

***Renewable Committee Report
to the
North Carolina Energy Policy Council***

November 29th, 2010

Introduction:

The following report outlines the findings and proposals of the Renewables Committee of the EPC. After more than two months of plenary meetings, the Committee organized itself into five (5) work groups focusing on the following areas: Economic Development (REPS), Offshore Wind, Net Metering, Tax Credits and Incentives. The Committee examined the existing policies and laid out changes it believes will establish a framework that will grow the green energy economy in North Carolina.

The recommendations outlined here may not reflect the endorsement of individual policies by members of the work group or their respective organizations without additional information regarding specific plans to implement the policies as part of a comprehensive set of energy policy recommendations that satisfy the needs of respective stakeholders.

The Committee's recommendations include both legislative and executive agency recommendations.

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I. LEGISLATIVE RECOMMENDATIONS

SUMMARY

ECONOMIC DEVELOPMENT RECOMMENDATIONS

1. **Residential Cost Cap:** Change the residential cost cap to a straight-line increase rather than a large step change. This change would be accomplished by delaying the maximum amount (\$34) by three years (from 2015 to 2018) and increasing the cap in annual increments of \$3.70 per year beginning in 2012 through 2017. The existing industrial and commercial cost caps and timing would remain unchanged. This proposal provides more “headroom” under the cost cap in the 2012-2014 period and reduces the “rate shock” that would otherwise occur between 2014 and 2015. The REPS currently requires \$22 single year cost cap increase in 2015 (from \$12 to \$34). This proposal delays the implementation of the full \$34 cap for three years from 2015 to 2018.

2. **Thermal RECs:** Modify the REPS to include thermal energy from combined heat and power systems that use poultry waste or swine waste as fuels as qualifying resources for these two set aside requirements. The addition of thermal RECs to the portfolio of qualifying resources for the poultry waste and swine waste set-asides will serve to broaden options for the electric power suppliers and provide a more cost-effective compliance resource for this set-aside requirement. Thermal RECs are significantly less expensive than electric RECS. It will benefit customers because it will introduce additional competition to this market area with few current participants. The REPS already allows solar thermal to qualify for compliance. This recommendation will put swine and poultry on an equal footing with solar.

3. **Poultry, Solar and Land-Based Wind Set Asides:** The Committee’s objective was to recommend adjustments to Senate Bill 3 to further its policy goals but to do so within the cost caps. To achieve this objective, these three set asides – two existing and a proposed land-based wind set aside – must be balanced. All of the options outlined below are attainable within the cost cap. The Committee offers three options for consideration with respect to these set-asides. The Committee was unable to achieve consensus on one of these options over the other.

a. Increase the energy efficiency mandate for electric public utilities to 6% from 5%; double the solar set aside from .2% in 2018 to .4%; reduce the poultry set aside to 700 Mwh by 2014 from 900 Mwh; and add a 1% wind set aside.

b. Increase the solar set aside to .35% from .2%; reduce the poultry set aside to 700 Mwh by 2014 from 900 Mwh, add 0.5 % wind set aside.

c. Double the solar set aside from .2% in 2018 to .4%; reduce the poultry set aside to 700 Mwh by 2014 from 900 Mwh.

The rationale for each element of the options presented above is described below.

4. Poultry Set-Aside: All three options provide for a reduction in the poultry set-aside from 900,000 MWh to 700 MWh. The law now requires 170,000 MWh in 2012 increasing to 700,000 in 2013 and 900,000 in 2014. The poultry set-aside is the largest set-aside, and has been the most technically and economically challenging to implement. This change will allow investment in a broader range of commercially proven renewable technologies, like wind and solar. This change will also permit investment in a wider range technology types, scales and distribution to meet the poultry set-aside, rather than requiring utilities to invest in fewer, larger projects.

5. Solar Set-Aside: An increase in the solar set-aside is included in all three options. In either option, the schedule for implementation of the solar set-aside should be modified . Beginning in 2012, the solar set aside should be increased in equal, annual increments the solar set-aside from 0.08% rising in equal, annual increments to the .35% or .4% as the EPC may decide. Currently, the REPS requires that electric power suppliers provide .02% of retail electric sales with solar generated electricity by 2010. This requirement increases again in 2012 (.07%), 2015 (.14%) and 2018 (0.2%). These stair-step increases create a boom-bust cycle for the North Carolina solar industry and threaten its viability. In advance of the 2010 compliance date, electric power suppliers procured sufficient solar RECs to meet their requirements for several years into the future. Consequently, there is not sufficient demand to sustain the solar industry until the next round of procurement which could be two years or more into the future. More than 100 solar firms now employ an estimated 1,351 North Carolinians and bring tax revenue and investment dollars into the State. This proposal will enable North Carolina to retain and grow its valuable solar industry by eliminating the boom-bust market artificially created by the current solar set aside.

