Executive Summary

Last fall, the Bill and Melinda Gates Foundation awarded $300,000 to the Center for Energy Workforce Development (CEWD) to fund the Get Into Energy Career Pathways Planning Project, which would create a model for evaluating state readiness to implement a career pathways system for low-income young adults, ages 16 – 26, who are interested in energy careers.

CEWD is a 501(c)(3) non-profit organization formed by the electric and natural gas energy industry for the purpose of creating the next generation of energy workers. The mission of CEWD is to "build the alliances, processes and tools to develop tomorrow's energy workforce." The Center's members include the major energy industry trade associations (Edison Electric Institute, Nuclear Energy Institute, American Gas Association and the National Rural Electric Cooperative Association) and electric and natural gas energy companies that generate energy from a variety of fuel sources including fossil fuels, natural gas, nuclear, wind, solar and biofuels. The Center also partners with labor unions (IBEW and UWUA), educational institutions and the workforce system.

The Gates Foundation awarded CEWD this planning grant to evaluate the readiness of nine state energy workforce consortia to implement the Get Into Energy Career Pathways Model, which provides a roadmap for entry into skilled utility technician positions in the energy sector with pathways to higher-level jobs in a variety of work settings. This model focuses on the needs of the following three stakeholder groups: students and potential applicants; educators; and employers. The system is divided into three key modules that support these stakeholders: GIE Outreach and Career Coaching; Career Pathways Curriculum and Stackable Credentials; and Employer Collaboration and Support.

The original objective of the grant was to develop an implementation plan for five states that would be selected to implement the model. As a result of the project analysis, CEWD recommended that pilot projects be implemented in eight states (one state, Texas, voluntarily dropped out). The project was to fund development of the evaluation process; a gap analysis for each of the states targeted for initial implementation; the development of public tools that can be used by additional states to deploy the model; the development of a credentialing framework for the creation of post-secondary, industry-recognized certificates for skilled utility technician positions; and technical assistance to identify current federal and state funding and assist states in applying for grants to leverage the cost of implementing the Pathways system. Each of these objectives has been accomplished.

Pilot projects were selected in each of the eight states, based upon the match between industry need (whether a skills gap existed), current education assets (could an appropriate training program easily be developed in the region), industry support (is there a strong consortium in the area able to step in and oversee such a program) and outreach capabilities (is there a

workforce investment board or pipeline organization in the region to help identify potential applicants). The initiative focused on states that have a significant investment in and support for developing pathways to skilled utility technician positions. The nine states chosen for evaluation were Ohio, Texas, North Carolina, Washington, Georgia, Florida, California, Indiana and Minnesota. The number of states dropped to eight, however, after Texas withdrew from the program because its state energy consortium was more heavily focused upon nuclear energy jobs during this period and the potential impact on energy strategy with the impending governor's race.

As part of this grant, CEWD developed an implementation plan for pilot programs in each of the eight states. Ultimately, the goal is to replicate and expand these programs so that the GIE Career Pathways Model can be implemented by state consortia in any state.

Target Audience Description

The GIE Career Pathways initiative directly supports the Gates Foundation's goal to double the number of low-income, young adults (ages 16-26) earning a postsecondary degree or certificate that has value in the marketplace.

CEWD is partnering with several pipeline organizations to access this group, specifically those that have a related focus, such as energy conservation and construction, in order to attract individuals who potentially would be interested in energy jobs. One requirement of this target audience before they enter the Pathways process is that they have a high school diploma or GED, since this is the least common denominator for energy companies.

This target audience typically faces a number of barriers that need to be addressed when assisting them in advancing their educational attainment. A number of organizations, such as the Lumina Foundation and the Center for American Progress, have researched what works for this group and recommend a number of best practices to increase the chances of successful attainment of a post-secondary credential. These include:

- Creating post-secondary pathways that lead to industry-recognized credentials
- Matching students to a mentor or career coach who stays with them through employment
- Providing wrap-around support services (such as child care, transportation stipends or counseling)
- Accelerating learning and time to credential
- Offering flexible scheduling options
- Grouping students into cohorts

The Get Into Energy Career Pathways model incorporates all of these best practices.

Project Management and Systems Building

Deliverables:

- Project plan and budget
- Toolkits: Career Support Evaluation, Career Pathways Evaluation, Employer Support Evaluation
- Detailed analysis and recommendations for accessing national and state funds
- Final report and implementation plan

To achieve the project goals, CEWD partnered with a wide range of stakeholder organizations to provide specific expertise on project tasks. The project team was led by CEWD consultants and contractors, with additional support provided by the Association for Career and Technical Education (ACTE), the American Association of Community Colleges (AACC), the Council on Adult and Experiential Learning (CAEL), Economic Modeling Specialists, Inc. (EMSI), and Regionerate. A detailed project plan was created with specific task assignments, along with a critical path analysis. The project team prepared weekly status reports on project assignments, held bi-weekly conference calls and twice met in person with the Project Advisory Council over the course of the project. In addition, the group communicated through the online "Communities" website developed as part of CEWD's own site. This secure site allowed the easy sharing of documents, resources and other information throughout the project.

The Advisory Council also included representatives from the Nuclear Energy Institute (NEI), Institute of Nuclear Power Operations, Edison Electric Institute (EEI), U.S. Department of Education Office of Vocational & Adult Education Division of Academic & Technical Education, American Gas Association, the Corps Network, Washington Gas Light Co, American National Standards Institute (ANSI) and the National Rural Electric Cooperative Association (NRECA), along with several technical and professional consultants.

This team will remain in place during the implementation phase of the project to ensure continuity.

See Project Documents: Appendix A Project Plan, Appendix B Critical Path and Appendix C Project Budget.

Surveys were developed and used to evaluate state readiness and strengths in each of three areas: educational pathways; engagement of state consortia and industry leaders; and outreach and support services for the target population.

For each service area, questions were developed to help identify existing programs; organizational structures; populations served; services provided as well as those needed but not currently available; funding sources; and other details that would aid in evaluating strengths, weaknesses and gaps that needed to be filled. These questions were compiled into

survey instruments used during a series of interviews with service providers, educational organizations, industry leaders, government and nonprofit agencies and others.

For example, in evaluating education pathways, interviews were conducted with representatives from postsecondary institutions, state education officials, university financial aid offices and state energy consortia members. In evaluating the strengths of state consortia, energy industry leaders and other consortia members (such as those representing labor, workforce investment boards and education leaders) were interviewed. In identifying and evaluating career counseling services, representatives from workforce investment boards, social service organizations and pipeline organizations were interviewed. Finally, a detailed evaluation of pipeline organizations that could potentially act as partners in pilot programs for each of the targeted states was conducted. Those with regional, state and national chapters were identified to aid energy stakeholders nationwide in looking for potential resources to tap into.

