TESTIMONY OF NANCY HIRSH

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I. INTRODUCTION

Mr. Chairman, Members of the Committee, my name is Nancy Hirsh. I am the Policy Director of the Coalition. The Coalition is an alliance of almost 100 organizations advocating policies to provide clean and the citizens of Washington, Oregon, Idaho, Montana and British Columbia. Our member organizations inclu environmental groups, community action agencies, progressive utilities, businesses and others. A full list of appended to my testimony (Attachment A). Prior to coming to the Coalition, I worked for twelve years in W national energy policy issues, specifically energy efficiency and renewable energy resources.

We appreciate the opportunity to testify at this very timely hearing. Energy policy is on the public ag that it has not been in many years. The current energy crisis creates challenges and opportunities for addressi nation's energy needs.

How we manage our way out of this energy crisis matters a lot. We must address the short-term issue with a combination of short-term fixes and long-term solutions that balance our energy needs with a healthy environment.

In the Northwest, as in the rest of the country, there is a rush to build power plants and transmission li build, build, build (16,000 MW of proposed natural gas power plants, $1.4 billion for Bonneville Power Adm system upgrades and expansion) is a short-sighted reaction to the chaos and will most likely lead us into a su prices, continued market volatility and nervous investors. Many concerns have been raised about the adequa transmission grid and the need for significant expansion and upgrades. I agree that maintaining a high level o electric grid is essential to our goals for providing energy services. However, I resist the notion that simply b answer. There is no doubt that some infrastructure investments are warranted and will enhance reliability. H at our infrastructure needs through a least-cost lens that gives equal consideration to the alternatives to buildi

The goal of our energy system should be to provide adequate, reliable, environmentally responsible, a services to consumers. Central station renewables, demand-side management measures and distributed renev contribute to an efficient and broad market-based electric system that meets consumers needs. Strategically can play a vital role in developing these resources and meeting our energy needs.

My testimony today will focus on the role of energy efficiency and clean energy resources in addressi needs and will outline what actions this Committee and the Congress should take to create a clean and afford

CTURE CONSTRAINTS

In this region, the Bonneville Power Administration and utilities have been efficient in the delivery of power to loads with infrastructure. In the development of that infrastructure, however, risks to ratepayers have not always been well managed; nor have ways to serve load been encouraged. Specifically, demand-side management measures, which include energy efficiency and load m renewable generation, and strategically sited large scale renewable generation should play a more vital role in meeting consumers n pressure on the transmission system.

Too often the strategy for addressing transmission problems focuses on building more lines, with scant attention paid to th renewable resources, distributed renewable generation and demand-side management to solve transmission congestion. Once a sys marginal cost of operation is practically zero, making in virtually impossible for energy efficiency and distributed renewable genera conventional generation. Building new transmission lines may be a part of the solution, but new lines should not be the presumed a Federal incentives should stimulate the least-cost approach to meeting the nation's energy needs with renewable energy resources, e distributed generation in addition to new transmission lines and distribution system upgrades.

Although demand-side measures, distributed renewable generation and central station renewable energy facilities can offe solutions to meeting customer needs, outdated and unnecessary interconnection standards hinder the development and use of these distribution entities that implement interconnection standards should provide incentives to achieve all of the cost-effective energy a associated with all resource options including demand-side resources and intermittent renewable resources.

gy Efficiency Investments

Energy efficiency is the quickest, cheapest, cleanest resource we have available, and we should accelerate its implementati Energy efficiency means doing more with less. Energy efficient lights provide the same level of output as conventional incandesce Common sense would dictate that everyone optimize energy efficiency to capture all the energy savings available. But in reality, a market failures and market barriers prevent cost-effective energy savings from being acquired. Public policy intervention is neede market barriers and optimize energy use. Financial incentives clearly address the economic barriers that consumers face when mak improve energy efficiency.

Traditionally, electric utilities have been the entities that provided financial incentives to consumers to improve energy eff programs have been very successful where they have had the backing of state regulators and public utility boards. However, it is in cases, utilities have pushed efficiency programs with a weak wrist because getting customers to cut back on usage means less profit kilowatthours. Where economic incentives have been promoted aggressively, they have proven to be an effective mechanism for d advancement and creating a market infrastructure for the delivery of efficiency services. Financial incentives have been even more markets and getting consumers to purchase new products and services.

