

OVERVIEW OF FEDERAL POLICY RECOMMENDATIONS

FOR ACCELERATING INNOVATION, RENEWABLE ENERGY, AND ENERGY EFFICIENCY

The New England Clean Energy Council (www.necec.org) offers the following recommendations to advance innovative clean energy technologies; encourage rapid deployment of renewable energy projects; and accelerate development and deployment of energy efficiency resources.

Cap-and-Invest Legislation: We believe this is the single most important policy to swiftly release an explosion of American investment and innovation, creating millions of domestic jobs and providing an urgently needed catalyst for economic growth. We support a program to:

- **Cap emissions, auction allowances and invest a significant portion of the auction proceeds into the energy efficiency and clean energy sectors to reduce the cost to consumers and spur the economic shift to low-carbon technologies**

Energy Innovation Accelerator Package: The process of moving promising clean energy technology from the lab to full-scale commercialization is a daunting task that faces well-recognized barriers at each stage of venture creation. The Council offers a set of public-private collaborative initiatives to:

- **Rapidly identify and fund a pipeline of promising technologies and propel them through each stage of development to full-scale commercialization**

Energy Efficiency Programs: Energy efficiency is the lowest cost resource to meet consumers' energy needs, reduce carbon emissions, and stimulate economic activity. However, as a nation, we forego hundreds of billions of dollars in savings by dramatically under-investing in energy efficiency as a resource. The council recommends:

- **Cap-and-invest legislation that devotes a significant portion of the auction revenue to energy efficiency**
- **A stand alone Energy Efficiency Resource Standard (EERS) that requires utilities to secure 1.5% of their previous year's load through efficiency**

Renewable Energy Acceleration Programs: Often, the patchwork of state and federal regulatory rules and agencies governing our nation's renewable energy sector create uncertainty for investors and entrepreneurs, preventing the deployment of proven renewable technologies. To reduce unnecessary delays and ensure a continuing market for renewable energy the Council endorses:

- **A federal Renewable Electricity Standard (RES) that provides long term market certainty and respects existing state RPS standards**
- **Removing procedural barriers with expedited environmental and judicial review for renewable energy projects**

About the Council: The New England Clean Energy Council, whose mission is to accelerate New England's clean energy economy, represents a diverse set of stakeholders, including clean energy companies, venture investors, major financial institutions, local universities and colleges, industry associations, area utilities, labor and large commercial end-users. The Council develops and executes a wide array of programs in five key focus areas: Innovation, Growth, Education & Training, Adoption, and Policy.

FEDERAL POLICY RECOMMENDATIONS TO ACCELERATE CLEANTECH INNOVATION

Energy Innovation Accelerator Package

EXECUTIVE SUMMARY

We propose a set of novel approaches to advancing innovative technologies and ventures which are most likely to fulfill key goals of the American Recovery and Reinvestment Act of 2009 (“ARRA”), including rapid transformative “clean” or “green” technology development, job creation, economic development, and reduced greenhouse gas (“GHG”) emissions.

This initiative, including several designed as synergistic programs to be piloted in Massachusetts and capable of rapid replication nationwide, will accelerate R&D by capitalizing on the unparalleled intellectual and physical assets of the New England region’s leading universities in partnership with the Department of Energy (“DOE”).

It will likewise advance formation and commercialization of new businesses, and the early-stage deployment of innovative technologies, through an efficient and fiscally responsible public-private partnership with the Advanced Research Project Agency (“ARPA-E”).

This initiative addresses four, well-recognized stages and related barriers that represent a continuum in the creation of a new energy economy. The design of this package recognizes the importance of supporting innovation beginning at early research and continuing through commercial barriers, and doing so in regional clusters that combine leading R&D, entrepreneurial expertise and private sector funding partners.

Research & Development: R&D obstacles are addressed through research grants to world-class university research labs, managed through regional, virtual, university research consortia, in collaboration with DOE.

Early Stage Venture Development: Early commercialization grants and venture development assistance funnel much-needed seed capital and support (with matching regional and private sector funds), to deserving innovative technologies – taking the most promising technologies from the lab to initial commercialization stages.

Scale-up & Job Growth Acceleration: Green Energy Accelerator Parks: This program helps companies scale-up and create jobs by directing investment to shared industrial parks and campuses that are managed by public-private partnerships to provide readily available, flexible facilities for energy technology pilots, demonstrations and early manufacturing deployments.

Full-Scale Commercialization: A public-private equity fund is proposed to provide the much needed capital for “first-of-a-kind” commercial-scale projects to scale-up deserving technologies stymied by barriers to entry and disruptions in the credit and capital markets.

The Energy Innovation Accelerator Package consists of the following:

- **Research & Development Phase: DOE Virtual Co-Laboratories Grants**
- **Early Stage Venture Development: Commercialization Seed Grant and Centers of Excellence**
- **Scale-up & Job Growth Acceleration: Green Energy Accelerator Parks**
- **Full-Scale Commercialization: Clean Energy Deployment Administration (CEDA)**

With the exception of CEDA, we believe that these initiatives can be created using existing authority and funding from the ARRA, with ongoing support from regular budget authorizations.

