TESTIMONY OF

JEANINE HULL

BEFORE THE

SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

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"*We're not post-something anymore. We're not post-war, we're not post-Cold War, we're not post-post Cold War. We're pre-something. And what we're pre-...is the energy climate era, defined by these five problems (energy and resource supply and demand, petro-dictatorship, biodiversity loss, climate change, and energy poverty) going over a tipping point. And how we manage these five problems, I believe, is really gonna define the stability or instability of the 21st century."* **Thomas Friedman, in Call for a Green Revolution.**

Mr. Chairman, Ranking Member Domenici and Members of the Committee, it is a distinct honor as well as a pleasure to testify before you today in support of S. 3233, the 21st Century Energy Technology Deployment Act, and S. 2730, the Clean Energy Investment Bank Act of 2008. I am currently of counsel at Dykema Gossett, PLLC, where I advise clients on energy infrastructure and project finance issues. My testimony today, however, reflects exclusively my personal opinions. I come to this issue with more than 30 years in the energy infrastructure and finance sector.

These bills address the critical challenge of our generation, which is, as the author Thomas Friedman states, to resolve the energy-climate problems that will define the stability of the 21st century. Our success or failure will determine the living conditions of this planet's inhabitants in the near as well as distant future. This challenge is critical to each of us personally, it is urgent and it is huge. We are far beyond the moral equivalent of war. This is a real war, with immediate security impacts. This is a matter of economic, physical and environmental survival.

In 1998, I became a partner in Cantor Fitzgerald LP, with an office on the 105th floor of the North World Trade Tower. Cantor was and still is the leading secondary market for US Treasuries. It achieved this distinction by providing a marketplace for bond trading that is open, transparent, rules-based and heavily monitored. US Treasuries became the benchmark against which all other financial actions could be indexed because of the safe, trusted and creditworthy market Cantor created. Howard Lutnick, Cantor's chief executive officer, believed the same kind of market could be created for electricity and natural gas. Cantor hired me to help bring the discipline of the financial trading markets to the energy markets. I was working toward that goal on September 11, 2001. I am here to talk about it because I was working here in Washington on that day of the terrorist attack that destroyed the World Trade Towers. Almost everyone I worked with and almost everything I had done for five years were vaporized.

The introduction of these bills documents that we are well past the point of debating whether this country must undertake a massive energy infrastructure improvement effort. The relationship between energy and security is now recognized as a national priority. I have integrated into my work what I refer to as the Four Securities. These are: energy security, economic security, national security and environmental security. I believe the first three are familiar to all. The fourth, environmental security, refers to avoidance of the more dire climate-change scenarios. The Four Securities are symbiotically intertwined, as each of the bills recognizes, and none can be achieved without success in each of the others.

Both bills recognize the need for immediate action to solve the challenge of the Four Securities, recognizing that the earlier these actions are undertaken, the greater and more immediate the payoff will be.

In fact, the amount of agreement between the bills is encouraging.

Both bills create a funding entity which can become self-supporting. S. 3233 creates the 21st Century Energy Deployment Corporation, while S. 2730 creates the Clean Energy Investment Bank of the United States. For simplicity, I will refer to the "financing entity" created by the bills. Furthermore, the bills also acknowledge that federal resources may not be adequate to directly fund the effort at the level necessary through annual appropriations.

Both bills acknowledge that private investment can, and ultimately will, meet the demand for financing domestic, reliable, clean energy development projects, but that action is required now to provide the foundation for that investment by bearing the immediate risks of technology development.

Both bills would leverage the unique position of the US Government to accelerate the ability of the private financial markets to rapidly deploy technologies which have the potential to radically reduce reliance upon carbon-based combustion for transportation and generation and to more efficiently use the energy that is produced, including more efficient and intelligent delivery systems and markets.

Both bills acknowledge that the expertise to operate the proposed financing facility is not common in the civil service and civil service incentives are highly unlikely to attract the expertise required.

Both bills are technology neutral, are clearly nonpartisan and do not pit consuming regions against producing regions, the notorious bane of energy legislation. Instead these bills benefit innovators and developers who are currently constrained by lack of access to the financial markets.

I turn now to what I believe are the specific strengths of each bill.

S. 3233 recognizes the vast breadth of technologies that are needed to meet the Four Security challenges. Its defined term 'Clean Energy Technology' covers any technology "related to the production, use, transmission, control or conservation of energy" that will improve the

efficiency of use or transmission of energy, diversify the sources of environmentally sustainable energy, or stabilize greenhouse gas ("GHG") emissions.

I urge the Committee to retain this definition and to specifically recognize the need to update our power delivery system, most of which was built after World War II, and which is in desperate need of modernization, including the deployment of advanced control and smart-grid-enabling technologies. Our nation's power delivery system is generally under tremendous strain, at both distribution and transmission voltage levels.

Adequate transmission is necessary for power markets to function properly and to attract sufficient liquidity. Many regional markets today are limited by the perception that the delivery system is stacked in favor of the transmission owners to the detriment of non-transmission-owning market participants. Although this is not the forum to address that market structure issue, it is important to note that adequate physical delivery infrastructure is necessary to properly address the structure issue. The words 'congestion pricing' will continue to depress and distort power markets until congestion is eliminated.

