs are entirely new jobs.
- Consider the development of a Web site that targets those workers most in need of workforce services—the residential construction industry—in concert with the Florida Home Builders' Association. Link the Web site to Florida's Economic Recovery Web site, FlaRecovery.com.
- Engage the Employ Florida Communications Consortium, comprised of the communications professionals in each of the 24 regional workforce boards to offer best advice and tactics.
- Incorporate the Environmental Protection Agency's fact sheet on using federal funding to develop green workforce training programs, when available.

Issue 5: How do we know we are making progress? How do we ensure the highest return on investment on Federal Recovery Act funds and other public investments?

Recommendation 5:

Track the return on investment of state-level workforce training projects funded through Workforce Florida.

- The Sustainability/Infrastructure Committee will report quarterly to the Business Competitiveness Council and the entire Workforce Florida Board of Directors. Further, the Committee will liaison with the Workforce Readiness and Performance Council to measure outcomes for Florida's workforce system.
- Showcase best practices from the workforce regions at Business Competitiveness Council meetings with a focus on replication opportunities.
- Consider the tracking methodology under development by Workforce Central Florida.
- Incorporate the United States Council of Economic Advisors assessment methodology to track jobs created and maintained, when available.
- Improve the Employ Florida Marketplace to identify and track green jobs based on the results of the industry survey.

Issue 6: What is our action plan for ensuring Florida receives its fair share of the Federal Recovery Act's discretionary funding (\$500 million) for green jobs?

Recommendation 6:

Identify competitive opportunities in which Florida and its workforce regions can apply for Federal Recovery Act discretionary funds as well as other funding opportunities.

- Engage critical stakeholders, such as the Florida Energy Workforce Consortium through its collaboration of industry, labor unions, education and workforce representatives, the Sustainability/Infrastructure Committee and other agencies or entities, as appropriate, to guide targeted, strategic and immediate response decisions.

Issue 7: How do we use this report and the proceedings of the Green Jobs Workshop to drive positive change for Florida’s economy and workforce system?

Recommendation 7:

Advocate the Florida green jobs definition and green workforce solutions in forums as appropriate.

- Transmit the report to Governor Crist, the Florida Legislature, the Florida Energy and Climate Commission, U.S. Department of Labor Secretary Hilda Solis, the Florida Congressional Delegation, and the Center for Energy Workforce Development, among others.
- Should energy legislation be considered in the 2010 Florida Legislative Session, work with the Governor’s Office, key legislators and committee staff to incorporate the green jobs definition, where appropriate, and monitor efforts to assist with comprehensive workforce pipeline development tied to the state’s energy policies.
- Work with Workforce Florida’s Strategy Council and the upcoming Roadmap to Florida’s Future public forums, organized by Enterprise Florida, to solicit public input and training and workforce needs in the green economy.

Issue 8: How do we better align Florida’s workforce training efforts focused on green jobs with the state’s economic development initiatives to grow our green economy?

Recommendation 8:

Work with Enterprise Florida, Inc. and the Florida Economic Development Council to establish a connection between attracting and growing green economy businesses with customized training and hiring/recruitment tools.

- Consider the creation of a Memoranda of Understanding between Workforce Florida, Enterprise Florida, and the Florida Economic Development Council that articulates the strategic vision to propel the state forward.
- Consider the creation of a Green Business Forum, modeled after the Department of Management Services Office of Supplier Diversity’s popular and helpful “Matchmaker” Conference and Trade Show to assist business owners in identifying opportunities associated with the green economy.

XI. Endnotes

- A. Green Jobs Workshop Agenda
- http://www.workforceflorida.com/bcs/calendar_docs/090508_GreenJobsWorkshopAGENDA.pdf
- B. Names and Affiliations of Persons Who Made Presentations to the Committee at May 8 Green Jobs Workshop
- <http://www.workforceflorida.com/news/docking/B.%20Names%20and%20Affiliations%20of%20Persons%20Who%20Made%20Presentations%20t%85.pdf>
- C. Reports and Studies Referenced by Subject Matter Experts
- <http://www.workforceflorida.com/news/GreenJobs.htm>
- D. *2009 Strategic Plan Update*. Workforce Florida, Inc. January 1, 2009
- <http://www.workforceflorida.com/news/docs/2009WFIStrategicPlanUpdate.pdf>
- E. U.S. Department of Labor Training and Employment Guidance Letter No. 14-08. March 18, 2009
- <http://www.workforceflorida.com/news/docking/E.%20TEGL%201408.pdf>
- F. U.S. Department of Labor Training and Employment Notice No. 44.08. May 15, 2009
- <http://www.workforceflorida.com/news/docking/F.%20TEGL%204408.pdf>
- G. Letter from Bud Para, Director, Legislative Affairs, JEA regarding JEA's Sustainability Initiatives. May 11, 2009
- <http://www.workforceflorida.com/news/docking/G.%20Para%20Letter.pdf>
- H. *Selected Definitions of Green Industries and Green Jobs*. Florida Agency for Workforce Innovation, Labor Market Statistics Centers. April 2009
- <http://www.workforceflorida.com/news/docking/H.%20Selected%20Definitions.pdf>
- I. *Selected Green Jobs Surveys Conducted by State Workforce Agencies in Washington, Michigan, Oregon, Minnesota and California*. The Agency for Workforce Innovation, Labor Market Statistics Center, May 2009.
- <http://www.workforceflorida.com/news/docking/I.%20Selected%20Green%20Jobs%20Survey.pdf>
- J. *Greening of the Industry*. Center for Energy Workforce Development.
- <http://www.workforceflorida.com/news/docking/J.%20CEWD%20Greening%20of%20the%20Industry.pdf>