6. Land-based Wind Set-Aside: Two of the options provide for creation of a land-based wind energy set aside. With respect to the 1% option, the requirement would begin in 2013 at .05% and increasing in equal, annual increments to 1.0% in 2018 for electric power and RECs derived from areas not subject to the Mountain Ridge Protection Act. The local and state economic impact of wind development is large. A recent Department of Commerce Economic Impact Analysis concluded that a single 300 MW land-based wind facility would generate \$750 million in investment, 590 one-time jobs related to construction, 19 operations and maintenance jobs with an average annual salary in excess of \$100,000 and an increase in the state's gross domestic product of \$34 million. The approximately 800 MW represented by the set-aside would most likely be developed in Tier 1 and 2 counties. There is more than enough wind resource in the east alone to meet the proposed carve-out. The certainty created by a set-aside will enhance North Carolina's ability to attract wind energy development sooner.

ECONOMIC DEVELOPMENT WORK GROUP REPORT

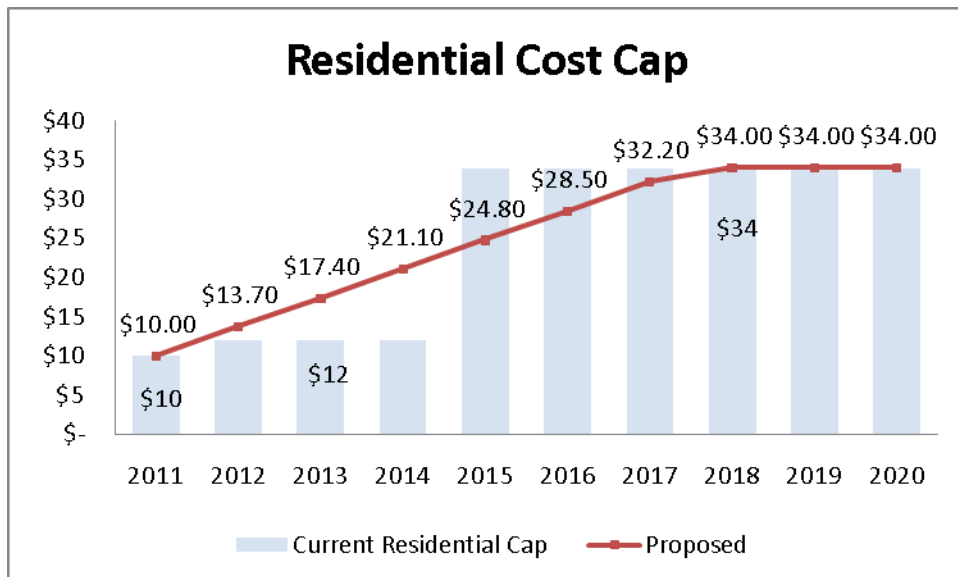
One of Governor Perdue's initiatives has been to expand the Green Economy in North Carolina. The Economic Development Work Group and the Renewables Committee believes the following recommendations will advance this initiative. The work group recognizes that its recommendations need to be harmonized with those of other work groups of the Renewables Committee. In turn, the recommendations made by the Committee must be harmonized with those of the Base load, Energy Efficiency and Transportation Committees of the Energy Policy Council. All but one of these recommendations relate to Senate Bill 3 and the Renewable Energy and Energy Efficiency Portfolio Standard (REPS). In an effort to stay within the current design constraints of the REPS law – particularly the residential cost cap – more aggressive policies that could bring significantly greater economic development opportunity were not fully explored or discussed by this work group.

1. Residential Cost Cap

Problem: The residential cost cap is not synchronized with the increase in REPS requirements, particularly the set-aside requirements, creating a large single year increase for residential rate payers, and increasing the likelihood of hitting the cost cap in 2013 and 2014.

Policy Recommendation: Make the residential cost cap a straight-line ramp rather than a large step change, by delaying the maximum amount three years (from 2015 to 2018) and increasing the cap in annual increments of \$3.70 per year. (See table and graph below). Retain the existing industrial and commercial cost caps timing with a onetime change in 2012 and a constant cap thereafter.