Based on these evaluations, toolkits were developed for state consortia and energy industry leaders to use outside the initial targeted eight states to identify gaps, strengths and potential opportunities for implementing the Pathways Model nationwide.

See Appendix D for the Evaluation Toolkit.

Technical assistance for this project included two phases: researching existing federal and state funding streams within each of the target states for assessment, education, training, work-study and support services for grant participants; and holding a series of meetings with federal partners and foundations to explore potential areas of funding support and the ability to leverage deliverables from prior grants. Existing relationships with federal agencies, workforce boards, trade associations, and national and community foundations were coalesced in an attempt to explore potential funding support for the Gates Foundation Career Pathways Project Plan. Opportunities to support key issue areas and provide network-building and funder-to-funder matching were scanned and mapped.

Collaboration among stakeholders and focused attention on identifying funding from public-private partnerships is critical to sustaining the Gates Foundation supported career pathways strategies. The gap analysis of funding requirements involves assessing what federal, state, regional and partner resources can be leveraged and directed to fill the gaps. Building a competitive workforce through career pathways requires trusting relationships and clear lines of communication among public and private partners. Multiple funders are required to support entry into and advancement along a sequenced career pathway. The education, workforce, social service agencies and foundations must consider how to align resources with the needs of employer partners in order to recruit, assess, counsel and place trainees and students, and deliver necessary support services to help maximize success rates.

Sustaining competitive workforce and career pathways strategies requires a foundational support network and the ability to seek out and leverage new resources. Education, public workforce system, private foundations, industry organizations, and community-based programs provide resources and investments in our pilot regions. The sustainability plan includes streamlining efforts and aligning resources with other compatible investments in each state and region. As one can ascertain from this report, the energy-focused sector investments by the U.S. Department of Labor- ETA are significant. The challenge remains to leverage those grant deliverables that have been successful and can be replicated and sustained in other areas. Foundations are also providing philanthropic resources for projects and efforts that are transformative in nature. Holding dialogues with funders about prospective grantees and partnerships to support GIE Career Pathways has enabled us to better address issues of funding key gap areas, such as the support services and "earn while you learn" initiatives.

Specifically, in carrying out phase one, we identified a dozen currently active U.S. Department of Labor/Employment and Training Administration High Growth Industry grants in the targeted states, along with 10 Community-Based Job Training Grants and one Workforce Innovation in Regional Economic Development (WIRED) grant.

During phase two, we met with representatives from the following foundations: Lumina, Walmart, Joyce, Annie E. Casey and Mott. While detailed information on each of the meetings is included in the Appendices, below is a high level overview of potential areas of collaboration for each foundation.

Lumina: The Lumina Foundation indicated that they were in close dialogue with the Gates Foundation on their respective funding strategies and opportunities to collaborate. They also spoke about their investment in accelerated degree programs (e.g., $2.8 million to Ivy Tech) and their upcoming RFI for a round of demonstration pilots; these pilot projects would fund regional and/or state postsecondary systems to build on other opportunities to accelerate associate's degrees.

Walmart: The Walmart Foundation is interested in exploring potential areas of collaboration for the implementation pilot or phase two of the grant for supplemental funding. The foundation is also interested in possibly funding our model if it can be demonstrated that individuals are moving through the pipeline beyond industry fundamentals to the occupation specific training. It would be at this point in the process that they could fund training, job placement and retention services. They would be looking at cost per person and efficiencies. Moreover, they are funding some of the pipeline or referral organizations such as JAG and Youth Build. As such, there might be some opportunity for synergy in this effort.

Joyce: The Joyce Foundation has strong models with Washington State's I.B. E.S.T. program and Ohio's Adult Basic Ed and Career Tech programs. They also indicated that some community colleges are using work-study money to fund the "earn while you learn" piece. The Joyce Foundation's focus on Shifting Gears and Bridge Programs seems to provide opportunities for

further collaboration. The foundation offered to connect us to state policy members of their pilots in Indiana, Minnesota and Ohio where there is overlap.

Annie E. Casey: The discussion with the Annie E. Casey Foundation focused on possible overlaps with Casey programs, such as their Pre-Apprenticeship program, in which participants spend four hours a night on four days a week in training. They offered to connect us to their contacts at other foundations, including the McKnight Foundation in Minnesota and the Living Classrooms Foundation.

Mott: In the meeting with the Mott Foundation, it was agreed upon that the GIE Career Pathways project aligned most closely with the Pathways out of Poverty Program. The objective of this program is to see people move along a road to self-sufficiency. Specific educational reform objectives include: (1) increasing student achievement across a school district, state or regional level; (2) expanding effective educational opportunities for vulnerable youth that prepare them for both college and careers; and (3) enabling learning beyond the classroom that supports academic achievement and positive youth development.

The next step is to convene partners to develop flexible technical assistance action plans for each of the pilot regions. Specific steps will be to: (1) prepare materials and agenda for the kick-off meeting with state consortia and pilot partners; this meeting will result in the development of a strategic action plan that focuses on specific gaps in knowledge and funding resources for individual sites; (2) conduct additional foundation meetings to follow up with new opportunities that will be integrated into the action plan as they emerge; (3) conduct monthly conference calls with CEWD to update project team on status of action plans and metrics; (4) provide technical assistance to pilot sites in order to advance the local networks' capabilities. The technical assistance will include linkages to local funding opportunities, proposal development and network formation and support; and (5) meetings with national and local foundations to develop relationships and pursue partnerships for funding collaborations. For example, CEWD will convene a meeting with the Gates Foundation and the Walmart Foundation to discuss opportunities for collaboration; and (6) support a peer learning network for pilot sites through conference calls, online communications and preconference meetings.

Specific objectives will be to: (1) share promising practices; (2) strengthen grant making capacity; (3) enhance peer-to-peer learning; (4) facilitate strategic action planning; and (5) connect with community college learning networks to accelerate innovations in the Getting Into Energy Career Pathways implementation. Subsequently, forum agendas will be developed over the next year through online communications, periodic conference calls and in-person meetings.

See Appendix E, State by State Funding Spreadsheets and Appendix F, Final Funding Report.

Based on these analyses and the totality of the work completed in this project, CEWD developed an implementation plan for each phase of the pilot projects selected. The plan outlines how we will adapt the GIE Career Pathways Model to develop and implement a

student support system and industry recognized post-secondary credentialing specifically focused on accelerated learning models for low-income young adults, ages 16-26. The Pathways model will result in opportunities to earn multiple credentials and employment with electric and natural gas utilities.