Energy Innovation Accelerator Package

RESEARCH & DEVELOPMENT PHASE: DOE VIRTUAL CO-LABORATORIES GRANTS

Challenges and Opportunities: A rich portfolio of potentially transformative technology and research capabilities reside in our nation's University laboratories. To achieve a new energy economy and redress Climate Change, meritorious technologies must be given responsible encouragement. Both ARRA and recent testimony from DOE Secretary Chu indicate strong support for expanded energy R&D. Federal R&D programs, under-funded for too long, cannot currently manage the expanded flow of federal funds to deserving technologies in a manner consistent with the ARRA, nor do they optimize public-private partnership opportunities distributed across research university clusters. Directly and indirectly, this costs America its innovation edge, risks disappointment in Cleantech development and is inconsistent with the ARRA's laudable goals.

The Initiative: Establishing a network of virtual DOE co-laboratories, with an initial pilot in one of the country's leading innovation centers, will allow DOE to accelerate grant funding of meritorious technologies and advance innovation through expert research review and oversight. We propose, as a pilot DOE virtual co-laboratory, a consortium of the world-class research universities in the greater Boston area that have deep Cleantech expertise and commitment to innovation in this sector. This Massachusetts DOE Virtual Co-Laboratory avoids the classic "start up" costs, and therefore can rapidly advance expanded R&D that leverages state and regional world-class research universities, consistent with the ARRA.

Specifically, we propose to establish a Co-Laboratory, comprised of founding universities, DOE (perhaps in partnership with an existing National Lab), the private sector and the Commonwealth of Massachusetts. Indeed, a Massachusetts Co-Lab is in the planning stage as an R&D consortium across several leading research universities, including, UMass, MIT and Boston University, and potentially WPI, Harvard and others. These universities have broad-based capabilities across the full range of relevant energy research and development areas. They are committed to collaborating with each other, the Commonwealth, the private sector and DOE on this initiative.

The Co-Laboratory would: (1) draft solicitations for R&D project funding, (2) review unsolicited proposals, (3) award grants to both, consistent with the ARRA and DOE regulation, and subject to independent audit, and (4) review and evolve research and innovation best practices. Each University would participate on the board that solicits, reviews and grants awards from participating as well as other universities and commercial partners.

The Co-Laboratory capitalizes on existing university infrastructure, and can be ready for implementation as a pilot, in a timeframe under which ARRA-funded initiatives received preference, i.e., by July 17, 2009. This initiative may be funded, through ARRA grants, as:

- An advanced research project, consistent with §5012 of the America COMPETES Act, 42 U.S.C. §16538. It is carefully tailored to accelerate "transformational technological advances" in areas that industry is not likely to undertake because of technical and financial uncertainty."
- Under ARRA, § 410, consistent with Title III of the Energy Policy and Conservation Act, 42 U.S.C. § 6321, et. seq. ("EPCA"). It advances renewable innovation consistent with EPCA.

The Co-Laboratory is well aligned with parallel governmental efforts, e.g., national laboratories, DOE out-sourcing efforts and planning for expanded energy R&D in future fiscal years, as well as thought leaders, e.g., Brookings Institute's suggested network of new, Energy Discovery-Innovation Institutes (e-DIIs). It represents a new and responsible model for public-private partnership that can be a credit to the Administration and is capable of replication nationwide.

The Co-Laboratory structure may form the basis for the Department of Energy to reestablish liaison offices within all sizable clean energy innovation centers that do not have a Lab in proximity (i.e. Boston, Austin, Portland, etc.).

Budget Estimate: The Co-Lab should have the ability to fund projects, each in a typical range of \$50,000 to \$2.0 million per year (averaging \$350,000 per award initially and growing, for 1 or 2 year awards). Looking across the under-utilized capacity of the founding consortium partners and other research universities likely to join the consortium, there is ability and capacity to effectively deploy over an initial 3 year period:

Year 1: $30 * \$350K = \10.5 million

Year 2: $40 * \$500K = \20 million

Year 3: $50 * \$800K = \40 million

Admin/yr: $3 * \$1.5M = \4.5 million

Total Request = \$75 million over 3 years

Implementation Partners: The prototype Massachusetts Virtual Co-Lab would have as founding consortium members the major research universities from the greater Boston area (with UMass, MIT and BU already collaborating in this proposal), the Commonwealth of Massachusetts, and advisory/board support from the New England Clean Energy Council and the private sector to collaborate and employ world-class university research capabilities and intellectual assets to achieve diverse energy research innovations.

Energy Innovation Accelerator Package

EARLY STAGE VENTURE DEVELOPMENT:

COMMERCIALIZATION SEED FUND & CENTER OF EXCELLENCE (COE)

Challenges and Opportunities: There is a well-recognized gap between lab research and venture funding. Commercialization funding and entrepreneurial assistance is needed to advance venture development – the creation and seeding of new businesses that can commercialize valuable technologies and transform our economy.

The Initiative: Our initiative will help the most promising innovations that have emerged from the R&D phase (including through the Co-Lab) to become commercially viable ventures. We propose regional investment and innovation centers, known as Commercialization Seed Fund Centers of Excellence (“COE”) that are directly aligned with the goals of the newly funded ARPA-E focusing on translational research, venture creation and development.

