

## **Economic Development and Energy Careers – Working Group Meeting #5**

**June 21, 2016; 10:00 am – 1:00 pm**

### **Meeting Summary**

#### **I. Meeting Objectives**

- To **finalize development of draft objectives and strategies** for recommendation to the energy plan leadership team.

#### **II. Development of Objectives and Strategies**

During the meeting working group members participated in a facilitated exercise to continue refining the objectives and strategy recommendations that were first developed during the fourth working group meeting. The working group members completed, consolidated, and to some extent prioritized the objectives and strategies, under the “Economic Development and Energy Careers” pillar.

Attached is a summary of the draft objectives and strategies that were discussed during the session. The draft reflects the input provided by working group members. This input will be compiled with other stakeholder input received, and previous data analysis completed to finalize the recommendations that will be analyzed for economic and environmental inputs.

The summary does NOT represent the final recommendations that will be included in the energy plan.

#### **III. Comments and Questions Received from the Public**

- N/A

## TOPIC AREA: NEW TECHNOLOGIES

Objective		Strategy	Priority
<b>I. Increase commercialization and expansion of Iowa energy-based/related technologies.</b>	1.1	IEDA and the Iowa Energy Center should establish an annual business challenge to promote and grow new Iowa energy businesses and energy storage businesses and technology.	2
	1.2	Coordinate existing startup incubators and accelerators at community colleges and universities and develop a program targeted to energy sector related businesses.	3
	1.3	Create an incentive program to purchase Iowa-made energy efficiency and renewable energy product and technology (lighting, insulation, windows, turbines, HVAC systems, etc)	3
	1.4	Work with the Ames Lab and Iowa's colleges and universities to establish an Energy Innovation Fellowship in Residence program that would bring world leading energy expertise to Iowa for periods of time to work with Iowa's energy entrepreneurs.	2
	1.5	Enact legislation allowing formation of Benefit Corporations in Iowa.	3
	1.6	Establish a matching grant program for awardees that receive federal funding.	3

## TOPIC AREA: START UPS

Objective		Strategy	Priority
<b>II. Foster innovation and facilitate access to capital for energy startups.</b>	2.1	Convene a working group to analyze the potential to attract new sources of capital for energy projects including local investors, local capital, and venture funds.	2
	2.2	Expand phase zero funding for small businesses.	2
	2.3	Allow capital gains tax exemption for early-stage investors.	2
	2.4	Utilize World Food Prize model for Iowa to become host of World Energy Prize.	2
	2.5	Carve out a portion of Iowa Innovation Acceleration and Demonstration Funds for energy startups.	2
	2.6	Work with the Ames Lab, colleges and universities and the private sector to provide "intellectual capital" and coaching with an emphasis on service delivery to industry and local governments.	1

## TOPIC AREA: EDUCATION

Objective		Strategy	Priority
<b>III. Strengthen clean energy education and awareness at the K-12 and general public level.</b>	3.1	Develop an energy-focused curriculum in K-12 environment that includes all energy sources including intermittent and non-intermittent, as well as energy efficiency. This would be done by community colleges in partnerships with local schools.	2
	3.2	Incorporate field trips for energy efficiency and determine how to fund them.	3
	3.3	Leverage the state's STEM initiative.	1
	3.4	Reduce obstacles for the K-12 system to get career and technical educators in their faculty by eliminating the bachelor degree minimum requirement for technical workforce educators in secondary schools. Replace it with a requirement of a minimum of 10,000 hours of experience in their specialty, and a minimum of 500 clock hours of training in how to teach. With additional continuing education requirements.	2
	3.5	Develop education programs and materials that are available to the public.	3
	3.6	Update Iowa's Energy Profile bi-annually (or quarterly).	3
	3.7	Catalogue existing energy-related programs, networks, and channels of communications in the state through a simple website that is maintained by the Iowa Department of Education or by IEDA. The database could cover secondary, accredited post-secondary and continuing education and would contain the following information: <ul style="list-style-type: none"> <li>• SIC DOL Occupational Codes Served by the Education</li> <li>• State Name for the Program</li> <li>• Local Name for the Program</li> <li>• Major Code of the Program</li> <li>• Credential Offered by the Program</li> <li>• Total Clock Hours of the Program</li> <li>• Link to Website of the Program</li> <li>• Contact Information for the Program/course</li> <li>• Typical Start Date Offering Times of the Program.</li> <li>• Accreditation of the Program</li> </ul>	2
	3.8	Develop an energy information clearinghouse that is a centralized source of energy information and that is accessible via the Internet. The clearinghouse would incorporate information on federal, state and utility energy programs and incentives. The clearinghouse would be maintained by IEDA.	2
	3.9	Staff a 'helpline' or online resource to provide information and answer questions.	2
	3.10	Distribute information through existing community distribution channels (CIRAS).	3
	3.11	Develop a private-public education and recognition program for business and individuals that make significant improvements to their energy efficiency.	3