See Appendix G Implementation Plan.

GIE Outreach and Student Support

Deliverables:

- Selection of pipeline organizations
- Documentation of best practices in career outreach
- Gap analysis of nine states
- Draft of GEI Career support design and communication plan

Pipeline Organizations

Pipeline organizations are organizations that work with low-income youth and other populations to provide career guidance, mentoring and support services. CEWD researched several pipeline organizations that work with the Gates Foundation's targeted demographic in the eight selected states and made recommendations for how to partner with these groups during the pilot phase of the Get Into Energy Career Pathways Model and beyond.

Hard Hatted Women

Hard Hatted Women is a 501 (c)(3) serving women in several regions of Ohio, but is looking to expand nationally. The mission of the organization is to empower women to achieve economic independence by creating workplace diversity in trade and technical careers. Hard Hatted Women has received federal grant funding, state and local funding, and private donations.

In 2009, Hard Hatted Women served 200 low-income to very low-income women (many earning less than $10,000 per year) who live mostly in urban areas, particularly in Cleveland. Program participants include those who are unemployed, with or without a high school diploma, TANF recipients, and some who have criminal records.

Hard Hatted Women provides the following services:

- Informational career workshops
- Helping women get into registered apprenticeship programs
- Career fairs
- Mentoring programs
- Sending women in the trades to speak at secondary schools

They are expanding their curriculum to include life and leadership skills.

Hard Hatted Women has a new program that will enhance the Center's Get Into Energy Career Pathways project called the NEW (Nontraditional Employment for Women) Pathways program. NEW Pathways is a 40-hour, three-week program with curriculum that focuses on high-wage, high-demand nontraditional occupations that show great prospects for hiring and nurturing a growing female workforce. The curriculum features in-depth informational sessions in the fields of construction, manufacturing, green jobs and utilities. Participants have the chance to visit work sites and learn about tool and equipment safety.

In addition, CEWD and Hard Hatted Women are exploring the possibility of jointly developing a women's leadership component for the Energy Career Pathways curriculum.

Hard Hatted Women provides an excellent springboard to explore ways to attract women to utility technician positions, starting with Ohio. During the pilot process, the plan is to move into other parts of Ohio, specifically Cincinnati, then build a national presence given the success of this model.

YouthBuild USA

YouthBuild USA is a government agency that serves low-income to very low-income young adults throughout the country. The mission of YouthBuild is to unleash the intelligence and positive energy of low-income youth to rebuild their communities and their lives. In addition to the federal funding the agency receives for its 270 sites, the Gates Foundation provides financial support and the state affiliates are supported by their states. All sites are connected with workforce investment boards, housing organizations and community-based organizations. Programs vary in size typically from 40-200 participants, with over 8,000 youth served per year.

YouthBuild sites are located in inner cities, in rural areas and on Indian Reservations. They serve a diverse group of African American, Latino, Asian American and Native Americans. Ninety-percent enter the program without a high school diploma or GED, 30-36 percent have been adjudicated and 25 percent are young parents.

The YouthBuild sites focus on five components:

- Construction training: building affordable housing in the participants' communities
- Counseling/case management
- Education: earning a GED or high school diploma
- Leadership Development: community service and leadership training
- Graduate Resources: follow-up, job development

We recommend that CEWD and the state energy consortia connect with YouthBuild programs in each state. Since only those who earn a high school diploma or GED during their time at YouthBuild are eligible, this will limit the number entering into the Pathways process. YouthBuild graduates will continue to receive career counseling and support services one year after the students graduate, so the states will ask these counselors to continue to work with their students through the Get Into Energy Career Pathways process. The counselors will receive the training needed to do this successfully.

Jobs for America's Graduates (JAG)

Jobs for America's Graduates' (JAG) mission is to keep young people in school through graduation; provide work-based learning experiences that will lead to career advancement opportunities; or help them enroll in postsecondary institutions that lead them to rewarding careers. JAG has several initiatives, including a School-to-Career Program (senior year in high

school), the Multiyear Program (grades 9-12), and the Out of School Youth Program (for out of school students). For the first phase of the Get Into Energy Career Pathways project, only the Out of School Youth program is being targeted.

JAG is governed as a 501 (c) (3) in about half the states where it operates, with the remainder housed within state agencies, such as the department of education or workforce development. Some states receive federal and/or state funding while others charge a fee through participating schools. Many receive support through foundations and donations from the private sector.

JAG serves inner city, rural, and suburban areas as well as Indian Reservations. About 50 percent of the participants are low-income. They enter the JAG Out of School Youth program without a GED or high school diploma and 94 percent graduate the program with one or the other. Youth are recruited by specialists who obtain dropout lists from local schools.

The main focus of JAG is to help youth earn their high school diploma or a GED. In addition, there are career exploratory elements and time spent on life skills development. Each participant is assigned a specialist/career counselor who coordinates wrap around services with local agencies. JAG provides 12 months of follow up services and support once youth graduate from the program.

All eight pilot states have JAG programs, though the size and quality of the programs varies. For the pilot stage, we recommend concentrating efforts in Ohio, Indiana, Georgia and Florida, where the strongest JAG programs are based. Potential Pathways students will have to be screened since the funding for this pilot is only for low-income youth. In addition, we recommend that CEWD train the specialists/career counselors in the Pathways process so that the young adults can continue to work with these individuals during their year of post-secondary credential attainment.

For stage two of the Pathways project, the Early College Success model should be considered. High school students go to school on college campuses, earning both high school and college credits, then graduate and move right into the workplace. This is similar to the Early College High School model. Energy-specific programming and credentials could be integrated into the curriculum.

The Corps Network

The Corps Network is a proud advocate and representative of the nation's Service and Conservation Corps. Corps members serve youth in urban, suburban and rural areas as well as on Indian Reservations, where 66 percent of those served are low income, according to Federal income guidelines. Network sites range in size from 60-1,500 youth.

The Corps Network program is highly structured. Time is spent in the following areas:

- 60% Work: environmental - energy conservation, land-water-air quality, disaster preparation and clean up
- 25% Service: education, healthcare and community services
- 15% Education: work on GED or high school diploma

Some Corps sites incorporate work readiness assessments and credentialing. In addition, a national curriculum focused on life and career skills is currently in development.

Forty-five percent of youth come into the program without a GED or high school diploma. Fifty percent of this group leaves the program with one or the other. The Network follows a *Corps to Career Model* where graduates work with a career coach for 12 months after separating from the program.

A strength of the Corps Network Youth is that roughly half of the Corps youth are also AmeriCorps members, who receive between $1,200 and $4,725 towards earning a post-secondary credential, based on hours served.

