

**Testimony Remarks**

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**Renewable Electricity Standards: Lighting the Way  
Select Committee on  
Energy Independence and Global Warming  
U.S. House of Representatives**

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*Introduction –* Mr. Chairman and esteemed members of this  
*Representing Nth* committee, thank you for the opportunity to share my  
*Power, E2* views on a national renewable energy standard. My  
name is Nancy Floyd. I am Founder and Managing  
Director of Nth Power, the world's first venture capital  
firm to specialize in new energy technologies. We  
started in 1993, and now have \$400M under  
management, with offices in San Francisco, CA, and  
Portland, OR. We have invested in 42 start-up  
companies including the market leaders in renewable  
energy, clean transportation, energy intelligence and  
smart grid. Our investors include a number of the  
world's leading energy/environmental organizations,  
and largest institutional investors who see the need for  
and the potential financial rewards of clean technology.

Also, by way of background, in the early 80's, I was the Founder and CEO of one of the first wind development companies in the country, building over \$30M of wind projects in Northern California. I am speaking today not just as an entrepreneur and investor, but also as an active member of E2 and as an advisory board member of ACORE.

*Environment and  
Economy linked*

E2 or Environmental Entrepreneurs is a national, non-partisan organization of business leaders who believe that a strong economy goes hand in hand with strong environmental protection. E2 advocates at all levels of government, local, state and federal, for policies that encourage vigorous and sustainable economic growth while promoting better resource management and efficiency. These two elements, I believe, can and should be linked together to benefit the country's economic progress and competitiveness.

*The renewable  
energy  
opportunity*

Renewable energy technologies are experiencing explosive growth globally as resource depletion, aging infrastructure, energy security and global warming make old energy technologies untenable. The global market for renewables grew 39% last year to \$55 billion and is projected to quadruple in the next ten years to \$226B.<sup>i</sup> This level of growth is akin to that of the PC,

wireless and internet industries during their heyday. Ten years ago, venture capital investment in new energy technology was less than \$50 million annually. Last year, it was \$2.4 billion out of the total venture capital investment that year of \$24 billion. That means that \$1 of every \$10 of venture capital investment went into a clean energy technology company. That number looks like it may grow 50% in 2007, and show steep increases over the next several years. No wonder clean energy is being touted as the growth industry of the 21<sup>st</sup> century and is expected to create hundreds of thousands of new jobs and successful companies on the scale of this country's current largest corporations.

*U.S.  
competitiveness in  
renewables*

That's both an opportunity and a problem for the U.S.. Today, of the top ten wind companies in the world, only one – GE - is headquartered in the U.S. Sadly, though, not one of the top ten solar companies in the world, is headquartered here.<sup>ii</sup> I experienced firsthand the lead this country had in wind and solar technologies in the 80's. We lost this lead because of the market instability created by the lack of consistent, predictable policy at the federal level.

The lack of U.S. opportunity compared to global opportunity is shown in another fact, that all three of the

top U.S. solar cell manufacturing companies that have gone public recently, are locating their factories in West Germany, East Germany, the Philippines, and Malaysia, not in the U.S. Why? Because of manufacturing economics, incentives by those governments and lack of a strong stable market for their products in the U.S.

Today, we have another opportunity, another chance at capturing the economic benefits for the U.S. from the technology investments that we have made - and here, the “we” is both taxpayer investment through DOE programs and private investment through funds such as Nth Power. We have another chance to get it right. Our country possesses unique assets including our high tech talent pool, world class research in renewables and technology advances in materials, communications, and IT which are rapidly bringing down the cost of renewables. While Europe and Japan lead in the installation of renewable energy, the majority of venture capital investing in clean technology is focused on start-up companies in the U.S. We can and must support this effort.

*Benefits of  
National RES*

A national renewable energy standard or RES is widely recognized as a fundamental, market-making policy that

will drive innovation, investment and domestic market growth . This committee has undoubtedly heard the benefits of a national RES but let me reiterate the key ones. According to the Union of Concerned Scientists, a national RES for 20% renewables by 2020 would create 185,000 jobs within 13 years, attract \$66.7B in investment capital and prevent CO2 emissions equal to taking 36.4 million cars off the road. <sup>iii</sup>

*Energy policy  
drives innovation*

In March of this year, E2 surveyed the leading investors in the clean energy sector. The results clearly show that energy policy drives investment and innovation. 84% of investors surveyed said that a clean energy public policy stance is a driver in bringing new business and investment to a region. 72% said that current federal policies regarding clean energy affected their likelihood of investing in U.S. companies and 65% specifically identified a national renewable energy standard as a critical or important factor in their investment decisions.<sup>iv</sup> In addition, a national RES has a multiplier effect. A market-making policy such as a national RES will not only influence the amount of venture capital investment, but also the amount invested in business expansion and in related project finance investments. A good example of this is one of my portfolio companies

that I alluded to above. Evergreen Solar is a photovoltaic solar manufacturer now listed on Nasdaq. Evergreen Solar commercialized solar technology developed by MIT, and located its initial facilities in the nearby Boston area. When it was time to expand their manufacturing and quadruple capacity, however, the Company chose to build their plant close to the market - ---which was Germany not the U.S.