Year	Current Residential Cap (\$/account)	Proposed Residential Cap (\$/account)	Commercial Cap (\$/account)	Industrial Cap (\$/account)
2011	\$10.00	\$10.00	\$50.00	\$500.00
2012	\$12.00	\$13.70	\$150.00	\$1,000.00
2013	\$12.00	\$17.40	\$150.00	\$1,000.00
2014	\$12.00	\$21.10	\$150.00	\$1,000.00
2015	\$34.00	\$24.80	\$150.00	\$1,000.00
2016	\$34.00	\$28.50	\$150.00	\$1,000.00
2017	\$34.00	\$32.20	\$150.00	\$1,000.00
2018	\$34.00	\$34.00	\$150.00	\$1,000.00
2019	\$34.00	\$34.00	\$150.00	\$1,000.00
2020	\$34.00	\$34.00	\$150.00	\$1,000.00
Total	\$250.00	\$249.70	\$1,400	\$9,500



Rationale:

1. This proposal eliminates a \$22 single year cost cap increase that was scheduled to occur in 2015 (from \$12 to \$34) and delays the implementation of the full \$34 cap for three years from 2015 to 2018.
2. Over ten years the change to the residential cap reduces the total amount potentially paid by \$0.30.
3. The straight line ramp is in synch with the straight line ramps proposed here for the set aside technologies, which are the primary drivers of the REPS costs.
4. Maintaining the existing commercial and industrial caps provides the price stability that those customers requested during the development of the REPS.

2. Poultry Set-Aside

Problem: The REPS includes a requirement that in year 2012, at least 170,000 MWh of electricity sold to retail electric customers must be derived from poultry waste. The requirement jumps to 700,000 MWh in 2013 and to 900,000 MWh in 2014. Poultry-generated electricity has proven to be the most technologically and economically challenging of the set-asides in the REPS and is believed to be the most expensive. At the same time, it is the largest of the set asides. These factors threaten the ability of utilities to invest in energy and/or RECs from other, potentially more cost-effective, renewable energy technologies.

Recommendation: Reduce the poultry set-aside to 700,000 MWh in year 2018.

Rationale:

1. This will allow investment in a broader range of technology types, scales and distribution to meet the set-aside, rather than requiring utilities to invest in fewer, larger projects.
2. This adjustment will free up significant funds in earlier years for investment in other renewable energy technologies.

3. Thermal RECs

Problem: The statutory language defining the swine and poultry waste compliance requirements restricts qualifying renewable resources to *electricity* derived from poultry waste and swine waste. The language of the statute is tied directly to “total electric power sold to retail electric customers in the State” and does not explicitly allow useful thermal energy to meet the poultry waste or swine waste set-asides.

Recommendation: Modify the REPS to include thermal energy from combined heat and power systems as qualifying resources for the poultry waste and swine waste set aside requirements.

Rationale:

1. The requested modification of the poultry waste and swine waste set-asides is in the public interest because the addition of thermal RECs to the portfolio of qualifying resources for the poultry waste and swine waste set-asides will serve to broaden options for the electric power suppliers and provide a more cost-effective compliance resource for this set-aside requirement.
2. It will benefit retail electric customers because it will introduce additional competition to this market area with few current participants. Further, thermal RECs are generally significantly less expensive than electric RECs by as much as a 30% discount. Both set asides should be modified in order to ensure equity between resources.
3. The REPS already allows solar thermal to qualify for compliance. This recommendation for swine and poultry would result in all three of these set aside technologies being treated the same.

4. Solar Set-Aside

Problem: The REPS requires that electric power suppliers provide .02% of retail electric sales with solar generated electricity by 2010. This requirement increases again in 2012 (.07%), 2015 (.14%) and 2018 (0.2%). These stair-step increases create a boom-bust cycle for the North Carolina solar industry and threaten its viability. In advance of the 2010 compliance date, electric power suppliers procured sufficient solar RECs to meet their requirements for several years into the future. Consequently, there is not sufficient demand to sustain the solar industry until the next round of procurement which could be two years or more into the future.

Recommendation: Beginning in 2012, increase the solar set-aside to .35% or .4% in equal, annual increments beginning at 0.08% in 2012

Rationale:

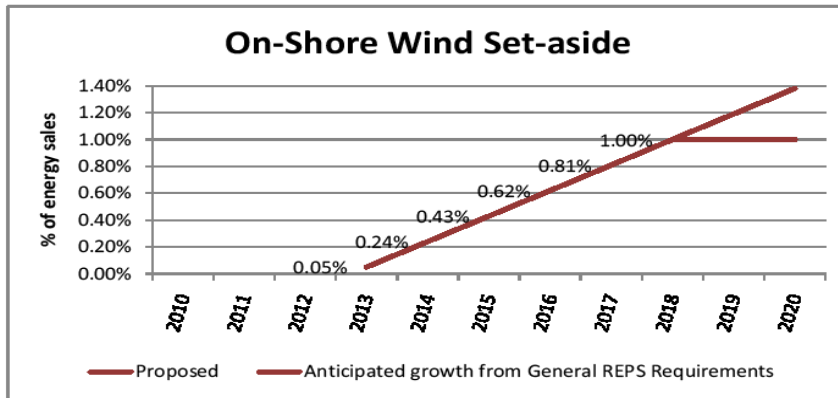
1. Solely as a function of the linear increases, the total solar energy requirement is increased by 64%. This recommendation can be accommodated within the existing REPS cost cap because solar energy costs have dropped 50% since 2007.
2. More than 100 solar firms now employ an estimated 1,351 North Carolinians and bring tax revenue and investment dollars into the State. Over 70% of these firms identify North Carolina as the final destination for the majority of their solar products and services.
3. Solar provides more jobs per MW than any conventional form of electricity generation. North Carolina's potential for installing solar power on buildings is greater than 15,000 MW of generation capacity. North Carolina's solar potential is more than 40,000 MW when including the potential for ground-mounted systems. If this recommendation is adopted, the solar set aside will use only 0.6% of our state's solar resource potential.
4. In 2010, the NC General Assembly passed the Renewable Energy Manufacturing Tax Credit, which applies to solar power and solar thermal end products, and to their subassembly. North Carolina has the potential to create and retain thousands of jobs up the solar supply chain in solar manufacturing. Job creation will occur if the solar industry decides North Carolina is a sufficiently attractive market for them to research, develop, demonstrate and install their solar products and related technologies and services.
5. Solar power's declining cost, intense job creation, and untapped resource potential in all North Carolina counties suggests that North Carolina could retain and grow its valuable solar industry if we alleviate the boom-bust market artificially created by the current solar set aside schedule.

5. Land-based Wind Set-Aside

Problem: North Carolina has a significant land-based wind resource, and this resource is thought to be among the least expensive renewable resources. However, without a set-aside, there is no certainty that wind will become part of the portfolio in the near term. Without significant development of the state's wind resource, North Carolina will have limited opportunities to expand on existing wind supply chain manufacturing within the state.

Recommendation: Establish a land-based wind energy set aside beginning in 2013 at .05% of retail electric sales and increasing in equal, annual increments to 1.0% in 2018. This

requirement would be applied to aggregate retail sales of electric power by all electric power suppliers. The land-based wind set aside would be limited to electric power and RECs derived from wind energy facilities in areas not subject to the North Carolina Mountain Ridge Protection Act.



Rationale:

1. The set-aside will materially increase the likelihood of wind energy development in North Carolina. Wind farms are capital intensive with long development lead times. There are several wind developers looking at projects in northeastern North Carolina. However, projects that may be proposed by these developers will have to compete within their companies with projects proposed for development in other states. The certainty created by a set-aside will enhance North Carolina’s ability to attract wind energy development sooner.
2. There is more than enough wind resource to meet the set-aside. A 1% land-based wind set aside is expected to provide for development of approximately 800 MW of land-based wind. There is presently 1250 MW of land-based wind in the PJM interconnection queue in northeast North Carolina suggesting that at 1% requirement is well within the range of what may ultimately be developed in the east alone.
3. The economic impact of a wind energy project is substantial and will impact areas of the state most in need of jobs and investment. A recent North Carolina

Department of Commerce Economic Impact Analysis concluded that a single 300 MW land-based wind facility would generate \$750 million in investment, 590 one-time jobs related to construction, 19 operations and maintenance jobs with an average annual salary in excess of \$100,000 and an increase in the state's gross domestic product of \$34 million. The approximately 800 MW represented by the set-aside would most likely be developed in Tier 1 and 2 counties in eastern North Carolina.

4. A land-based wind set-aside will significantly enhance North Carolina's ability to attract more wind supply chain manufacturing. Pennsylvania attracted the Spanish turbine manufacturer, Gamesa, with a commitment of 1000 MW of land-based wind development. Gamesa has since invested over \$100 million in manufacturing facilities in Pennsylvania and has created over 1000 jobs. In the east alone, North Carolina is thought to have more than 1000 MW of commercial scale wind. Manufacturing facilities in North Carolina could service this resource as well as the land-based wind resources being explored in Virginia and South Carolina.
5. More than 20 wind firms now employ an estimated 1,195 North Carolinians and bring tax revenue and investment dollars into the State. But only 25% of these firms identify North Carolina as the final destination for the majority of their wind products and services. A wind carve out could meaningfully increase the amount of North Carolina made wind products and services used in North Carolina.