Corps members also establish close relationships with local businesses, though energy partnerships are uncommon at this time. The Career Pathways project is a great way to help establish energy partnerships.

The Corps Network has other strengths that make it a desirable organization to partner with in all eight states at as many sites possible. The Los Angeles program is the largest, with 1,500 students enrolled per year and will make a great match with the Los Angeles Trade and Technical College pipefitter/pipelayer program. As with JAG, there will need to be some screening since not all youth are low-income youth, but given the range in program size, this shouldn't be an issue.

Job Corp

The Job Corp model is ideal for the Career Pathways model. Job Corps' mission is to attract eligible young people, teach them the skills they need to become employable and independent, and place them in meaningful jobs or further education.

Through a nationwide network of campuses, Job Corps offers a comprehensive array of career development services to at-risk young women and men, ages 16 to 24, to prepare them for successful careers. Job Corps employs a holistic career development training approach which integrates the teaching of academic, vocational, employability skills and social competencies through a combination of classroom, practical and learning experiences to prepare youth for stable, long-term, high-paying jobs.

We're currently in the process of negotiating a relationship with Job Corp to see how their services might dovetail with the Career Pathways programs.

Best Practices in Career Outreach and Gap Analysis

In researching career outreach and advising services in each of the target states, an overall lack of one-on-one career counseling support was noted. The predominant approach to career counseling seemed to be the "self-service" model where students were given access to resources but not in-person, individualized coaching to help them identify goals and stay on track.

It was likewise clear that the most successful programs identified included trained career and education advisors with knowledge of a variety of industries, general labor market trends, education and training providers, the ability to interpret assessment results and knowledge of career and education planning resources. We believe this critical component must be included in any successful model.

Based on the best practices, the following career coaching model was designed:

Step One- Intake (30-60 minutes)

An advisor meets with an individual for the first time, preferably face-to-face. During this session, there is basic sharing of information for agency/organization records, a general discussion of the individual's career goals and the start of rapport-building to establish what will be an ongoing relationship. It is during this session that the advisor considers whether the individual is appropriate for the Get Into Energy program based on stated career interests, background, attitude, etc. The advisor will recommend assessments and also consider whether there is anything in the individual's learning path that could be considered for prior learning assessment (e.g., military training, an internship, etc.).

Step Two- Assessments (2-4 assessments)

Assuming that the individual has been determined appropriate for employment in the energy industry (based on the intake session), the advisor will recommend that the individual take several assessments, including the Kuder Interest Inventory, the SKillsUSA Employability Assessment, perhaps a Values Assessment, and if it is likely the individual will need formal training or education, a Learning Style Assessment. The advisor will work with the individual to schedule these and set a time to review the results.

Step Three- Assessment Interpretation (1-2 hours)

While some assessments may provide results to the individual immediately, others may require some interpretation by an advisor. It is important that the results of all assessments be considered together to create a "big picture" view for the individual of the challenges he or she may face in preparing for a career. Such challenges may include the amount of training

indicated by the assessment results, or an indication that perhaps manufacturing or construction (or some other area) would be more in line with the individual's interests and skills. If the latter is the case, the advisor would, at this point, make a referral to the identified manufacturing or construction lead, or work with the individual outside of the Get into Energy advising model to identify next steps.

Assuming that the person is a fit for Get Into Energy, the advisor would discuss the challenges with the individual and help to create a strategy to meet those challenges. For example, if the individual will require a great deal of training, the advisor could help identify an apprenticeship program that would provide income while training, or grants that might be available based on the individual's income level.

Step Four- Learning Plan (1 hour)

For the majority of individuals, it is anticipated that there will be a need for education and training. The advisor will work with the individual to identify a specific career objective and, based on this, help to identify training providers or special programs provided by the industry or labor unions that could help meet those needs. The result from this session should be a written plan that spells out the steps the individual must take to satisfy the requirements for the chosen career path including specific courses or programs of study, stackable credentials to be sought, and ideas for financial assistance.

Step Five- Identification of Education Provider (Two half-hour sessions)

Once the learning plan has been developed, the individual will be tasked with doing research on the available education and training options. This is part of the empowerment of the advising process. It is important to remember that the decision on an education provider or training path must be the individual's not the advisors. It is anticipated that the individual will do some legwork but then have questions for the advisor before a final decision is made. For this reason, it is recommended that this step be broken into two half-hour sessions. For some, both half hours will not be needed.

Step Six- Ongoing Support (Up to one year; 15-30 minute sessions)

Ongoing support will be a vital component for this population. Many are going to be in the workforce for the first time; others have had unsuccessful attempts at jobs; others may be reaching beyond what they have ever considered possible for themselves before. For this reason, the advisor must be available on an ongoing basis to provide a connection, encouragement and to serve as a general resource about all things career-related. We recommend monthly contact for the first three months, either in person or by phone for 15-30

minutes. After that, bi-monthly contact through the first year can help to assure success for the individual.

For student outreach, the Get Into Energy portal offers education and career information on energy jobs that is tailored to specific audiences. The site provides career assessments, videos on energy and specific careers, education and skill requirements and links to employers. Currently, there are three entry points focused on defined audiences—youth, the military and potential engineers. Since there will need to be a central place for the target audience of this project to learn more about the Get Into Energy Career Pathways and the associated career tracks, a new entry point will be developed called "Transitions," with materials customized to their particular needs.

Get Into Energy Outreach and Student Support

The nine states identified for study under the Career Pathways Project Plan vary greatly in the quality of career coaching and career development resources they provide. Some are working hard to be innovative and help their constituencies achieve career success, exemplifying best practices in services offered and knowledge of employment opportunities available, while others are doing the bare minimum to maintain funding, often due to staff size and lack of creative leadership. Few, however, offer active career advising services for individuals.

Methodology

For each of the nine states, we researched both education and workforce career development programs, and in some cases, identified programs outside of these two areas to highlight. Where there were true instances of best practices, these are highlighted. We spoke with between four and six people per state, supplemented by Web research. At the end of each state section, there is a numeric rating of the state's efforts related to career advising for those ages 16-26, with 1 representing "no evidence of career advising" and 5 representing "exemplary use of career advising."

In gathering the data, we identified questions in several areas, but were not able to get specific responses to all questions:

- Use of career coaching/advising and the types of services offered
  - Who qualifies?
  - Do you use assessments?
  - Do you identify training and education gaps?
  - Do you discuss short and long term goals? Job vs. career?
- Barriers to receiving services
- Communication/outreach channels
  - Traditional
  - New media

- Tracking of outcomes
  - What methods are used?
- Other agencies to contact for information
  - Are there programs that you know of that you would call exemplary?