Objective		Strategy	Priority
	3.12	Develop a state campaign “Iowa, Energizing the World.”	3

Objective		Strategy	Priority
<b>IV. Strengthen clean energy education and awareness at higher education level.</b>	4.1	Establish a Renewable Energy Education Strategic Fund (REESF) for targeted curriculum enhancement and pre-employment training for participating community colleges.	2
	4.2	Develop a Mission Critical Operations (MCO) program or degree at Iowa’s universities.	3
	4.3	Promote distance learning opportunities at community colleges and universities.	3
	4.4	Increase sharing of online courses between community colleges and other academic institutions.	1
	4.5	Coordinate vocational training at the high school level with common coding at the community college level. Standardizing high school vocational training so that dual credits apply across the state.	1
	4.6	Undertake a strategic planning initiative with Iowa’s community colleges to raid the “best practice” universe of clean energy programs and certificates from around the country, and universalize current successful community college programs most relevant to employment opportunities (e.g. energy auditing, solar PV installations, electrical and green building) to other community colleges around Iowa.	2
	4.7	Increase the ability for streaming services within the community colleges that are not in the Iowa Communications Network (ICN).	3

## TOPIC AREA: WORKFORCE DEVELOPMENT

Objective		Strategy	Priority
<b>V. Increase talent pool for energy related careers, promote employment, and training opportunities in the energy sector.</b>	5.1	Increase connections and communication channels between employer and energy sector training providers to better understand workforce needs in generation, delivery and energy efficiency.	2
	5.2	Establish a centralized energy careers training and education directory, managed by IEDA, that will allow employers to connect with programs training energy sector candidates.	1
	5.3	Create awareness among faculty and parents of the opportunities of energy careers in Iowa.	2
	5.5	Engage Iowa's Universities and Community Colleges in energy-related workforce development.	3
	5.6	Increase partnership between GED training providers and community colleges.	3
	5.8	Create tax credits and state incentives for employers employing specialized trained workers.	3
	5.9	Increase state incentives for companies to hire graduates of Iowa's taxpayer funded (public) schools.	2
	5.10	Create a path for non-profit community energy projects, where the profits are utilized for scholarship opportunities for energy sector training at community colleges.	3
	5.11	Increase taxpayer investment opportunity at the state level for private/public partnership in work-study/internship opportunities.	2
	5.12	Establish a Global Youth Institute focused on energy careers.	2
	5.13	Establish energy efficiency, energy conservation, and renewable energy internship and apprenticeship programs.	2
	5.15	Create a credentialing program for service deliverers in areas such as facility management and solar installation. Follow utility incentive approach to SAVE certification for HVAC contractors as an example.	1
	5.16	Work with community colleges, the Iowa Energy Center, utilities, and other stakeholders to train certified energy efficiency contractors.	2

## TOPIC AREA: ENERGY DIVERSITY

Objective		Strategy	Priority
<b>VI. Maintain diversity Iowa's energy production portfolio.</b>	6.1	Develop a "Swine Shot" initiative with a large "X-Prize" type of approach to incentivize implementation of a community digester project utilizing swine manure and other biomass feedstocks.	2
	6.2	Offer incentives for private investments in municipal wastewater infrastructure to encourage bio-methane production.	2
	6.3	Invest in research and development for perennial bioenergy crops such as giant miscanthus and encourage farmers to adopt these crops.	3
	6.4	Develop incentives to encourage coal generators to co-fire with bioenergy.	3
	6.5	Incentivize existing ethanol plants to investigate the use of perennial crops for cellulosic ethanol production.	3