Expansion of delivery capacity is not just a ploy to benefit speculators and arbitrageurs. Neither the energy generated at remote or dispersed renewable energy installations nor that generated from existing facilities can be used or priced efficiently without an assured delivery system. Increased interconnectivity will also balance renewables' intermittency with non-intermittent resources, increasing its usefulness. Buildout of new generation and new transmission must be coordinated to prevent the costs of achieving energy security being far greater than would otherwise be necessary.

S. 2730 provides the financing entity with a broad selection of financing tools and flexibility in selecting which tool to use. None of these tools is unique to energy infrastructure and all are used, in varying combinations, by other government-sponsored programs. Each tool has a different specific purpose, cost and risk profile, and no one tool can perform all tasks. With this wide array of tools, the financing entity can more finely tune the project's need with the funding available.

One tool that S. 2730 does not explicitly include is the one tool that S. 3233 provides. Securitizing a portfolio of loans for remarketing is critical to adding depth to the private financial markets, as it was for home mortgages and farm credit. This tool should definitely be available to the financing entity and should be specifically stated in the legislation.

If the goal is to make the financing entity self-supporting, then allowing for limited equity investment, perhaps through preferred stock, may not only be helpful, but may also be the most cost-effective way for the financing entity to support a particular project. The dividends would also provide a non-appropriated budgetary source of funding. In other cases, the financing entity could issue letters of credit ("LOC") or other credit enhancements, short of loan guarantees, to meet the project's need. The transactional costs in time and dollars charged to the developer for an LOC would be significantly reduced compared to the transactional costs of a loan guarantee. Similarly, allowing the financing entity to provide insurance to transfer an investor's technology risk on a specific project might be the only support necessary for a breakthrough technology to succeed. In addition, for new technologies, the issue is usually less

about the interest rate than it is of finding an investor willing to incur the technology, credit and/or development risks.

I am mindful of the old adage that warns, if one only has a hammer, everything looks like a nail. I urge the Committee to provide the financing entity with multiple specialized tools which will enable it to deploy and leverage its resources in the most cost-effective way possible and support the broadest range of development projects.

I want to emphasize a point that the bills have in common. Both bills recognize that the civil service workforce and rules are not conducive to acquiring the sophisticated financial expertise that the financing entity requires. This is not a small issue, and I believe it is vital that this entity not be restrained by rules and processes that make sense in other contexts, but that have not been designed to enable the agencies to get the most benefit from the expertise created in the private markets. It is not a lack of will on the part of the agencies; they are as frustrated as anyone. The people involved in building this new financing facility will need the ability to move in support of the broader private financial markets, exiting one area when private markets are capable and entering others where the market is not yet developed.

The two bills are silent on exactly how the financing entity will relate to existing capital markets. It has been my experience that the existing markets are attracted to financing large projects, such as hundred or thousand megawatt generating facilities or large transmission projects, and projects that have limited risks. The technologies that suffer from a lack of attention by the financial markets are not only those with technology risk, but also the unglamorous projects of residential and commercial solar and efficiency improvements, which are too small to interest investment banks and equity funds because they cannot bear the burden of significant transaction costs.

Savings that could be accomplished by retrofitting solar thermal for heating and cooling in terms of reduced electrical and gas loads are greater than any one or ten plants standing alone, but since they are so dispersed, they are also difficult to finance and achieve. To give you an idea of the type of savings I am talking about, according to Solarsa, a solar developer located in Florida, each ton of solar cooling installed using existing technology avoids the production of 2.27 tons of carbon equivalent per year. At 10 cents/kwh and $12/Dth, each 50,000 tons of solar cooling systems will shift $10 million per year from foreign fossil fuel purchases to domestic renewable energy systems providing good local jobs. Over the 20-year useful life of the equipment, each ton of solar cooling will reduce fossil fuel purchases by $45,890 on an investment of $10,000. That is a huge payoff and the technology to achieve this is currently available. (Solarsa is not a client of Dykema.) I understand the European Union expects to meet one-fourth of its target GHG reductions by 2020 by aggregating a large number of these solar thermal and biomass projects.

Thus, there are at least two gaps in the existing capital markets that could be filled by this financing entity—the gap cause by lender's reluctance to incur technology risks and the gap of financing wide deployment of available technology in small-scale applications. It is important that the new entity be structured to focus its efforts on the gaps in the markets, and to exit that

specific area once the private markets are adequate, so as to enhance funding for energy infrastructure and not compete with the private sector.

To conclude, I believe the financing entity will address each of the Four Security challenges as follows:

Energy Security will be enhanced by the development of domestic, affordable, reliable and sustainable sources of energy to meet the demand for fuels and electricity, simultaneously making the system less vulnerable to intentional disruption.

Economic Security will be enhanced through the increased ability of the United States to insulate itself from the inflationary pressures of dependence on a petroleum-based economy, as well as slow the imbalance of payments to oil- and gas-producing nations. By retaining petro-dollars at home and refocusing them on a "greener" economy, the United States can maintain its manufacturing and intellectual competitiveness, create and maintain good jobs and support thriving new technologies.

National Security will be enhanced by reducing our need to protect foreign oil and gas infrastructure while allowing the reduction of troop presence in sensitive areas.

Environmental Security will be enhanced by reducing the volume of emissions which contribute to climate change and otherwise pollute the air, water and ground.

Mr. Chairman, thank you for the opportunity to testify today in support of legislation that is so vital to our country. I urge this Committee to act on these bills and to move legislation to the floor as quickly as possible. Time is truly of the essence.

This concludes my prepared remarks. I look forward to your questions.