Overall General Observations:

- Throughout the nine states, many organizations are doing what is required to receive funding, but true innovation is rare. One-Stops are providing basic services for anyone out of work and are adapting some of these services for those in the target age group in accordance with WIA youth program guidelines. Both education and workforce systems provide many tools related to career exploration and development, but actual career advising services to accompany these self-service tools varies greatly. For those who are out of school and/or out of work and struggling for direction, this is a major problem. One-to-one or even group advising could be a great confidence-builder for this population. A significant majority of the individuals interviewed during the course of this research were unaware of the opportunities the energy industry offers. Many spoke of the interest of young people in "green" jobs, but said they weren't quite sure what these jobs were and how they could steer people to them.
- Also significant was the number of individuals working in education or the workforce system that were unaware of the services the other system offered. There is a great need for more sharing of services available to meet the needs of the target population.
- Marketing efforts around career exploration programs for those ages 16-26 are very basic, at best, with few agencies or departments using social media. Most are relying on posters and brochures at schools, One-Stops, churches, and community agencies to get the word out about the services they offer.
- Outcome tracking systems varied, but most followed the guidelines set by their funding sources and gathered basic demographic information and program results on an annual basis.

See Appendix H, Career Advising Best Practices and Appendix I, Career Advising Model.

Career Support and Communication Plan

We recommend using a customized version of the Kuder *Journey* system.

Founded in 1997 with a vision to provide students with the tools and resources they needed to be successful in school and the world of work, Kuder, Inc is a provider of Internet-based educational and career planning solutions targeted at specific audiences from Kindergarten through adults. For the Get Into Energy Career Pathways project, CEWD will utilize two Kuder products, Kuder *Journey* and their *Administrative Database Management System* for tracking program participants from the moment they enter the Pathways system.

Journey personalizes and tailors resources and information to each individual. System users select from several different user types — postsecondary student, first-time job-seeker, career changer, veteran or active member of the military, adult with a disability, ex-offender or retired person — to access a custom menu of options specific to their education and career needs.

The *Administrative Database Management System* supports data-driven decision making, tracks individual system progress, and helps to plan for curriculum, workforce, and economic needs. The database is one of the most critical components of the system, giving administrators real-time access to individual and aggregate data through quick and advanced reporting options and additional resources.

For the Get Into Energy Career Pathways pilot, a customized version of the Kuder Career Planning System will be used to track students from intake/case management through six months after employment. Elements of this system include:

- A career interest inventory, which will be customized to careers in the energy and related fields (construction and manufacturing)
- Recording of work readiness and employability assessment scores
- Barriers linked to available state resources; tracking of progress and communication by career coaches
- Links to career information and videos on the Get Into Energy website
- Use of the "Link to College" tool where students can get information and apply to colleges participating in the Pathways program
- Development of a resume and other job search tools
- Career coaches will be able to use the system to keep track of their cohorts, communicate with them and run reports.

See Appendix J, Kuder Proposal.

The GEICP communications strategy consists of online, print and other media used to promote energy careers and the existence of the Get Into Energy Career Pathways pilot program. A detailed timeline with deliverables will be developed during the implementation stage. The target audience for the project is low income young adults, ages 16-26 that are near completion of pipeline programs in the eight target states. The pipeline programs include Job Corp, YouthBuild, Hard Hatted Women, The Corp Network and Jobs for America's Graduates.

Step 1: State Consortia Builds Relationships with Targeted Pipeline Organizations in their States

Even though partnerships with the pipeline organizations have been built at the national level, each state will need to build relationships with the local pipeline organizations targeted in their states. It is essential that these organizations buy into the project and that state consortia work with them to devise a streamlined referral process. A manual will be created for program managers in the pipeline organizations that will detail the featured career pathways, processes,

and other important details they may need. The best promoters of the Pathways pilot will be those who are with the young adults on a daily basis at their program sites.

Step 2: Launch a Get Into Energy *Transitions* Website

CEWD is in the process of building a Get Into Energy *Transitions* website with sections designed specifically for the Pathways project. Potential program participants can learn about energy industry careers, the Pathways process, industry recognized credentials, and who to contact if they are interested in starting on one of the featured career pathways. In addition, the site will keep interested young adults informed of what is happening with the Pathways pilot and will feature success stories.

Step 3: Design, Print and Distribute Targeted Print Materials

If full funding of the marketing materials is received for the Pathways pilot, a Get Into Energy Career Pathways booklet will be developed for the young adults. The booklet will provide detailed information about the four focus energy career paths and the Pathways process. This will enable young adults in the pipeline programs to learn enough to see if they are interested, and then find out additional details from their program managers. While an online presence is important, this group may not have access to computers on a daily basis. In addition, if the budget allows, the currently branded Get Into Energy career posters available through ShopCEWD could be customized for the Pathways project.

Education Pathways

Deliverables:

- Inventory of existing certificates and certification that match energy competencies
- Documentation of best practices in energy education
- Updated Energy Competency Model with existing certificates
- Gap analysis of nine states
- Design of Energy Credentialing Framework
- Draft of GEI Education Pathways and stackable credential design

Existing Certificates and Certification

Currently, there is no consistent national curriculum for energy industry fundamentals. There are, however, two credentials recognized in several states that address some of the applicable skills for energy industry jobs. These are:

WorkKeys: The WorkKeys system assesses academic work readiness skills, specifically reading for information and mathematics. WorkKeys leads to the National Career Readiness Certificate (NCRC), which has been adopted by many states in the pilot project, including Florida, Georgia, Minnesota, North Carolina, and in parts of California and Ohio. Indiana and Washington are not currently WorkKeys states and may require the establishment of additional processes to ensure the smooth integration of this credential into their current systems. Minimum scores will be determined by a Credentialing Advisory Group based on the job profiles compiled by WorkKeys.

SkillsUSA Employability/Engineering & Technology Assessment: CEWD is partnering with SkillsUSA to utilize their Employability Skills and pieces of their Engineering assessment which covers the remaining knowledge and skill sets in levels one through three not covered by the WorkKeys assessment. SkillsUSA will create a customized assessment and test bank for CEWD. It is expected that these assessments would be offered at One-Stops or computer labs at community colleges. The system is completely online. The minimum score to pass the assessment and earn an Energy Industry Employability certificate is 72%.

To address the obvious gap in credentialing and curriculum, CEWD will be developing a certificate program appropriate to the needs of the industry.

Best Practices in Energy Education and Gap Analysis

We did an analysis of the pertinent educational programs in each of the target states, looking at current education models, identifying strengths and weaknesses of state education policy and systems and currently available programs.

See Appendix K for State by State Education Pathways Reports.