## TOPIC AREA: ACCESS TO CAPITAL

Objective		Strategy	Priority
<b>VII. Facilitate access to capital for energy efficiency and renewable energy projects.</b>  <b>OR</b>  <b>Create innovative tools, practices, and approaches to further renewable energy and energy efficiency projects and programs throughout Iowa.</b>	7.1	Modify the eligibility requirements of the Iowa's Energy Center revolving loan fund (name?) to include energy efficiency opportunities and accommodate non-profits and other non-business entities.	2
	7.2	Identify additional funding sources to capitalize the Iowa's Energy Center revolving loan fund (name?).	2
	7.3	Create an Energy Delivery Investment Fund that provides financial incentives for energy distribution projects. The fund would be capitalized by individual investors that would in return receive a tax credit for their contribution to the fund.  Potential sources of funding would include: <ul style="list-style-type: none"> <li>• Qualified Energy Conservation Bonds (QECCB)</li> </ul>	2
	7.4	Establish a Green Bank instrument for energy efficiency, renewable energy, and energy storage projects like what has been done in Connecticut.  Potential sources of funding could include: <ul style="list-style-type: none"> <li>• Qualified Energy Conservation Bonds (QECCB)</li> <li>• Crowdfunding</li> </ul>	2

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		<ul style="list-style-type: none"> <li>• Private capital</li> <li>• Federal funding</li> </ul>	
	7.5	<p>Pass enabling legislation establishing Iowa as the first state in the nation to create a legal structure for locally formed and led energy districts at the county level, along the lines of the soil and water conservation districts.</p> <p>Establish a base level of administrative funding for energy districts contingent upon local district establishment and a small amount of local match. Establish a lead state agency as independent administrative umbrella and technical support for energy districts.</p>	3

## TOPIC AREA: AFFORDABILITY

Objective		Strategy	Priority
<b>VIII. Ensure Iowa's have access to affordable energy sources</b>	8.1	Develop electric rates on the cost causation principle (i.e., those causing the costs to be incurred pay for such costs).	3
	8.2	Ensure Iowa maintains low and competitive industrial energy rates to encourage economic development.	2
	8.3	Periodically survey electricity rates paid by industrial customers in Iowa and compare them to electricity rates paid by comparable customers in other states to ensure that rates in Iowa contribute to an overall competitive advantage for industrial customers seeking to retain and grow their businesses within the state. If a survey finds that Iowa's industrial electricity rates are higher than rates paid by comparable customers in any of the other top ten manufacturing states (measured by % of GSP in manufacturing sector), a more detailed study of causes and corrections should be completed.	3
	8.4	Ensure an economic safety net for affordability such as the Energy Assistance program (LIHEAP). Perform an audit periodically to ensure dollars are appropriately invested and checks and balances are in place.	2
	8.5	Funding of renewable incentive programs should take place outside of the electric rate structure but comparable access for various energy providers regardless of their ownership structure (i.e., make sure electric cooperatives have comparable access to incentives).	2
	8.6	Encourage access to cost-effective energy efficiency programs, throughout targeted models that engage specific customer sectors.	2



## **Energy Efficiency and Conservation – Working Group Meeting #5**

**June 21, 2016; 2:00 pm – 5:00 pm**

### **Meeting Summary**

#### **I. Meeting Objectives**

- To **finalize development of draft objectives and strategies** for recommendation to the energy plan leadership team.

#### **II. Development of Objectives and Strategies**

During the meeting working group members participated in a facilitated exercise to continue refining the objectives and strategy recommendations that were first developed during the fourth working group meeting. The working group members completed, consolidated, and to some extent prioritized the objectives and strategies, under the “Energy Efficiency and Conservation” pillar.

Attached is a summary of the draft objectives and strategies that were discussed during the session. The draft reflects the input provided by working group members. This input will be compiled with other stakeholder input received, and previous data analysis completed to finalize the recommendations that will be analyzed for economic and environmental inputs.

The summary does NOT represent the final recommendations that will be included in the energy plan.