SUMMARY

TAX CREDIT/INCENTIVE RECOMMENDATIONS

Special Allocation: Modify the North Carolina State Business and Energy Tax Credits, N.C. Gen. Stat. § 105-129.15 et seq. (the “State Energy Credit”) to allow for special allocation of the state credit, thereby enabling greater flexibility in having separate state and federal investors and lowering average system costs.

TAX CREDIT/INCENTIVE WORK GROUP REPORT

The structure of the North Carolina state incentive for renewable energy installation is less favorable than other state incentives and other North Carolina state tax credits, and as a result renewable power projects in the state have difficulty attracting financing, resulting in higher average project costs and slower job creation. The North Carolina legislature created the State Energy Credit to encourage development of renewable energy and to grow this important industry. The State Energy Credit has enabled construction of some new projects. However, there are many projects in North Carolina that are fully developed with executed power purchase agreements, but because the project developer cannot find an investor which can use the state tax credit, the project dies. The result is a constrained supply of projects leading to higher prices paid by utilities for compliance with North Carolina’s REPS.

North Carolina has successfully positioned itself as a leader in the renewable energy sector in the Southeast. By making the recommended changes to the State Energy Credit, North Carolina can attract additional investment in our state, and continue building on the strong foundation of job growth, new investment in our state and increasing North Carolina’s export of green energy technologies and services while keeping jobs here at home.¹

1. **Special Allocation**

Recommendation: The North Carolina State Energy Credit should allow for special allocation of the state credit, thereby enabling greater flexibility in having separate state and federal investors and lowering average system costs.

Rationale: Currently the State’s Renewable Energy Credit is more restrictive than other state tax credits such as the historic redevelopment and mill redevelopment tax credits. The Renewable Energy Credit is drafted in such a way that the tax credits follow ownership interests. Thus to receive 99.99% of the state tax credit in the diagram above, the investor must have a 99.99% ownership interest in Tenant, LLC. The federal tax credit works the same way. It is impossible, therefore, to structure a project like either of the two structures above and have a separate state tax credit investor. This is extremely important today when the traditional investors such as Bank of America that have both state and federal tax liability are not investing in any new renewable energy projects.

¹ The 2010 North Carolina Renewable Energy & Energy Efficiency Industries Census by the NC Sustainable Energy Association reported 12,500 full-time equivalent (FTE) jobs, a 22% increase from 2009.

The only way to enable separate state and federal investors is to include language that allows for “special allocation.” The legislature has allowed for special allocation in other state tax credit programs—specifically the historic and mill programs. These provisions were added to their respective programs out of recognition that credit transactions are highly complex and require flexibility in recruiting investors. Specifically, special allocation allows for a federal investor to own 99.98% of Tenant, LLC above, and thus receive 99.98% of the federal benefits, while concurrently allowing a state investor to own .01% of Tenant, LLC above, but such investor would receive 100% of the state benefits. Finding investors with state tax liability, particularly in this economic environment can be challenging. We recommend that the State Energy Credit include language that is identical to that found in the other credit programs.

II. EXECUTIVE AGENCY RECOMMENDATIONS

A. Industry Recruitment Recommendations

Problem: North Carolina has a number of useful and effective tools to attract renewable energy companies and manufacturing. These include the renewable energy manufacturers tax credit (MTC), the renewable energy investment tax credit (ITC) and the REPS. However, without more concentrated effort on recruitment of new renewable energy companies and related manufacturing, the state risks losing investment to other states for which North Carolina is currently well positioned to compete..

Recommendation: Develop a more focused approach within the NC Department of Commerce for the recruitment of renewable energy developments and renewable energy companies, including component suppliers. In particular the Division of Business and Industry Development (B&I) should designate one or more economic developers to focus specifically on the renewable energy industry and in particular on on-shore wind where near term economic development opportunities are the strongest. The B&I renewable energy specialist(s) should have the following near term (i.e. two year) priorities:

1. Work with wind developers who are exploring areas in eastern NC for wind farm developments, and bring all of the economic development tools and renewable energy incentives to bear.
2. Facilitate interactions between wind energy developers and local/regional economic developers, and serve as a resource for the local and regional activities.
3. Actively court wind turbine blade and tower manufacturers, widely publicize the renewable energy manufacturing tax credit.
4. Work with the NC Ports Authority and NCDOT to provide good transportation options for moving large turbine parts in eastern NC and to the ports for shipment to other states.
5. Identify opportunities for the Governor and the Secretary of Commerce to engage in recruitment of renewable energy companies, both domestically and internationally.