The COE, focused on bringing technologies from the lab and into the commercial sphere, would invest through grants in companies and university projects at or nearing seed stage. We propose piloting the COE by leveraging an existing Massachusetts model, Commonwealth co-funding, and an extremely active Massachusetts cleantech cluster. This Massachusetts COE represents an ideal pilot for directing ARPA-E funds, capable of repetition nationwide.

The Center is modeled on the newly created Massachusetts Clean Energy Center (CEC), a likely manager or co-manager. The CEC has a modest budget (approximately \$2.5 million per year) for seed-stage projects that could serve as partial matching funds for a federal allocation. In addition, members of the New England Clean Energy Council, including leading Cleantech venture capital firms in the Northeast, would actively support this combined capability.

Public-private partnership is a hallmark of the initiative. The COE would actively involve the venture, entrepreneurial, and commercial community to bring private sector expertise and venture creation capabilities to the funded projects and companies. R&D projects funded by the Co-Labs would all be eligible to receive entrepreneurial and business planning support by the COE and would all be strong candidates for seed funding, as would projects from other labs and companies. Partnership with ARPA-E for funding and advisory funding practices is a key aspect of this initiative.

Budget Estimate: We are proposing utilization of up to \$2.5 million per year of funding from the existing CEC to be combined with federal funding. Funding could scale over an initial 3 years to fund seed grants and investments in the \$0.25-2.0 million range, along with program support funding for the Massachusetts COE. Proposed funding levels are:

<u>Year</u>	<u>Grants/Investments</u>	<u>Avg. Investment</u>	<u>Total funding</u>
Year 1	25	\$500K	\$12.5 million
Year 2	40	\$750K	\$30 million
Year 3	50	\$1M	\$50 million
Administration - 3 years at \$2M			\$6.0 million
Total Mass funding (3 years)			\$7.5 million
Total Federal funding (3 years)			\$91.0 million
Total funding (3 years)			\$98.5 million

Implementation Partners: The Seed COE would leverage a strong set of partners, including CEC, the New England Clean Energy Council, entrepreneurial programs at UMass, MIT, Harvard, BU, Babson, and other institutions, the VC community, and advisory investment involvement from ARPA-E.

SCALE-UP AND JOB GROWTH ACCELERATION:
GREEN ENERGY ACCELERATOR PARK FACILITIES

Challenges & Opportunities: Many green energy and climate technologies struggle to transition from successful pilot-scale development to commercialization. The burdens of capital intensity, long lead-times for permitting and construction, and lengthy development times for process optimization make successful completion of these critical early commercial projects very challenging, often hindering their development. At stake are millions of jobs as the U.S. transitions to an economy driven green energy.

The Initiative: Create a new model for accelerated job growth by developing a Green Energy Accelerator Park as a pathway from innovation to commercialization, with a short-term objective of the creation of over 1000 jobs. This model, to be implemented across the country in multiple regions and in line with the notion of National Renewable Energy Zones as defined in Senate Bill 589, is comprised of a green energy industrial park, which is powered by green energy, and serves as a catalyst for developing integrated clusters of energy technology development.

A physical campus for company offices, laboratories and manufacturing facilities, Green Energy Accelerator Parks will include pre-existing common facilities, shared infrastructure, and have zoning for light or heavy manufacturing to accelerate the permitting timeline and lower the financial burden for green energy demonstration facilities and initial manufacturing projects. Central to the Accelerator Park model is the Park's shared green utilities and industrial infrastructure, which allow participants to cost-effectively advance technologies from lab to commercial scale. Through common utilities infrastructure, shared test equipment and expertise, Park-wide water and biomass feedstock handling capabilities, emissions controls and equipment, electrical interconnect facilities, and other critical equipment needed for small medium-scale renewable energy facilities, advanced clean energy companies can collaboratively demonstrate new technologies as a critical step toward commercialization.

Such Accelerator Parks will drive the creation of green energy clusters in multiple regions or National Renewable Energy Zones throughout the country that capitalize on inter-company collaboration and network among companies, professionals, government entities, investors, regulators, and universities to actively advance green energy.

In Massachusetts, the "Green Line Initiative" project has identified such a site in the south-east region of the Commonwealth that may serve as the first Green Energy Accelerator Park. The site, a 135 acre, shovel-ready campus located in New Bedford, MA on the site of a former Polaroid manufacturing facility, is ready-made for creating a regional Green Energy Accelerator Park, and also has close connections with additional renewable energy research facilities at the University of Massachusetts at Dartmouth and in Somerset, MA. As a first-of-its-kind campus, the "Green Line" Clean Energy Accelerator Park has office and manufacturing facilities in place, is being re-powered with a renewable fuel-based cogeneration plant, and is zoned for light and heavy manufacturing. The campus has already begun its transition toward housing clean energy companies such as Konarka, a thin-film solar panel manufacturer, and a consortium of clean energy technology companies including Ze-gen, Inc., GreatPoint Energy, Nano-C, Novomer, Oasys Water, and others have already expressed interest in being tenants at the campus. Furthermore the "Green Line Initiative" already has strong support from the City of New Bedford, research universities, and the investor community. We propose that it become the first Green Energy Accelerator Park in the nation and serve as a model for other regions seeking to create effective clusters for clean energy development.