Updated Competency Model

The Energy Competency Model that was developed in conjunction with the U.S. Department of Labor is the basis for curriculum development in the Get Into Energy Career Pathways model. The Energy Competency Model has been revised to reflect the technical competencies required for each of the business sectors in the electric and natural gas industry. Tier 5 – Industry Specific Technical Competencies will now include the technical competencies required for anyone working in that specific business area (non-nuclear generation, nuclear generation, electric transmission and distribution, and natural gas transmission and distribution). Tiers 6 and 7 have been combined to identify the technical competencies required for a specific job, i.e., plant operator. Tier 8 contains the requirements for licenses, certificates, credentials, education or work experience and physical capabilities for the specific jobs.

See Appendix L, Updated Competency Model.

Design of Energy Credentialing Framework

The Pathways model includes credentials that integrate work and school, and focuses on STEM literacy as well as technical competency. The model supports an education system that integrates STEM education with real world problem solving and incorporates relevant hands-on learning into the STEM curriculum. The collaboration between business and education in the Pathways model ensures that students will receive the right level of training for industry requirements to prepare them for successful careers.

The goal of this project is to help low-income, young adults obtain post-secondary degrees or credentials, leading to skilled utility technician positions in the energy industry. These positions all require some type of post-secondary credential, from short-term pre-apprenticeships to associate's degrees or apprenticeships. Skilled utility technician positions exist in every state in the country and workers with the appropriate credentials have the potential to enter high wage (between $30k and $80k a year), stable careers in the energy industry.

Credentialing according to Wikipedia, a **credential** is an attestation of qualification, competence, or authority issued to an individual by a third party with a relevant *de jure* or *de facto* authority or assumed competence to do so. While there is a common understanding of credentials such as diplomas or degrees, there are three other types of credentials that are common in industry and are defined below.

Certificates

- Generally associated with education and training – educational process
- Indicates that the content has been learned in an educational event
- May or may not have an assessment
- Course/training is generally designed by an instructor or group of experts

- Generally good for life – no renewal period
- Owned by the individual – "cannot be taken away" by the educational institution

Certification

- Focus is on the "job", "occupation" or "practice"
- Determining the competencies to successfully practice – job/practice analysis
- Results from an assessment process (examination)
- Is a third party, independent judgment regarding whether competencies have been achieved
- Time limited – must re-certify within a designated period of time
- Certification does not belong to the individual – can be taken away

Licensure

- Generally associated with "State" Licensure but there are federal licenses, e.g. FAA, EPA (although they call their examinations "certification")
- State Licensure
  - Legal right to practice in a job/occupation/profession
  - Scope of practice is determined by the state legislature
  - Sometimes based on a national "Certification"
  - Time limited – must re-license within a designated period of time
  - Professions are licensed to "protect the public"
  - Examinations are often created by "Federations"

Credentialing Plan for Get Into Energy Career Pathways Model

While certification and licensure are not part of the Pathways model, several certificates are built into the program.

Students will be required to take two assessments for Basic Training (Tiers 1-3 of the Energy Industry Competency Model), Energy Industry Employability Skills (in partnership with SkillsUSA) as well as National Career Readiness (administered by ACT), which will yield certificates upon achieving pre-determined scores. For those who do not initially receive these scores, training is built into the model and students will retake the assessments upon completion.

In addition, for Tiers 4 and 5 of the Competency Model, all students must earn an Energy Industry Fundamentals certificate. This certificate program will be created by CEWD and will include an assessment which requires students to meet pre-determined criteria to earn the certificate. The program will be accredited by the American National Standards Institute (ANSI), and in most cases, be offered by community colleges. With ANSI accreditation, CEWD will serve as the overseeing body to earn and keep the accreditation.

For Tiers 6-8, CEWD and its partners will develop common curriculum and a recommended structure for boot camp models incorporating certificates for the pipefitter/pipelayer/welder and lineworker job categories to complement apprenticeships. These will not carry the ANSI accreditation and will be administered by companies, labor unions and educational institutions. If employees continue in these two pathways, there is an option for them to earn an associate's degree.

Also built into the Pathway model are associate's degrees for plant operators and technicians, Tiers 6-8. Common curriculum will be developed based on accelerated degree approach, where students earn their degree in one year.

See Appendix M, Student Services and Credentialing Model.

Credentialing Advisory Council Meeting

CEWD formed a Credentialing Advisory Council with key stakeholders to help guide the development of the Get Into Energy Career Pathways credentialing process. These stakeholders included:

- *Government:* The Departments of Education, Energy and Labor
- *Energy Associations:* Edison Electric Institute, the American Gas Association, the Nuclear Energy Institute, the National Rural Electric Cooperative Association, the American Public Power Association and the Institute of Power Operations
- *Project Partners:* Council on Adult and Experiential Learning, the American Association of Community Colleges, the Association for Career and Technical Association and the American Council on Education
- *Unions:* The American Brotherhood of Electrical Workers and the Utility Workers Union of America
- *Energy Companies:* Washington Gas Light Co. and Pacific Gas & Electric
- *Credentialing Organizations:* American National Standards Institute, ACT, Inc., SkillsUSA, and the National Council on Construction Education and Research
- *Related Industries:* Associated General Contractors and the Manufacturing Institute
- *Other Stakeholders:* National Association of State Directors of CTE Consortium

At the meeting, there were discussions around the following topics:

- What is the difference between certification, a certificate and licensure?
- Best practices: the manufacturing model
- Existing credentials that CEWD can build upon: National Career Readiness Certificate (ACT) and the Employability Skills Certificate (SkillsUSA)
- The development of an energy industry fundamentals certificate
- The accelerated degree approach
- Bootcamp to apprenticeship models

Draft of GIE Education Pathways and Stackable Credential Design

Pilot projects were chosen in each of eight states based upon criteria that matched industry need with available resources. In some states, more than one program was selected. Recommended assistance varied greatly, from developing accelerated degree programs to replicating existing programs in other parts of the state to providing technical assistance to consortia to increase particular areas of strength.

For each state, individual reports were prepared that assessed the strength of industry support and level of cohesiveness of state energy consortia; outreach capabilities at government and pipeline organizations to successfully identify, recruit and support potential applicants in the target demographic; and the availability of educational resources and partner institutions where appropriate training programs could easily be developed to match current industry needs.