#### **III. Comments and Questions Received from the Public**

- N/A

## TOPIC AREA: EDUCATION AND AWARENESS

Objective		Strategy	Priority
<b>I. Increase energy efficiency awareness and education across all market sectors.</b>	1.1	Support and extend IEDA's B3 Public Building Benchmarking Database by providing long-term additional monetary or administrative resources for public facilities to enter and maintain facility data.	1
	1.2	Require that all public buildings that utilize state funding for their facilities benchmark energy use through the B3 program or ENERGY STAR, and make the information publically available.	1
	1.3	Develop a marketing campaign implemented by IEDA to promote what the state has done so far with and to encourage further energy efficiency.	2
	1.4	Identify opportunities for utility and state program cross promotion.	2

## TOPIC AREA: RESIDENTIAL BUILDINGS

Objective		Strategy	Priority
<b>II. Reduce the energy consumption of residential buildings.</b>	2.1	Target homes that have a high level of energy use per square foot.	2
	2.2	Provide incentives for geothermal heat pump installations.	2
	2.3	Establish a home energy score program.	2
	2.4	Train and certify contractors on high performance home energy retrofit practices.	2
	2.5	Establish low-interest loans for residential home builders that incorporate energy efficiency improvements.	3
	2.6	Examine opportunities for energy efficiency when propane is the primary heating source.	2
	2.7	Enact a policy requiring energy information disclosure during real estate transactions for renters or buyers of residential or commercial buildings that includes 18-month usage history.	2
	2.8	Increase the funds available for residential energy assessment and planning.	3
	2.9	Sponsor a community energy competition.	2
	2.10	Factor energy cost into loan-making process (mortgages).	3

## TOPIC AREA: LOW INCOME CUSTOMERS

Objective		Strategy	Priority
III. Expand energy efficiency opportunities for low-income utility customers.	3.1	Provide state funds to include energy efficiency education as a component to low income assistance programs.	2
	3.2	Explore opportunities for public/private partnerships and fund leveraging to increase the available amount of Low-Income Weatherization funding.	2
	3.3	Create funding mechanisms for energy efficiency upgrades for rural/low income housing stock.	2

## TOPIC AREA: COMMERCIAL/INDUSTRIAL BUILDINGS

Objective		Strategy	Priority
IV. Reduce the energy consumption of commercial and industrial buildings.	4.1	Provide information and resources to assist companies who want to pursue ISO 50001 EMS certification.	1
	4.2	Explore the establishment of a statewide program that promotes changes in behavior to reduce energy usage at commercial buildings (similar to Live Healthy Iowa).	1
	4.3	Pilot pay for performance incentives programs for energy efficiency improvements.	2
	4.4	Promote the installation of advanced submetering technologies at commercial and industrial buildings through education and informational materials provided by the IEDA.	2
	4.5	Mandate that state buildings reduce their combined energy use by X% by X date as a means of leading by example.	2
	4.6	Adopt any necessary legislation to allow for performance contracting as a means to fund energy efficiency improvements in public building.	1
	4.7	Adjust the code for Iowa Green Streets for green/brownfield programs to make it applicable for other uses that include energy efficiency.	1
	4.8	Clearly provide schools the authority through legislation to choose where to reinvest dollars saved with energy efficiency and renewable energy projects and enable schools to pay for energy efficiency improvements through the savings that are achieved.	2
	4.9	Establish common, statewide utility energy efficiency programs for schools.	3

## TOPIC AREA: BUILDING CODES

Objective		Strategy	Priority
V. Increase compliance with Iowa's Energy Code.	5.1	Provide monetary support for long-term, ongoing energy code education and training for local inspectors coordinated by IEDA. This strategy could be funded by state building permit fee.	1
	5.2	Utilize utility funds to support code compliance.	2
	5.3	Support Energy Code compliance as a baseline for energy efficiency programs.	2
	5.4	Continue to participate in the stakeholder committee that currently evaluates code adoption.	2
	5.5	Implement strategies to bring existing buildings to most recent code.	3
	5.6	Increase new construction code compliance.	1

## TOPIC AREA: ACCESS TO CAPITAL

Objective		Strategy	Priority
VI. Improve access to capital for energy efficiency improvements across all market sectors in Iowa.	6.1	Remove limitations for state treasurer office from 6 years and expand to 15 years.	2
	6.2	Establish on bill financing opportunities for all Iowa utility customers.	3
	6.3	Enact PACE financing legislation in Iowa.	3
	6.4	Identify uses for the existing and underutilized Qualified Energy Conservation Bonds (QECB) program.	2
	6.5	Examine the use of Clean Water State Revolving Fund as a credit enhancement tool for energy efficiency and renewable energy funding. (see NYSEERDA Energy Efficiency Bond - <a href="http://www.cleaneigroup.org/ce-bfi-examines-innovative-nyserda-energy-efficiency-bond-deal/">http://www.cleaneigroup.org/ce-bfi-examines-innovative-nyserda-energy-efficiency-bond-deal/</a> )	3