The "Green Line Initiative" could effectively leverage Federal stimulus infrastructure funding to improve existing industrial facilities, local university research facilities, existing shovel-ready corporate sites at

the New Bedford, Massachusetts campus for demonstration and early commercial installations of new clean energy technologies. This campus and network of ready-to-go buildings and sites would provide flexible structure for a cluster of clean energy companies to co-locate, collaborate, and build the next generation of clean energy companies using common labs, utilities infrastructure, matching funds, and program support. Furthermore, the New Bedford campus has the potential to qualify as a designated National Renewable Energy Zone by providing renewable electric generation facilities to the constrained ISO-New England power grid.

Budget Estimate: Budget estimates below include land, building renovations and equipment capital investment requirements, with modest operating support required until usage levels achieve full support of the campus. MassDevelopment, the Commonwealth of Massachusetts’ economic development and real estate management organization, is proposed to become the new landlord of the core campus. State and Federal funding would support capital investments in building upgrades, common equipment and labs, shared resources, utilities, environmental emissions control systems and services for rapid permitting needed for new demonstration and manufacturing facilities. Operational investments include funding for the Green Jobs Training Center, O&M support, and flexible terms for emerging companies looking to develop demonstration facilities. Federal, state and local public support would be effectively matched by investments from the Park tenants.

Proposed funding:

<u>Funding Category</u>	<u>Total funding</u>
Land and Facilities	\$17 million
Shared Infrastructure	\$35 million
Green Jobs Training Center (2 years)	\$8 million
Company-specific Investment	\$60 million
Total Private Funding (company-specific)	\$60 million
Total Federal Funding	\$49 million
Total Mass Development Funding	\$10 million
Total Local Funding (City of New Bedford, MA)	\$1 million
Total Public/Private funding (2 years)	\$120 million

Energy Innovation Accelerator Package

FIRST COMMERCIAL SCALE PROJECTS:

FORMATION OF A CLEAN ENERGY DEPLOYMENT ADMINISTRATION (CEDA)

Challenges and Opportunities: Large-scale deployment of innovative technologies is essential to advancing a new, sustainable and affordable energy and industrial regime. Historically, private equity and project finance debt capital markets have funded clean energy deployments only after the underlying technology has been proven at commercial scale, leaving even the most promising new technologies without essential funding for first commercialization efforts. This “commercialization valley of death” is particularly stark for initial deployment of capital-intensive and novel clean technologies at commercial scale – described here as “first project commercialization.”

Initiative: We propose the formation of a new independent government agency, a “Clean Energy Deployment Administration,” or “CEDA,” to oversee:

- Direct support for clean energy deployments through issuance and management of direct loans, letters of credit, loan guarantees and other debt instruments (provided, that in connection with any of the foregoing, the CEDA would be entitled to receive a profit participation as well as commercially based fees as appropriate to compensate the CEDA for its costs and the risk inherent in its direct support)
- Indirect support for such deployments through the development of financial products and arrangements to support private sector lending to, and equity investment in, widespread deployment of clean energy technologies through securitization, loans to qualified, competitively-selected private fund managers or other similar means of credit enhancement or financial support as deemed appropriate by the CEDA’s Board.

The CEDA, which should have an independent board but substantial interaction with, and oversight by, the Department of Energy, will provide a critical extension of the Department of Energy’s efforts in supporting the financing of clean energy deployments. The CEDA’s provision of financial support would have a multiplier effect in the following ways:

- Attracting additional private capital to commercialization of clean energy technologies;
- Accelerating the deployment of clean energy technologies and promoting a large market opportunity for follow-on funding; and
- Addressing policy objectives, such as job creation, global economic competitiveness, climate change, economic development, re-tooling of the supply chain infrastructure and energy affordability.

CEDA would act as the designated government clean energy financing agency and provide a wide range of support for deployment of clean energy technologies. Low-cost financing and equity provided by CEDA, or indirectly through CEDA programs, would follow consistent and transparent standards set up by an oversight administration. Loans to private fund managers would be backed by the full faith and credit of the US Government and sold to US eligible institutional investors with the resulting equity investment by such fund managers leveraging at least two private sector dollars for every dollar of government senior secured debt issued to such managers. CEDA’s participation in multiple private sector funds, where a minimum of \$5 billion could be deployed, would rapidly catalyze private sector investment.

This proposal leverages historical precedent, which indicates that the United States has customarily availed its balance sheet for long-term multi-generational national priorities.