The proposed education pilots to be implemented are:

Accelerated Degree - Utility Technicians

- California (College of San Mateo)
- Florida (Indian River State College)
- Indiana (Ivy Tech)
- Ohio (University of Cincinnati)
- North Carolina (Central Piedmont Community College)
- Washington - Wind Technicians (Walla Walla Community College)

Accelerated Degree – Power Technology / Nuclear QA/QC technicians

- Georgia (Augusta Technical College)
- North Carolina (Central Piedmont Community College) tentative

Gas Bootcamp for Pipefitter / Pipelayer / Welder

- California (Los Angeles Trade & Technical College)
- Minnesota (St. Cloud Technical College)

Lineworker Bootcamp

- Ohio (University of Cincinnati)
- Georgia (enhance for credit at DeKalb Technical School)
- Washington (modify to model program and enhance for credit at Spokane Community College)
- North Carolina (modify to model program and enhance for credit at Forsyth Technical College)
- Minnesota (modify to model program and enhance for credit at Dakota County Technical College; Minnesota State Community & Technical College, Wadena Campus; Minnesota West Community & Technical College, Jackson Campus)

Employer Engagement and Resource Alignment

Deliverables:

- National and state supply and demand maps / reports
- Documentation of best practices in employer support
- Gap analysis of nine states
- State Consortia partnerships identified
- Draft of GIE Employer support system design

National and State Supply and Demand

A supply and demand analysis and demographic evaluation was performed for a sample of the following nine states: California, Florida, Georgia, Indiana, Minnesota, North Carolina, Ohio, Texas, and Washington. The existing supply and demand situation was assessed by compiling industry needs and college graduations for four select energy occupations: lineworkers, technicians, plant operators and pipefitters/pipelayers. This was done at the county level and results are mapped to geographically display patterns and areas of potential concern. Secondly, population growth and poverty rates in the Education Age cohort (16 to 22 years of age) and Early Career cohort (23 to 26 years of age) was examined by county. This was done to inform recruitment efforts and help end the cycle of poverty.

The analyses uncovered some of the following nationwide trends that deserve attention:

- Far more lineworkers are needed than are currently supplied. A continued shortage of this critical energy industry-specific occupation would be a huge impediment to economic growth and may foreshadow profound national security issues.
- Although the Early Career cohort is expected to increase in size in every state in the sample, slightly more than half of the states in the sample are expected to experience declines in the Education Age cohort. Furthermore, states with expected declines in the Education Age cohort also have the lower poverty rates today. This ironically suggests the potential for demand-side price deflation in these regional economies since there will be fewer people demanding goods and services than today—leading to less capital investment, fewer jobs, lower wages and decreased purchasing power outside the regional economy.

Four occupations were selected that are critical to the production of energy and infrastructure maintenance. These are lineworkers, technicians, plant operators, and pipefitters/pipelayers.

To understand the current supply and demand situations of these four occupations, data were collected by industry, occupation and state sources where available.

For industry data, EMSI combined the employment data covered by the U.S. Department of Labor's Quarterly Census of Employment and Wages (QCEW) with the total employment data in

the Regional Economic Information System (REIS), which is produced by the Bureau of Economic Analysis (BEA). The data were then augmented with information from County Business Patterns (CBP) and Nonemployer Statistics (NES), published by the U.S. Census Bureau. Projections were based on the latest available EMSI industry data, local trends in each industry for the past fifteen years, growth rates statewide and (where available) sub-state area industry projections published by individual state agencies, and (in part) growth rates in national projections from the Bureau of Labor Statistics.

For occupation data, a workforce-oriented view of the regional economy was made possible through organizing the regional employment information by occupation. EMSI's occupation data were based on EMSI's industry data as well as the regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information was partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk was based on one done by the U.S. Department of Education, with customizations by EMSI.

Interpreting the GIS Maps for Workforce Supply and Demand

For each state, GIS maps show the estimated workforce demand, supply and gap for each of the following key occupations: lineworkers, technicians, plant operators and pipefitters /pipelayers. The states' demographic and poverty makeup are also included.

Demand Maps

The demand maps represent new and replacement job openings for energy occupations. New jobs are calculated by converting industry projections into occupations through the use of a national staffing pattern matrix for the various energy industries. Replacement jobs were determined from an extensive survey conducted by CEWD on retirement and job attrition for the four major occupation categories. Both replacement jobs and new jobs were projected out five years and divided by five to develop an average annual occupation demand.

On the maps, demand estimates for the different occupations begin at 0, which is colored in white and shows that in certain counties, supply is balanced with demand. In other counties, demand increases upward, going from yellow to orange to red. By definition, demand cannot be negative.

Supply Maps

The supply maps show the number of individuals who have completed a post-secondary program of study at an institution which reports to the National Center for Education Statistics (NCES). The database used to compile this information is the Integrated Post-Secondary Education Data System (IPEDS). Publicly funded community colleges, technical colleges and four-year universities report their program completion data to NCES. In addition, many private technical schools and other private schools report their program completion numbers to NCES.

The supply maps do not capture internal industry training, nor do the maps include apprenticeship workforce pipelines. The data portrayed in each map represents 2008 education program completers.

On the maps, supply estimates begin at 0, colored in white, and increase upward, going from lighter teal to darker teal. As with demand, by definition, supply cannot be negative.

Workforce Supply Gap Maps

The purpose of this analysis is to gauge county-level workforce needs and future availability of jobs across the evaluated states.

The supply gap maps mesh both supply and projected annual demand to determine whether an education program's output of completions results in a surplus or deficit in the state's workforce. Counties where supply and demand are balanced, *i.e.*, where supply equals demand, are shaded in white. Counties with more demand than supply are shaded in yellow, progressing to red as the severity of the demand increases in counties where there is a significantly higher level of occupation demand relative to program supply. Conversely, counties with more supply than demand are shaded in light green and progress to a darker green wherever there is a significantly higher rate of program completion relative to occupation demand. Thus, areas with a darker red color likely have an energy workforce shortage, whereas areas with darker green could have an excess of potential skilled workers.

Additionally, a table providing numbers indicating surplus or deficit is given at the beginning of the section for each state. A black positive number shows that supply is greater. It indicates that a large number of program completers may be available to fill the necessary energy workforce demand. A red negative number shows that demand is greater, indicating the degree to which a deficit is estimated.

The reader must note that a positive number does not necessarily guarantee that program completers will enter the energy workforce. Many programs offered at post-secondary institutions allow for multiple career pathways that do not involve the energy sector. This analysis only evaluates occupation demand in the energy sector, not in all the industries in the states' and regions' economies. The reader should understand that many program completers will likely seek employment in similar occupations outside of the energy sector. For example, in Illinois, a chemical technician could enter into a number of alternative industries, including pharmaceuticals, testing laboratories or paint manufacturing.

See Appendix N, National and State by State EMSI Reports.