Rationale:

1. On-shore wind represents a significant economic development opportunity for North Carolina's coastal counties. The development of wind farms creates construction jobs, and with potential for investments in the hundreds of millions of dollars, represents large increases to the property tax base in a number of Tier 1 and Tier 2 counties.
2. As of October 2010, more than 50 manufacturing firms employ an estimated 3,959 North Carolinians to manufacture renewable energy and energy efficiency products and component parts.
3. The analysis conducted in the lead up to the state's REPS assumed that wind energy would be a major element in compliance with the law. Delay in development of wind resources jeopardizes the achievement of the REPS and increases the cost of achieving its goals.
4. The state has the skilled workforce and production capability for renewable energy component manufacturing building on the state's manufacturing base along with its developing aviation cluster, and its existing cluster in boat building.
5. The Global Transpark is a natural hub for wind and solar component manufacturing.

B. Tax Clarification Recommendations

1. Department of Revenue

Recommendation: Request Governor Perdue direct the North Carolina Department of Revenue to issue directives interpreting the most common questions regarding interpretation of the State Energy Credit or allocate funds to the North Carolina Department of Revenue to facilitate faster response times on their interpretation of the State Energy Credit.

Rationale: Reduced staffing in Department of Revenue is delaying job creation and placing projects at risk of losing financing.

The State Energy Credit is not as clear as it could be. For example the statute states that the credit vests once the renewable energy property is placed in service, but it does not define what is placed in service—which dictates when an investor may enter the transaction. Neither does it address questions such as what happens if renewable energy property is destroyed by an event of force majeure. Most legislation requires further interpretation by a relevant state agency—in this instance the Department of Revenue interprets the State Energy Credit. The Department of Revenue has determined that its process for addressing such questions is to issue

private letter rulings which can only be relied upon by the entity seeking the ruling. As a result there are no regulations, public rulings or directives upon which an attorney may rely to issue a state investor a tax opinion. Thus one project developer developing five different projects under different single purpose entities must seek five separate private letter rulings to satisfy its state tax credit investors. This adds additional cost and time to project development.

To compound the problem, the Department of Revenue has lost funding and staff. So a letter request that would ordinarily take one-two months may take six-nine months. Often the questions asked will determine how a project is structured, and thus the parties cannot move forward with finalizing the legal documents. In six to nine months a potential investor can easily change its mind as to funding. This has been particularly problematic as we near the expiration of the federal 1603 grant. For that reason we recommend that the Governor's office instruct the Department of Revenue to issue a directive, regulation or public rulings upon which project developers may rely on in lieu of a private letter ruling or for the legislature allocate funds to staff the Department of Revenue.

2. Renewable Energy Equipment Definition

Recommendation: Add language clarifying that equipment which qualifies for the federal renewable energy investment or production tax credit also qualifies for the State Energy Credit.

Rationale: Project developers and their investors frequently ask the Department of Revenue whether certain property qualifies as renewable energy property under the state credit. Simply adding a provision that states that renewable energy property that qualifies for the federal credit also qualifies for the state credit, except in those instances where certain property is specifically included in the state credit and excluded under federal law (e.g. solar thermal for pools) would greatly increase the ease and use of the State Energy Credit.

3. Clarify Residential and Commercial Cap

Recommendation: Revise the language regarding residential and commercial caps to clarify that the residential cap applies to individuals and the commercial cap applies to business entities and sole proprietorships.

Rationale: The State Energy Credit provides for a \$10,500 cap on renewable energy property that is placed in service for a "nonbusiness purpose". A taxpayer claiming the nonbusiness credit may claim the credit all in one year. The State Energy Credit also provides for a \$2,500,000 cap for renewable energy property placed in service for a business purpose. Such a taxpayer claims the commercial credit over five years in five equal installments. The statute goes on to state that "renewable energy property is placed in service for a business purpose if the useful energy generated by the property is offered for sale or is used on-site for a purpose other than providing energy to a residence."

The definition of a business purpose inadvertently requires an individual that has installed a small residential system on his or her home to use the larger commercial cap and claim his or

her credit over five years if he or she is selling the power pursuant to NC Green Power. This was not the intention of the legislature. For that reason we recommend revising the language to define a business purpose as renewable energy property placed in service by either a business entity or sole proprietor.

C. **Offshore Wind Initiative Recommendations**

Offshore wind represents a once in a generation economic development opportunity for North Carolina. The state has the largest offshore wind resource on the East Coast and the potential to employ thousands of people in this industry. North Carolina is behind its sister states on the eastern seaboard in signaling its interest in this new industry. The Administration and the General Assembly need to act in 2011 to adopt clear policies to attract the offshore wind industry and the huge economic development potential it represents.

1. **Offshore Wind Economic Development Task Force** The Secretary of Commerce should immediately form an Offshore Wind Economic Development (OWED) Task Force to design an offshore wind (OSW) legislative package for the 2011 legislative session, balancing demand creation with near-term cost impact. The goal of the legislation should be to maximize long-term net economic benefit to the state.