Characteristics of the CEDA should include:

- Ability to accelerate and scale capital formation by mitigating risks facing investors in the deployment of clean energy technologies and increasing the amount and rate of private capital deployed in a time frame that is consequential.
- Leverage for a banking structure to centralize the deployment of government financial support and hire experienced finance professionals.
- Use of a proven equity fund model with funds managed by highly qualified investment managers having a proven track record in low-carbon, clean energy investing and possessing deep sector expertise, private sector institutional/corporate investors providing equity on a 2:1 matched basis, and governance over project investments enabling rational exit and liquidation strategies to be implemented.
- Financially self-sustaining as returns on investments revolve to allow for continuing re-investment
- Transparent investment criteria and an independent board that would include appropriate agency secretaries and other senior government officials as well as representatives from the private financial, technology and energy policy communities.
- Management stability, flexibility, agility and experience overcoming traditional federal agency obstacles and enabling effective bank and fund management of complex financial transactions leading to rapid deployment and commercialization; and

Implementation Partners: The CEDA concept, which has been widely vetted within the investment community and clean energy industry, has received strong support and will naturally attract a broad coalition of interested constituencies including venture capital funds, private equity/project finance market participants, environmental advocates, economic policy makers, industrial, commercial and retail consumers and national security policy makers.

Status: Prominent members of the finance and clean energy technology community are committed to supporting policy makers to make this idea a reality through existing mandates or in new legislation as energy and climate change bills are introduced. Both the House and the Senate are expected to introduce legislation that would achieve much of what is described here and we expect to strongly support that legislation. Additionally, Representative Van Hollen has introduced the Green Bank Act of 2009, which while not including all of the key points we have described here, is still a strong piece of legislation that would meaningfully contribute to addressing some of the financing shortfall in the marketplace for clean energy technology projects.

**FEDERAL POLICY RECOMMENDATIONS
FOR ACCELERATING ENERGY EFFICIENCY MARKET PENETRATION**

EXECUTIVE SUMMARY

The New England Clean Energy Council (www.necec.org) presents a recommendation for federal policy that will encourage rapid deployment of cost saving energy efficiency resources across the country. Energy efficiency is the lowest cost resource to meet consumers' energy need, reduce carbon emissions, and stimulate economic activity. Efficiency investments create efficiency jobs, lower consumers' energy bills and foster economic growth in the wider economy, increase energy independence, and reduce greenhouse gas emissions.

Currently there are significant, well-established market barriers to energy efficiency including split-incentives, information barriers, and public policy barriers. As a nation we miss hundreds of billions of dollars of savings opportunities by dramatically under-investing in energy efficiency as a resource. In light of the proposal for federal cap-and-invest legislation we propose a policy that would protect consumers by containing the costs of this legislation and deliver hundreds of billions in energy savings over the next four decades.

Our proposals would contain energy costs for all consumers, especially low-income consumers, and generate new economic activity by dramatically accelerating the development and deployment of energy efficiency resources. The council recommends:

- **Cap-and-invest legislation that devotes a significant portion of the auction revenue to energy efficiency**
- **A stand alone Energy Efficiency Resource Standard (EERS) that requires utilities to secure 1.5% of their previous year's load through efficiency**

These policies will promote development and deployment of new efficiency technologies and create hundreds of thousands – if not millions – of efficiency and energy service jobs and protect consumers by containing the costs of the programs.

About the Council: The New England Clean Energy Council, whose mission is to accelerate New England's clean energy economy, represents a diverse set of stakeholders, including clean energy companies, venture investors, major financial institutions, local universities and colleges, industry associations, area utilities, labor and large commercial end-users. The Council develops and executes a wide array of programs in five key focus areas: Innovation, Growth, Education & Training, Adoption, and Policy.

Devote Significant Cap-and-Invest Auction Revenue to Energy Efficiency

Problem & Opportunity:

Energy efficiency is the lowest-cost resource to meet consumers' energy needs and to reduce carbon emissions. Well-designed programs provide technical, financial, and other assistance to help consumers overcome the barriers and externalities posed in the energy market.

Most states have energy efficiency programs for electric and natural gas customers that deliver savings of 3 to 4 dollars for 1 dollar invested. These programs lead to significant new energy service jobs, market innovation, new technology development and deployment, and broad economic growth as savings allow customers to invest in other parts of the economy.

However these investments in energy efficiency have been small compared to the needs and opportunities for energy cost savings and job creation. The under-investment in efficiency is evidenced by annual energy expenditures nationwide, where roughly more than \$200 billion is spent on electric supply at a cost of 6 to 12 cents/kWh while only \$2.5 billion is invested in electric energy efficiency programs at a cost of 3 cents/kWh.

In a carbon cap and invest program combined with an aggressive EERS, increased energy efficiency program investments represent the best way to contain the costs of a Carbon Cap and Invest program, as lower energy demand translates directly into reduced emissions; lower demand for allowances; and lower allowance prices. It also insures that the benefits of efficiency are evenly spread across the country since efficiency is the one energy resource that is available to every state, consumer and facility across the country.