## TOPIC AREA: ENERGY PROGRAMS

Objective		Strategy	Priority
<b>VII. Expand the availability of energy efficiency and demand response programs to Iowa's electric and natural gas utility customers.</b>	7.1	Increase energy efficiency requirements for Iowa's utilities.	3
	7.2	Provide incentives to utility providers (including RECs and municipals) for exceeding energy use savings requirements.	2
	7.3	Appropriate a portion of rate-payer program funds to promote opportunities to improve energy system design, provide technical assistance, conduct research on new policies and programs that could be introduced in the state and assess the economic impact of these strategies, drive the code compliance of new construction and support efforts to reach beyond code.	3
	7.4	Evaluate all current programs and focus resources on those initiatives that have the greatest impact.	2
	7.5	Switch utility pricing to time of day rate structure.	3
	7.6	Ensure all energy efficiency programs, or enhancements to programs, continue to be cost effective for Iowans and complement efforts to retain, grow, and attract business to Iowa.	2
	7.7	Identify various technologies and strategies to mitigate peaks, including solar PV (with various orientations), demand response, combined heat and power, energy efficiency, hydro, and wind.	2
	7.8	Allocate a portion of existing efficiency energy funding programs from utilities to a third party for the development and implementation of statewide technical assistance programs.	3

Objective		Strategy	Priority
<b>VIII. Empower communities to adopt energy conservation, energy efficiency and renewable energy technologies and practices for their homes, businesses and local institutions through new energy programs.</b>	10.1	Model the Minnesota Clean Energy Resource Teams approach, delivered through the university extension program ( <a href="http://www.cleanenergyresourceteams.org/about">http://www.cleanenergyresourceteams.org/about</a> ).	2
	10.2	Recognize communities that make a commitment to energy conservation and efficiency, similar to the Energize Connecticut Clean Energy Communities Program ( <a href="http://www.energizect.com/your-town/solutions-list/clean-energy-communities">http://www.energizect.com/your-town/solutions-list/clean-energy-communities</a> ).	2

## **Transportation and Infrastructure– Working Group Meeting #5**

**June 23, 2016; 10:00 am – 1:00 pm**

### **Meeting Summary**

#### **I. Meeting Objectives**

- To **finalize development of draft objectives and strategies** for recommendation to the energy plan leadership team.

#### **II. Development of Objectives and Strategies**

During the meeting working group members participated in a facilitated exercise to continue refining the objectives and strategy recommendations that were first developed during the fourth working group meeting. The working group members completed, consolidated, and to some extent prioritized the objectives and strategies, under the “Transportation and Infrastructure” pillar.

Attached is a summary of the draft objectives and strategies that were discussed during the session. The draft reflects the input provided by working group members. This input will be compiled with other stakeholder input received, and previous data analysis completed to finalize the recommendations that will be analyzed for economic and environmental inputs.

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#### **III. Comments and Questions Received from the Public**