All of us want Evergreen's next major expansion to be here, creating more jobs and increasing the energy security in this country. A national RES would help make that happen.

*Two case studies:* In the absence of federal policy, 24 states and the District of Columbia have passed Renewable Energy Standards. How have state renewable energy standards affected investment and jobs? Let me cite statistics from my part of the country, California and the Pacific Northwest states of Oregon and Washington. All three states have now passed Renewable Energy Standards.

Two years ago, I testified in a joint session of the California Senate and Assembly on a state RPS. At the time, I predicted that \$11B of capital would be invested in clean energy companies and projects by the year 2010. In only two years, the industry has exceeded

these goals. Last year, Washington State was second in the country in wind capacity additions.<sup>v</sup> The Pacific Northwest added 954 MW of wind power bringing rural communities \$1.38B in new capital investment, 1,300 construction jobs and \$2M-\$3M in annual royalty payments to farmers and rural landowners.<sup>vi</sup> And, in California and the Pacific Northwest combined, venture capitalists invested \$1.25B in regional, clean technology start-ups, roughly half of all investment in the clean technology sector.<sup>vii</sup> It's no surprise that venture capitalists like to invest in companies where there is market demand in their backyard and the three state RES's have helped create that demand.

*Renewables  
growth nationally*

But, it's not just the West Coast that's benefiting from the growth in clean energy. The industry is growing nationally, but this could be accelerated greatly by a national RES. All regions of the country saw venture capital investment in clean technology increase between 2005 and 2006. While 60% of Nth Power's investments are in companies headquartered in California and the Pacific Northwest, the rest of the firm's portfolio is spread among 13 other states. One of our investments is in Jackson, MS so I spend a fair amount of time in that state. As such, I am well aware of the concerns expressed about the uneven distribution of renewable

resources across the country. The South, for instance, does not have the wind resources of other regions. But there, biomass power could play an especially important role in meeting clean energy goals. A national RES could help jumpstart a southern biopower industry. This could provide major new opportunities for farming and rural communities hit by the decline in tobacco consumption, wood product/paper exports and threatened with loss of cotton supports due to international trade conflicts. Using EIA assumptions, biomass crop payments to the South, under a 15% RES, would be \$15.4B or 45% of the national total in the year 2020. <sup>viii</sup>

*RES and next  
generation  
transportation*

A technology sector that is attracting a lot of attention from clean technology investors is transportation. Many of us in the venture capital community predict the rapid proliferation of PHEVs or plug-in hybrid electric vehicles over the next decade. If we're right, electricity will become one of the fuels of choice for transportation. If we do not want plug-in hybrid electric vehicles to be reliant on fossil fuels, we need to spur the expansion of the domestic renewable energy market. Let's use a national RES to encourage clean and energy independent transportation.

Let's also design a national RES that the majority of our country can agree with, can adopt, can accept and therefore will implement. The venture capital industry seeks a national commitment that is broadly accepted and implemented.

*Conclusion*

Clean technology, and the creation of clean energy is a real industry with serious companies and serious investors. The market drivers point to exponential growth over the next decade driven in part by high oil prices, energy security concerns, global warming and aging infrastructure.

We can lead that growth or we can watch this industry grow in (and benefit) other countries. This is the decision we now face.

This country has the opportunity to capitalize on this growth industry by establishing a predictable market for investors and entrepreneurs through the passage of a national RES. With predictable markets, capital investment will flow, new technology will be fostered and the country will gain the benefits of an industry that will create hundreds of thousands of jobs in both rural and urban America while promoting energy security and developing solutions to address global climate change. I urge you to pass a national RES. Thank you for giving me the chance to express my views.

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<sup>i</sup> Clean Edge and Nth Power, Clean Energy Trends 2007, [www.cleandedge.com/reports-trends2007.php](http://www.cleandedge.com/reports-trends2007.php)

<sup>ii</sup> Remarks by Michael Eckhart, President of ACORE, Renewable Energy Finance Conference – Wall Street, June 2007

<sup>iii</sup> [http://www.ucusa.org/clean\\_energy/clean\\_energy\\_policies/cashing\\_in.html](http://www.ucusa.org/clean_energy/clean_energy_policies/cashing_in.html)

<sup>iv</sup> “Cleantech Venture Capital: How Public Policy Has Stimulated Private Investment::, E2 and Cleantech Venture Network, May 2007.

<sup>v</sup> [Http://www.eial.doe.gov/cneaf/solar.renewables/page/prelim\\_trends/rea/prereport.html](http://www.eial.doe.gov/cneaf/solar.renewables/page/prelim_trends/rea/prereport.html)

<sup>vi</sup> Renewable Northwest Project, “Wind Power & Economic Development: Real Examples from the Pacific Northwest,” January, 2007

<sup>vii</sup> Clean Edge and Nth Power, Clean Energy Trends 2007, [www.cleandedge.com/reports-trends2007.php](http://www.cleandedge.com/reports-trends2007.php)

<sup>viii</sup> Energizing Rural America: How Renewable Electricity Standards General Rural Economic Prosperity, pp. 8-9