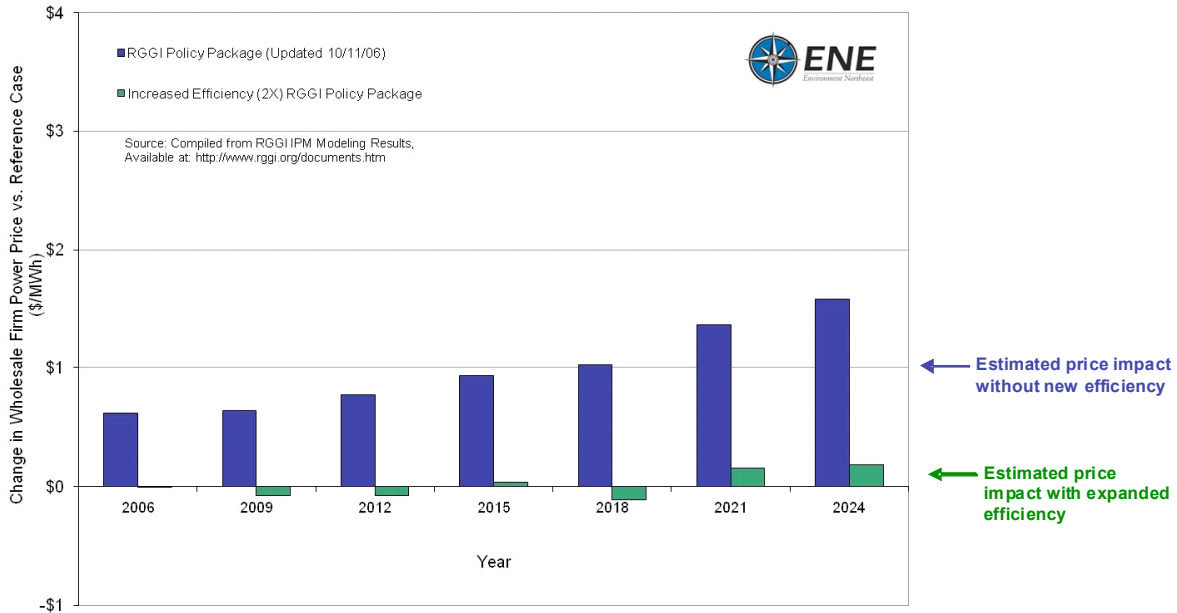
Proposal: Devote Significant Cap-and-Invest Auction Revenue to Energy Efficiency

- We recommend approximately 30% of total allowances should be dedicated to energy efficiency in order to minimize the overall cost of cap and invest. Assuming an economy-wide federal program, the total annual allocation of allowances for energy efficiency programs should equal ~\$45 billion (assuming an estimated 5 billion ton system with allowances worth ~\$30 ton.) The majority of efficiency program investments (more than 70%) should occur through allocation of allowances to existing state supervised energy efficiency programs, with expanded programs developed for all energy types and sectors, including transportation.
- States without comprehensive efficiency programs need to develop or expand programs to cover all fuels used in buildings and by business and industry – in particular programs that address consumption of petroleum based fuels like heating oil and propane.
- All allowances should be auctioned by the recipient – states or regulated distribution companies - with the express purpose of using the proceeds to expand efficiency programs.
- Over time, allowances should increasingly be allocated based on performance in reducing energy consumption. Consistent independent evaluation and reporting should also be required.

Precedent: The RGGI states have recognized that efficiency should be the primary cost-containment tool and are investing approximately 70% of auction revenues in expanded energy efficiency programs. The results of extensive electric sector modeling for RGGI illustrate the benefits of investing in efficiency, with lower energy consumption reducing both the demand for (and the market price of) emissions allowances and the underlying cost of electricity.

RGGI Region Wholesale Electric Prices With and Without Expanded Efficiency Investments

The results of extensive electric sector modeling for RGGI illustrate the benefits of investing in efficiency, with lower energy consumption reducing both the demand for (and the market price of) emissions allowances and the underlying cost of electricity



Expected outcome: The cost of cap-and-invest will be minimized, consumers will save hundreds of billions of dollars, new efficiency technologies will be developed and deployed, and hundreds of thousands – if not millions – of efficiency and energy service jobs will be created. By dedicating at least 30% of total allowances to energy efficiency consumers will be protected by containing the costs of the program.

Proposal: Energy Efficiency Resource Standard (EERS)

A federal Energy Efficiency Resource Standard (EERS) is designed to save money and reduce emissions by requiring utilities to meet a minimum percentage of energy demand through low-cost efficiency improvements.

- Electric and natural gas utilities would be required to reduce projected energy demand by a set amount each year in order to achieve cumulative savings targets over a given time period. The *Save American Energy Act* proposed by Rep. Markey (D-Ma) and Sen. Schumer (D-NY) calls for saving a cumulative 15% of electricity demand and 10% of natural gas demand between 2012 and 2020. The average annual savings of 1.5% for electricity and 1% for natural gas are ambitious yet achievable targets. It is essential to set aggressive targets.
- Energy efficiency is a unique resource with unique characteristics. In order to fully capture the benefits of efficiency, an EERS should remain distinct and separate from a renewable portfolio standard (RPS). While important, renewables are significantly (4 to 10 times) more expensive than efficiency, and mixing an EERS in with a renewable standard could mean that customers significantly overpay for efficiency and many times you are regulating a different entity (local distribution company vs. load serving entity). Trading in an EERS should not be allowed because it will also cause overpayments for efficiency and geographic distortions.
- The Department of Energy would run the EERS program and establish protocols for measurement and verification to ensure program results.