- N/A

**TOPIC AREA: ALTERNATIVE FUELS**

Objective		Strategy	Priority
<b>I. Expand the usage of Iowa's alternative transportation fuels (Ethanol, Biodiesel, LPG, CNG, EV).</b>	1.1	Educate fleets and Iowa residents on the benefits and use of alternative fuels and vehicles, through a comprehensive statewide campaign that includes website content, social media interactions, expos and events, and potentially a dedicated task force.	1
	1.2	Educate state and local officials on alternative fuel vehicles (AFV) station code.	2
	1.3	Expand the Renewable Fuels Infrastructure Program and extend beyond its current sunset date of 2017.	2
	1.4	Create a clean fuel portfolio standard for vehicle fuel.	1
	1.5	Institute a rebate for businesses and individuals to cover the purchase cost of alternative fuel vehicles (AFVs), or the conversion cost of existing vehicles to qualified AFVs, up to a maximum amount.	1
	1.6	Create a mechanism (income tax credit or rebate) for businesses and fleet owners to offset a portion of equipment (flex fuel pumps, chargers, natural gas compressors, storage and pipelines) and installation costs for private alternative fueling stations.	1
	1.7	Create an adoption goal for state agencies to diversify state-owned vehicles with a target amount of AFVs therefore leading by example.	1
	1.8	Develop a state-sponsored training and a certification program on alternative fuel types and vehicle conversion for installers and auto technicians.	2
	1.9	Require all state eligible rebates/incentives for converting an AFV to be performed by a "state certified" automotive shop. Examples of requirements: ASE Certified Mechanic on staff (AFVs), proof of tank installer/inspector certificate, and certification by each manufacturer for systems offered.	2
	1.10	Investigate alternative strategies for funding infrastructure improvements such as instituting a fee on miles traveled instead of taxing fuel as a revenue source and other mechanisms for ensuring all system users are paying for infrastructure maintenance regardless of fuel type.	2
	1.11	Adopt statewide "best practices" for local officials to reference during permitting and assist with consistency and efficiency.	3
	1.12	Allow electric vehicle charging station owners/ operators to resell electricity on a per kilowatt hour basis by changing the definition of a public utility to specifically exclude them.	1
	1.13	Develop a plan for the implementation of an electric vehicle charging corridor along interstate highways (I80 and I35) to enable electric vehicle owners, both locally and those visiting Iowa, to charge their vehicles more quickly and facilitate longer distance travel.	1
	1.14	Establish a task force to examine and plan for the potential introduction of High Octane Fuel vehicles, with engines manufactured to increase fuel economy through use of 25-30% ethanol blends.	3

Objective		Strategy	Priority
	1.15	Explore options for the co-location of ethanol infrastructure in Iowa's Department of Transportation right of way.	3
	1.16	Develop bulk storage and retail infrastructure in rural Iowa to create more access to biofuels and propane for non-road users.	2

## TOPIC AREA: TRANSPORTATION EFFICIENCY

Objective		Strategy	Priority
<b>II. Optimize the movement of freight and people in Iowa.</b>	2.1	Pursue public-private partnerships that create connectivity between road, rail and river to optimize freight movement and reduce truck miles and congestion on Iowa's roads.	2
	2.2	Allocate a percentage of MPO/DOT's budget to increase public transportation, including examination of how to sustain operating costs of transit systems.	3
	2.3	Establish public transportation systems between cities with 50,000 or more population using busing in the smaller cities and rail for the larger cities.	3
	2.4	Continue support for collaboration efforts between Iowa's Department of Transportation and transportation providers for increased rail container intermodal facilities in the state.	1
	2.5	Use performance contracting to replace state fleet vehicles with more efficient vehicles.	2
	2.6	Work with grain processors on improvements to their handling systems to move more via rail vs. truck.	2
	2.7	Locate rail to truck consolidation facilities outside urban areas to keep trucks out of town.	2
	2.8	Provide financial incentive for carpooling, bicycling, and walking.	2
	2.9	Optimize freight routing.	2
	2.10	Pass necessary legislation to join the Midwest Interstate Passenger Rail Commission.	1
	2.11	Identify state funding to match federal grant on intercity passenger rail infrastructure costs.	1
	2.12	Research alternative funding (other than federal funds) for Iowa's lock and dam system.	3
	2.13	Establish regional distributed work hubs to reduce commuting and traffic.	3



**TOPIC AREA: ENERGY INFRASTRUCTURE**

Objective		Strategy	Priority
<b>III. Encourage the maintenance and development of infrastructure that is cost effective and supports clean energy generation.</b>	3.1	Promote a statewide coordinated effort to represent state interests in regional (MISO/SPP) and federal planning processes. The effort could be coordinated by the Iowa Utilities Board.	1
	3.2	Remove state policy barriers to the siting, routing, and regulatory approval of large transmission lines intended to facilitate substantial wind or solar generation. This would be done through mechanisms such as statutory timelines for regulatory decisions and increasing staff levels at regulatory agencies. The process should put proper emphasis on the analysis of potential environmental impacts.	2
	3.3	<p>Create a task force that includes utilities and IEDA to explore ideas for further build out of the natural gas delivery infrastructure in Iowa particularly in the rural areas for business and jobs development.</p> <p>The task force could identify and prioritize geographic areas of Iowa where delivery capacity is needed and develop a new methodology to fund construction of infrastructure in rural areas of Iowa and increase regional availability of natural gas.</p>	2
	3.4	Develop plans and policies that support grid modernization and will position Iowa for the smart grid.	1
	3.5	Clearly communicate Iowa's renewable energy goals with MISO and SPP and support state agency RTO involvement and understanding to ensure renewable expansion is part of their planning processes.	2
	3.6	Foster funding for the Iowa Utilities Board to encourage a variety of pilot projects through their notice of intent (NOI) process that examine modernization of the grid and opportunities to enhance resiliency and integration of renewables to the grid.	2
	3.7	Encourage regional development of pumped hydro storage projects.	3
	3.8	Conduct a study to investigate the feasibility, benefits, and impacts of constructing an intrastate ethanol pipeline to transport ethanol in an efficient manner to the location where it is blended with gasoline.	3