Best Practices and Gap Analysis

Each of the eight states consortia were evaluated on the strength of the consortia and potential ability to implement the Pathways model. A summary of the evaluations follows:

California

California has a strong consortium comprised of the major utilities (IOU's and municipals), Community College System and state and local workforce development organizations. The California consortium members have implemented two programs that support the GIE Career Pathways – Power Pathways (PG&E) and a one-year Power & Electrical Systems certificate program, which are available in the San Francisco and Los Angeles areas. California also has accelerated degree programs available to support other industries.

Florida

Florida has a very strong consortium with significant support from the utilities (IOU's and municipals), the state Workforce Florida organization and construction organizations. Consortium members sit on major energy and related industry councils sponsored by the state government. The state has the largest number of energy related career academies of all of the target states. The consortium is currently developing an energy curriculum to be placed in the secondary school system focusing on Energy Foundations and Alternative Energy. The Banner Centers in the state have negotiated articulation agreements between the career academies and two- and four-year institutions.

Each of the regional workforce boards has youth mentors. Local manufacturing plants have organized into consortia to address their workforce development issues.

Georgia

Georgia has a very strong consortium consisting of IOU's, municipals and rural co-operatives, government workforce agencies, the Technical College System of Georgia and industrial construction organizations. Georgia has currently broken ground for the construction of two new nuclear power plants in the Augusta area. The state currently supports accelerated degree programs for other industries. The state also has a very strong career and technical education focus, including career academies and virtual high schools. Georgia developed the line worker boot camp program which is the model that will be used for the GIE Career Pathways program.

Indiana

Indiana has a very strong technical school network in place with Ivy Tech. This network accelerates implementation of programs throughout the state. The consortium includes the major utilities in the state and rural co-operatives. The consortium has been instrumental in the design and development of an electrical engineering technology associate's degree program with Ivy Tech. The state also has a large population of displaced auto workers that could transition into the energy industry. Ivy Tech has implemented accelerated associate's degree programs and offers credit for prior learning.

Minnesota

Minnesota has a strong consortium that is comprised of the major utilities in the state and rural co-operatives. The state and local workforce development organizations are very involved in

the consortium. The state has included wind and ethanol generation pathways in the energy mix. The consortium recognized that there were major similarities in skill requirements among energy, manufacturing and construction careers. As a result, they contracted to have the basic, core skills identified and documented for several jobs and have developed an energy technical specialist associate's degree program. The Minnesota University & College System supports 25 two-year colleges and has 53 locations across the state. They have accelerated associate's degree programs in place and have good articulation agreements between the community/technical colleges and universities.

North Carolina

North Carolina has a focus on out of school youth as a pipeline into key industry sectors. The state uses its WIA money to assess career interests, provide ongoing career support and to provide individualized reports on skill assessments. North Carolina is the leader in early college high school programs. They support virtual high schools and have "learn and earn" programs in place to keep students in school. There are over 130 career academies in the state. The state consortium has been developing over the past year.

Ohio

Ohio has targeted adult learners for the future by developing a network of adult education programs based on convenience for adult learners. The state is anticipating the development of stackable certificates for those learners. The state is very supportive of returning veterans and is ready for a program to transition them to civilian work. There is an early college high school system and a strong secondary school career and technical system within the state. There is a strong contingent of education (University of Cincinnati) and utility (Dayton Power & Light and American Electric Power) consortium members in the southwest part of the state covering Cincinnati and Dayton that will be able to lead implementation of these programs. Turnover on the state consortium has caused them many challenges in getting started. Ohio has an organization (Hard Hatted Women) that is committed to helping low-income women get stable, well-paying jobs and will be a critical partner in this effort.

Washington

Washington has a strong consortium with very significant support from the IBEW. However, only one of their utility members is a CEWD member. Washington has been out in front in terms of developing skill standards required for positions in the energy industry and the alternative energy (wind) industry. Centralia College's Center of Excellence for Energy is nationally recognized as a leader in energy curriculum development. There is a good Job Corps program in the state with specific career counseling included that will support the recruitment of candidates into the program. The WIA programs are good with Washington being the only state that supports older youth and is focused on reducing unemployment through apprenticeships. The Washington consortium is housed at the community college. There is a

strong community college system where half of the community colleges have energy programs. There are early college high schools and a number of virtual high schools.

See Appendix O for the detailed State Consortia Report.

Partnerships Identified

The results of the evaluation for each state were compiled and reviewed by the Project Advisory Council. Based on the demographic analysis and review of existing education supply and industry demand, specific areas within each state were identified for the implementation pilot. Subsequent calls with each of the consortia leads refined the selection. A list of Workforce Investment Boards and Community Colleges in the implementation pilot area was compiled for coordination in the implementation phase.

Draft of GIE Employer Support System Design

The members of the statewide energy consortia will be responsible for the implementation and management of the Get Into Energy Career Pathways process. That will include the development and implementation of processes that are sustainable after the grant is completed. CEWD consultants and contractors will provide technical assistance to the states to coordinate and leverage the work from state to state. Some of the initial responsibilities that state consortia may undertake are:

Process Design and Planning

- Identify where career coaches are currently available and determine how best to leverage those resources
- In conjunction with the manufacturing and/or construction organizations within the state, design the process to hand off students to those industries
- Design the process to bring individuals who are interested in the energy industry, but not the skilled craft positions, into each companies' staffing process
- Determine where the skills training for the Energy Industry Fundamentals program should be given
- Identify and establish relationships with the pipeline organizations best suited for providing viable candidates
- Determine where technical resources for training students, particularly in the accelerated degree program options, are available
- Support the implementation of the job specific training (bootcamp or accelerated program) with materials and equipment

Funding

- Determine what parts of the process the grant money will fund
- Determine what entity in the state can accept the grant money and manage its distribution

- Research and secure funding sources for the sustainability of the project including assessment costs and funding for Kuder *Journey*
- Determine how to pay for the career coaches
- An accelerated degree program will cost approximately $12,000/year per student; determine how to fund that effort

Monitoring

- Measure the number of candidates provided by each pipeline organization
- Monitor student progress; are they dropping out and why

Project Management

- If hiring, guarantee an interview to any graduate of a job-specific training program
- Share problems and solutions with other pilot states to ensure project success
- Share curriculum developed for the job-specific training

Other

- Recognize the certification as proof of a student's basic skill level at each stage of the assessment and training process
- Submit company apprenticeship programs currently in place for a credit review to the American Council on Education's (ACE) CREDIT

Next Steps

Based on what we found, we have submitted to the Gates Foundation an Implementation Proposal that lays out how we will roll out and monitor the pilot programs identified and how these programs can and should serve as models for implementation in the rest of the nation. CEWD and its partners will continue to evaluate the strengths and weaknesses of these programs as we progress to further refine the GIE Career Pathways model for use in other states.