Expected Outcome: Efficiency is the best near-term energy investment for reducing consumer-energy bills, creating jobs, spurring economic growth, and increasing energy independence. New spending on efficiency creates direct employment and the money not spent on energy flows back into local economies to foster economic growth. Gains in energy efficiency also provide the most immediate and cost-effective way to reduce greenhouse-gas emissions. In a cap-and-invest system lower emissions reduce demand and, as a result, the prices for allowances (permits to emit), thus making efficiency the primary cost-containment mechanism in climate regulation. A nationwide EERS would help overcome market barriers that have limited efficiency improvements to date. With utilities providing rebates, bulk cost buy-downs, and technical support, consumers can afford to upgrade to efficient machinery or appliances and retrofit buildings to save energy.

FEDERAL POLICY RECOMMENDATIONS FOR ACCELERATING RENEWABLE ENERGY IMPLEMENTATION AND MARKET PENETRATION

RENEWABLE ENERGY EXECUTIVE SUMMARY

The New England Clean Energy Council (www.necec.org) presents several recommendations for policy changes that will remove barriers and encourage rapid deployment of renewable energy projects. Often, the patchwork of state and federal regulatory rules and agencies currently governing our nation's renewable energy sector create uncertainty for investors and entrepreneurs, preventing the necessary conditions for investments to accelerate the implementation of proven renewable technologies.

The Council supports a federal Renewable Electricity Standard and offers specific suggestions to clarify the proposal and ensure that the federal standard provides maximum renewable energy, while respecting existing state renewable policies.

We also propose two measures that would ensure prudent streamlining of environmental protection laws that currently create unnecessary obstacles to siting and building renewable facilities. These proposals would reduce unnecessary delays in the EIS process and federal judicial reviews while ensuring that proper environmental concerns are addressed.

We recommend measures that:

- **Ensure a federal Renewable Electricity Standard (RES) that provides long term market certainty for renewable energy without undermining successful state RPS programs**
- **Provide timely environmental review and permitting**
- **Consolidate and expedite the federal judicial review process**

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Federal Renewable Electricity Standard (RES) that Provides Long Term Market Certainty for Renewable Investors and Developers

The Council believes that our future depends upon a foundation of sound regional, national, and global energy policies that encourage the development and deployment of clean energy solutions. A federal Renewable Electricity Standard (RES), designed properly, can be an important piece of that policy foundation.

Currently there are 27 states plus the District of Columbia that have RES policies in place. Together these 27 states account for more than 42% of the electricity sales in the United States. A federal standard should encourage renewable development by bringing clarity and a higher level of certainty to today's fragmented market.

1. Federal RES should be a floor and not a ceiling

The bill should respect the right of states to adopt RES standards that are more rigorous than a proposed federal standard. The bill should not diminish the authority of a State to adopt or enforce any law or regulation that exceeds the required amount of renewable electricity in the federal bill. This language is particularly important in New England where each state has an RES target more rigorous than the proposed federal one.

However, we are concerned that the portion of a state's RES in excess of a federal standard would be rendered ineffective if the excess Federal RECs not needed for state compliance can be traded or used for Federal RES compliance in other jurisdictions. To preserve the integrity of these more ambitious state RES policies, we encourage the insertion of additional language that expressly prohibits the sale of excess federal renewable energy credits to utilities in other jurisdictions in states where the state target in a given year exceeds the federal target.

2. REC Tracking System Integration

The New England states have developed a regional REC tracking and trading system that improves the liquidity of REC markets throughout the region while ensuring that RECs are not double-counted. The federal proposal recognizes the value of utilizing existing state and regional tracking systems such as this one. The federal program should rely upon existing and emerging State or Regional tracking systems that issue and track non-Federal renewable energy credits.

This network of tracking systems could easily issue a Federal credit that is simply another attribute of the RECs already created by the tracking systems. The Federal credit would transfer with the existing state RECs, and would be retired when the state RECs are used for compliance with state requirements or for voluntary renewable energy products or programs.

3. Use of Federal Alternative Compliance Payments

The Council supports distribution of any federal ACP and penalty payments back to utilities that have complied with the federal RES. This policy will provide an incentive to utilities to actually provide renewable energy, rather than pay the alternative compliance fees. This approach has worked well in the UK, where utilities have the incentive to (and often do) pay *more* than the ACP for renewable credits. Returning compliance payments to conforming utilities will raise the market value of credits, rather than allocating more dollars to state renewable energy funds, which have often been slow to generate new renewable power sources.

4. Definition and Preferential Treatment of Distributed Generation

The council supports a definition of “Distributed Generation Facility” as a renewable generation facility of no more than 2 MW in capacity that primarily serves customers “at or near the facility”. However, we believe that the definition should not exclude facilities that generate renewable electricity...”by means of combustion.”

The Council supports a definition of 2 MW limit for in this definition as it encourages the development of larger projects that can serve municipalities and industrial/commercial facilities. However, we do not believe that projects that utilize combustion technology should be excluded. Provided that federal, state and local pollution control regulations are followed, direct combustion of the eligible biomass materials allows utilities to employ a wider range of bio-energy generation options in an environmentally responsible manner, and should be permitted under the Act.