## **Iowa's Energy Resources – Working Group Meeting #5**

**June 23, 2016; 2:00 pm – 5:00 pm**

### **Meeting Summary**

#### **I. Meeting Objectives**

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#### **II. Development of Objectives and Strategies**

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#### **III. Comments and Questions Received from the Public**

- N/A

## TOPIC AREA: RENEWABLE ENERGY

Objective		Strategy	Priority
<b>I. Increase the amount of clean energy generation in the state.</b>	1.1	Adopt voluntary goals for a given amount of renewable energy generation in the state, covering various types of renewable energy technologies. The goals should encourage only the most efficient and demonstrated cost-effective resources, while being sensitive to the risk of leakage.  Furthermore, the goals should allow for export of renewable energy resources to other states.	1
	1.2	Institute a net metering policy, common across all utilities in the state, that fairly compensates for their distributed renewable power generation.	1
	1.3	Encourage utilities to continue using long-term integrated resource plans (IRP) encompassing all aspects of generation, transmission and distribution functions in a way that reflects present and reasonably anticipated regulations affecting energy on both the state and federal level.	3
	1.4	Acknowledge the phenomenon of "Leakage*" and periodically assess energy and environmental policies and regulations in Iowa to insure they are not contributing to any unintended consequences.	3
	1.5	Ensure Iowa's tax policy broadly supports significant wind and solar development in Iowa. <ul style="list-style-type: none"> <li>Includes expanding the existing 476C state tax credit program to support additional solar photovoltaic (PV), wind, storage (pumped storage, electric vehicle battery storage, compressed air storage), hydropower, and any other emerging clean energy technologies that may develop in the near future. Furthermore, the tax credit would expand or eliminate dollar caps on certain projects.</li> <li>Expand the Physical Plant and Equipment Levy (PPEL) and Secure and Advanced Vision for Education (SAVE) language to allow investment in renewable power generation.</li> <li>Institute an income tax credit for distributed generation systems including micro-hydro, biomass, and biogas.</li> <li>Establish a PACE financing program that provides funding for homeowners to install renewable energy technologies.</li> </ul>	1
	1.6	Educate property assessors on correct valuation of renewable energy technologies so that they are being taxed fairly.	3
	1.7	Establish a renewable energy credits program by leveraging the Midwest Renewable Energy Tracking System (M-RETS).	3
	1.8	Establish a collaborative effort with local governments to discuss potential for standardization of local policies that would allow for clean energy growth in wind, solar, and hydropower across Iowa.	1
	1.9	Identify potential sites for cost-effective hydropower in Iowa—especially opportunities to power existing non-powered dams.	2
	1.10	Investigate roadblocks to consumer choice in self-generation, including rate design, and tariff barriers.	2
	1.11	Allow 28E sharing agreements between schools and other nonprofits to include wind turbines, solar panels, and other renewable power generation sources.	2

## TOPIC AREA: ENERGY TRADE

Objective		Strategy	Priority
<b>II. Reduce Iowa's energy trade imbalance.</b>	2.1	Leverage farmland that is currently sub-profitable to grow energy crops.	2
	2.2	Create a market for energy crops in ethanol, bio-oil, bio-gas or pellet production.	2
	2.3	Dedicate funding to support large scale integration of Iowa native biomass into Iowa's agricultural sector resulting in production of biomass (Prairie STRIPS, prairie restoration, stream buffers, cover crops, etc.)	3
	2.4	Establish a renewable energy portfolio standard for building and transportation energy with "at least % (minimum) carve outs" for specific energy sources such as biogas, solar, wind, etc.	3
	2.5	Implement an Energy Efficiency Resource Standard of 1.5% for all utilities.	3