2. **LaCapra Study:** Direct LaCapra to quantify the job and economic development benefits of a range of offshore wind development scenarios. This information is critical for an informed cost vs. benefit discussion

3. **Department of Commerce Recruitment:** The Department of Commerce should pursue multiple recruitment, outreach, and education efforts and assign a dedicated Offshore Wind Economic Development staff person to coordinate and lead those efforts. Competing with other states for this industry is a major undertaking that will require focused and dedicated effort..

4. **Regional Cooperation:** Engage in discussions with neighboring states to promote regional collaboration.

5. **Transmission Upgrade Planning:** Require OSW transmission upgrade estimates to also quantify system benefits.

6. **Federal Revenue Sharing:** Ask the North Carolina Congressional delegation to press for changes in regulations to require sharing of federal revenue from offshore wind energy projects with the state to which the project is interconnected even if the project is in federal waters.

OFFSHORE WIND WORK GROUP REPORT

Forty-five thousand (45,000) new, local construction jobs, 9,100 new, local long-term manufacturing, operations and maintenance jobs and over \$22 billion in economic benefit.

These are estimates by the National Renewable Energy Laboratory (NREL) of the impact on North Carolina of development of about 3% of its offshore wind resource. Offshore wind presents North Carolina with a once in a generation opportunity for economic development. North Carolina has not seen an opportunity of this magnitude since the electrification of North Carolina's river systems over the past century. In the early 1900's, energy from North Carolina's abundant rivers and lakes transformed North Carolina's industrial economy by electrifying textile mills and tobacco factories. A similar transformation of the economy is possible by harnessing the wind resource off the North Carolina coast. While the benefits will be statewide, they will fall largely to coastal Tier 1 and Tier 2 counties.

North Carolina is uniquely positioned to attract offshore wind developers, manufacturers and suppliers to the state because of the state's rich offshore wind resource and eastern seaboard location. The U.S. Department of Energy (DOE) determined that North Carolina holds the largest offshore wind resource on the East Coast—297 GW or 23% of the total offshore wind resource on the East Coast. Second, North Carolina's ports and coastal region could serve as a Mid-Atlantic offshore wind hub creating tens of thousands of new jobs.

With an estimated 54 GW of offshore wind targeted for development in the U.S. by 2030, there are additional economic development benefits for states that attract the first manufacturing facilities because they will likely serve the entire East Coast market. The DOE Strategic Work Plan identified an interim goal of \$0.13/kWh by 2020 and further reducing the cost to \$0.07/kWh to \$0.09/kWh by 2030.

Offshore wind offers numerous economic, energy and environmental benefits:

- Wind creates jobs that cannot be easily outsourced overseas;
- Wind is emissions free and uses no water—delivering clean, pollution free energy;
- Wind is an infinite energy resource with no fuel cost—offering a scalable energy resource and price stability as traditional fuel prices fluctuate.

The offshore wind industry is in its infancy in the US. Therefore, North Carolina can still emerge as a leader. The supply chain for this emerging industry has not made final decisions about where to locate their facilities and jobs, but those decisions will occur in the next year or two. North Carolina needs to act now to seize this opportunity. Other states are ahead of North Carolina in creating incentives to attract this industry. If the economic development benefits of offshore wind are to be realized in North Carolina, clear policy must be adopted during the 2011 legislative session.

Creating demand for offshore wind turbines and components is essential to attracting offshore wind supply chain manufacturing to North Carolina. In the wind industry, the supply chain follows development projects. In order for development projects to get financed, there must be sufficient revenue certainty to repay the investment manufacturers must make in new facilities. A consistent response from manufacturers is that they will make US investments in response to the creation of long-term, stable market demand.

1. Offshore Wind Development Task Force: The Secretary of Commerce should immediately form an Offshore Wind Economic Development (OWED) Task Force to design an offshore wind policy program for the 2011 legislative session. The program should generate sufficient offshore wind demand to attract supply chain while balancing the near-term cost impact to NC citizens, with an ultimate goal of maximizing long-term net economic benefit to the state.

The deadline for the Task Force to develop a program should be February 28, 2011. There is an urgent need for legislation during the 2011 legislative session if North Carolina expects to realize the full economic development potential of this industry. The Task Force should be made up of key stakeholders, including utilities, developers, environmental groups, utilities commission public staff, Department of Commerce staff, various regional economic development partnerships, and others. Offshore wind is an enormous opportunity for the state but is also a very large undertaking with many complicated and interrelated issues. This opportunity deserves attention from the highest levels in the state and crafting the right program to balance the many issues requires more time, attention, and effort than the Energy Policy Council and its committees are equipped to provide.