5. Exclusion of Energy Efficiency

The council supports the exclusion of energy efficiency form the RES standard. While increased energy efficiency is an important component of our nation’s energy future, it should not serve to dilute the renewable energy potential that a federal RES is intended to tap. We believe that with the renewable energy investments driven by a federal RES, these targets are more than achievable. The federal government should seek similarly ambitious energy efficiency targets but these should be stand-alone, not combined with the RES.

Timely Environmental Review and Permitting for Renewable Energy Projects

Problem & Opportunity: Extensive delays often plague the environmental review and permitting of renewable energy projects. The National Environmental Policy Act (NEPA) and other environmental laws have produced monumental gains in environmental quality. But they were designed primarily to control activities presumed to be environmentally damaging or at least in need of significant mitigation. NEPA is premised on the idea that more extensive and time-consuming review will produce better environmental outcomes – that time is not of the essence from an environmental perspective. However, we now face the need for a massive program to rapidly build a zero-carbon energy infrastructure to avoid the further atmospheric build-up of greenhouse gases.

Environmental review and permitting processes often take many years and impose enormous uncertainty and cost. Defense, transportation, fossil fuel and other interests have claimed that the NEPA process fails to strike an appropriate balance between environmental and other goals and have secured exemptions, waivers or streamlining arrangements for various project categories. In the climate change context, delays in the review and permitting of renewable energy infrastructure do not raise a question about the balance between environmental and other concerns -- they expose a fundamental flaw in the US environmental protection system. It is urgent that we take steps to expedite NEPA review and permitting for renewable energy projects.

Proposal: Reform the NEPA Review Process for Renewable Energy Projects

- Amend NEPA's declaration of national environmental policy (42 U.S.C. § 4331) to call for timely development of renewable energy sources as a means of achieving prompt greenhouse gas emission reductions.
- Direct the Council on Environmental Quality to issue, within 180 days, regulations providing for expeditious NEPA review of renewable energy projects. The regulations should require federal agencies to use concurrent review processes and adhere to expeditious timetables set by designated lead agencies.

- Direct CEQ to amend existing NEPA regulations governing preparation of environmental impact statements to provide that (a) the purpose and need of a renewable energy project shall be presumed to include greenhouse gas emission reduction, and such definition of purpose and need shall be deemed sufficient; (b) the examination of alternatives to a renewable energy project need not consider alternative locations for aesthetic reasons; and (c) the examination of alternatives need not consider alternative means of reducing greenhouse gas emissions.
- Direct all federal agencies involved in the review or permitting of renewable energy projects to implement, within one year, all feasible means of expediting their review and permitting processes for such projects.

Expected outcome: These measures will simplify the process of siting renewable energy projects while maintaining comprehensive environmental review and integrity.

Consolidate and Expedite Federal Judicial Review of Renewable Energy Projects

Problem & Opportunity: There is a broad consensus that new renewable energy development is essential for our electric generation system and is one of the most important elements of U.S. energy policy. However, current policy often creates unnecessary barriers to development of renewable energy projects and rapid growth of the industry and a level of uncertainty that discourages long term planning and investment.

Renewable electricity projects often require federal siting or licensing approvals and often may require multiple federal approvals. Each of these approvals can be subject to lengthy and expensive judicial review. Some may even require administrative review followed by Federal District Court review followed by U.S. Court of Appeals review; others may go directly to the U.S. Court of Appeals pursuant to the underlying statute under which the approval is required. Judicial review can be a long and tortuous process, sometimes consuming several years and substantial funds.

Proposal: Expedite and Consolidate Federal Judicial Review of Renewable Energy Projects

The operation of renewable electricity projects that require federal approvals would be expedited significantly if all judicial reviews were consolidated in a single appellate proceeding in which the court is encouraged to expedite its decision. The streamlined process could apply to any facility that would qualify for an electric utility's obligations under an RES. Alternatively, it could apply to all renewable energy projects that use a "qualified energy resource" as defined under section 45 of the Internal Revenue Code (the Production Tax Credit provision). In either case, it would be limited to those energy sources that Congress has singled out to encourage construction with special incentives.

Precedent: This concept was utilized at least twice in recent laws. First, the Alaska Natural Gas Pipeline Act, section 720e, passed in 2003, provides for expedited consideration and exclusive review in the D.C. Circuit of any order or action of any federal agency or any challenge under NEPA related to the authorities in the Act. Similarly, the Energy Policy Act of 2005, section 313, provides for development of a single consolidated record and for exclusive jurisdiction and expedited consideration by the D.C. Circuit Court of Appeals to force action by any Federal agency or state agency acting pursuant to Federal law relating to construction of natural gas facilities.

Expected outcome: To encourage development of renewable electricity sources, streamlining the judicial review process is a necessary prerequisite for getting such facilities on line at the earliest possible time. The provision would not in any way modify or affect substantive rights of review by any aggrieved party or project opponent. It would not affect the timing or the content of any required review under the National Environmental Policy Act ("NEPA"). It would, however, streamline the review process by consolidating challenges to agency actions and making possible a single expedited Court of Appeals review of any and all actions taken pursuant to federal law.