## TOPIC AREA: CARBON EMISSIONS

Objective		Strategy	Priority
<b>III. Reduce carbon emissions over time.</b>	3.1	Continue the Clean Power Plan stakeholder process headed by the Iowa Department of Natural Resources for development of a state implementation plan.	1
	3.2	Support the Iowa's Department of Natural Resources process to compile greenhouse gas emission information from point sources, including Iowa utilities, and make it publically available through an annual report.	3
	3.3	Identify opportunities to develop carbon negative/carbon removal strategies including: <ul style="list-style-type: none"> <li>• Biomass energy systems operated in combination with carbon sequestration.</li> </ul>	3
	3.4	Educate the public and state officials on decision-making approaches that consider a full fuel cycle or lifecycle basis, thus accounting for emissions and other lifetime costs.	3
	3.5	The Iowa Department of Natural Resources will work with facilities to comply the requirements of the Clean Air Act. (This may not be the correct name of the federal law.)	3
	3.6	Educate state officials on opportunities to use Combined Heat and Power as a means of lowering greenhouse gases.	3

## TOPIC AREA: RESEARCH AND DEVELOPMENT

Objective		Strategy	Priority
<b>IV. Position Iowa as a national leader in clean energy research and development</b>	4.1	Dedicate funding to advancing university research in the areas of advanced renewable energy, biofuels, and energy storage technology. Identify opportunities to leverage federal dollars.	2
	4.2	Increase funding to the Iowa Energy Center, which supports renewable energy research at non-profit organizations in the state of Iowa.	2
	4.3	Ensure dollars invested in Iowa on research and development have appropriate oversight and establish coordination between entities performing such research to minimize duplication of services.	1
	4.4	Leverage work being conducted by National laboratories and U.S. Department of Energy.	2
	4.5	Develop valuation studies of different utility models for energy resources (wind, solar, etc.). The study would consider market, environmental and operational externalities and focus on differentiating the benefits of locally-owned solar to the utilities, grid, and society.	3
	4.6	Focus research on utilization of bi-products such as carbon.	2
	4.7	Create a task force to inventory research being performed in Iowa and at the national level on energy storage, and identify areas of additional research that may be needed. For example, the purpose of the research could be to address the intermittency of some resources, to determine how storage increases the value and penetration of renewables, address reliability during electrical outage, and what characteristics of storage are adequate for Iowa.	2
	4.8	Establish an incentive program for research, demonstration, and applied projects involving new technologies.	2
	4.9	Invest in research and development that makes Iowa resources (wind, solar and biomass) cost competitive with outside resources.	3

## TOPIC AREA: RESILIENCY RELIABILITY

Objective		Strategy	Priority
<b>V. Enhance reliability and availability of energy to Iowans.</b>  <b>Provide Iowans and the general public with safe energy sources and safe delivery infrastructures.</b>	5.1	Establish appropriate levels of redundancy and infrastructure guidelines to support increases in renewable energy.	2
	5.2	Develop statewide standards to address power quality issues. Power Quality includes changes in frequency and amplitude of electricity affecting modern electronic equipment and advanced manufacturing processes.	2
	5.3	Educate Iowa policy makers in regional and federal policy issues that could impact the availability of energy or the reliability of energy in Iowa.	1
	5.4	Provide economic and technical resources for the Iowa Utilities Board and staff to coordinate with Iowa utilities and advocate for adequate planning with Regional Transmission Organizations.	1
	5.5	Institute criminal background checks for contractors working in utility programs.	2
	5.6	Establish appropriate planning for emergencies and disasters so as to ensure the flow of fuels and reliability of energy during emergency situations.	2
	5.7	<p>Iowa Utilities Board and the Attorney General should have primary responsibility to supervise distributed generation developers and installers to ensure that consumers are protected from unscrupulous claims (including inflated representations of generation, requiring 20 year contracts with escalating rates, etc.), and that installers/owners to observe security protocols to protect against cyber security threats.</p> <ul style="list-style-type: none"> <li>○ This could be done by developing a program that certifies sellers and installers of distributed generation systems.</li> <li>○ Monitor and inspect interconnections of electric generation resources connected to the grid.</li> </ul>	1
	5.8	Enhance Iowa's One Call Program for the safety of Iowans.	3
	5.9	Educate first responders on electric and other alternative fuel vehicles.	2
	5.10	Expand the reporting requirement of safety incidents to the Iowa Utilities Board to customer side of the meter which would include distributed generation.	2