2. LaCapra Study: Direct that as part of its upcoming study for the EPC that LaCapra quantify the job and economic development benefits of offshore wind and range of offshore wind development scenarios.

3. Department of Commerce Recruitment Effort: The Department of Commerce should focus on the following objectives. Given the magnitude of the economic development opportunity, we recommend a dedicated, full-time offshore wind economic development staff position to coordinate these efforts.

- Conduct a port study for Morehead City and/or Wilmington to establish the viability of these ports to accommodate “Tier 1” manufacturing, including turbine assembly, blade manufacturing, tower section manufacturing, and foundation manufacturing.
- Promote North Carolina’s world-class offshore wind resource, attractive business environment, and offshore wind policies at national and international wind conferences;
- Develop strategies to attract wind industry manufacturing investments in the state including identification of possible Federal resources to support investment in NC;
- Work with Regional Partnerships to recruit offshore wind industry manufacturing.

- Inform offshore wind policy discussions at community, local, state and federal levels;
- Coordinate the State Task Force in the federal offshore leasing process;
- Conduct a review of existing manufacturing capabilities in the state;
- Create a workforce development program to train workers for this new industry.
- Ensure there are no state permitting barriers to offshore wind development.
- Connect state agencies, utilities, developers, and universities for R&D initiatives.
- Explore federal funding for baseline environmental studies and port facilities.
- Ensure North Carolina is recognized by the federal Bureau of Ocean Energy Management- as an “area of high priority”.

4. Regional Cooperation: Engage in discussions with neighboring states to encourage regional cooperation and collaboration. North Carolina’s objective should be to secure as much offshore wind supply chain manufacturing as possible. However, this industry is expected to be large enough to significantly impact several states on the eastern seaboard. Engaging in efforts with neighboring states would increase the likelihood of major portions of this industry locating in this region, benefiting North Carolina and its neighbors.

5. Transmission Upgrade Planning: Require that any analysis of transmission upgrade costs for offshore wind also quantify the economic and system benefits that result from those upgrades. The scope of the NC Transmission Planning Collaborative’s annual report should be expanded to include quantifying system benefits of offshore wind transmission in addition to cost estimates. Examples of benefits include avoiding other upgrades that would have been needed, congestion management, and improvements in system reliability.

6. Federal Revenue Sharing: Currently, 27% of the revenue paid to the federal government from an offshore wind project located within the 3-6 miles of a state coast line must zone offshore must be shared with that state. Projects off the North Carolina coast are likely to be outside that boundary. The Governor should ask the Congressional delegation to press for changes in these regulations to provide for revenue sharing for any project that interconnects within the state. Proceeds from this revenue sharing could be used to offset the cost of the state’s investment to attract offshore wind manufacturing

D. Net Metering Recommendations

What is Net Metering?

For electric customers who generate their own electricity, net metering allows for the flow of electricity both to and from the customer – typically through a single, bi-directional meter. When a customer’s generation exceeds the customer’s use, electricity from the customer flows back to the grid, offsetting electricity consumed by the customer at a different time during the same billing cycle. In effect, the customer uses excess generation to offset electricity that the customer otherwise would have to purchase at the utility’s full retail rate.

Forty-three states have a net metering rule.

Problem: There is uncertainty around whether the utility, the rate paying customer, and the customer-generator experience a cost or benefit when customer-generators choose to net meter a renewable energy system, and if so, under what parameters of regulatory rules.

Recommendations: Direct the NC Utilities Commission to investigate:

1. The costs and benefits that flow in both directions when a customer-generator net meters a system, to determine a) if net metering results in a cross-subsidy, b) which direction(s) the cross-subsidy(ies) flow, and c) whether the cross-subsidies are significant.
2. How “Community Net Metering” would function under current North Carolina law and regulatory rules, and associated costs and benefits of Community Net Metering.
3. Whether or not a customer-generator with aggregated meters is conducting a “virtual sale” of power to him/herself if powering his own facilities on his own property or contiguous properties.

Rationale:

1. The many compromises struck between parties over the last ten years in revising the NC net metering rule all rest on assumptions of both the directional flow and size of any cross-subsidies between the utility, utility customers and the net metered customer-generator. No analysis has been conducted to test the Commission’s assumptions.
2. Other states have studied cross-subsidies and found them to be small. North Carolina is the only state that narrowly restricts the net metered customer generator to participating in a Time of Use Demand electric rate in order to retain ownership of his Renewable Energy Certificates (RECs), justified on the assumption of significant cross-subsidies.