For the past two decades, Northwest utilities and the Bonneville Power Administration have been national leaders in energ investments. According to the Northwest Power Planning Council, Pacific Northwest utilities acquired about 1327 average megaw conservation savings from 1978 to 2000. Federal, state and local efficiency codes and standards have saved more than 200 megawa grand total of 1,500 average megawatts saved enough to serve the load of the entire city of Seattle one and a half times. Utility fun those years were acquired at a cost between 2 and 2.5 ¢ per kilowatt-hour and had a retail value to consumers of $2.5 billion.

However, in the last six years the Northwest has seen a dramatic 75 percent reduction in utility investments in energy effic about wholesale and retail restructuring and rock bottom natural gas prices triggered the investment decline. Out of sight market p

changed the landscape for energy efficiency in just the past year and utilities, governments and consumers are scrambling to conser efficiency.

Even after two decades of capturing energy savings, the potential for energy efficiency in the region is still tremendous. T Planning Council conservatively estimates that we can save another 2400 average megawatts in the next 20 years at an average cos saved Ð less than half the cost of new power plants. For context Ð 2400 megawatts equals the annual output of Grand Coulee Dam

Consistent long term incentives and programs are vital to prevent the roller coaster ramping up and down of investments. delivery industry reports almost 10,000 jobs in the region devoted to providing energy efficient technology and services. This indu during the mid to late 1990's when investments in energy efficiency plummeted.

National policies are critical to providing a stable commitment to capturing cost-effective energy efficiency. Over the pas been modest national policies to promote and incent investments in energy efficiency. For example, the Department of Energy's re program, efficiency standards and codes for equipment, appliances and buildings and tax incentives for investments in certain techn policies should be revised and expanded to ensure that the programs are effective at optimizing energy use.

National policy should build the model energy efficient house. Research and development programs form the foundation, ideas and technologies are cooked up and tested. Codes and standards are the main floor, they bring manufacturers up to a commo cutting edge, but standards do help move the really inefficient equipment out of the marketplace. Education and outreach program allow exchange of information and a sharing of what's inside with those in the community. Incentives form the roof, the piece that and dares to be different. The problem we have is that there is a hole in our roof and the shingles of long term financial incentives

ment Reduces Bottlenecks

Historically Northwest conservation programs have focused on reducing the total number of kilowatt hours used, without time of the year or the day, those savings occurred. In our hydro-dominated system this made sense. We were, in the jargon of the constrained,Ó not Òpeak-constrained.Ó That is, the hydroelectric system has enormous peak capacity Ð Grand Coulee alone has a megawatts Ð but the amount of water in the system limits the total number of kilowatt hours that can actually be generated over a y

It is important to recognize that this situation has changed. Even our hydroelectric system is no longer big enough to buff marginal costs of peak energy usage. As the entire West Coast has seen this year, the costs of serving peak loads can be enormous. transmission capacity that is necessary to accommodate those peaks can be larger than the ordinary cost of delivered power. For ex capacity is priced at $24 per kilowatt year, then capacity that is used for only 400 hours per year costs 6 cents per kilowatt-hour del apply to distribution capacity that is very rarely used. Finally, of course, system peaks Ð often driven by extreme cold-weather eve commonly strike many utilities at once. This coincident demand for energy can, and does, drive the cost of energy itself to remarka and the value of reducing Pacific Northwest peak loads can be very substantial.

"Load managementÓ is a term used by utilities to cover a range of efforts to reduce consumption during peak demand. Us been measured for generation capacity, but the region is now also considering peak demand on transmission and even distribution c management efforts include installing devices on residential electric water heaters to allow the utility to turn them off remotely whe blackout or forces the utility to purchase outrageously priced power. Similar opportunities are available for businesses and industry essential electrical consumption temporarily in response to system peaks.

These load management programs do not necessarily result in less energy consumption overall and they are not strictly spe
efficiency. They can, however, serve as very cost-effective ways to avoid purchase of expensive peaking resources in the long term
power and/or blackouts in the short term, and reduction of bottleneck constraints in heavily congested areas of the transmission gri

e Generation Applications

Distributed generation refers to small-scale electric generating units that can be placed throughout a utility service territory
paradigm of large, central-station power plants feeding a network of high-voltage transmission lines and local distribution systems
vertically integrated electric utility is quickly becoming a thing of the past. With distributed generation, we are beginning to see a
facilities for generating and storing electricity, owned by many different companies and households.

Distributed generation (e.g. fuel cells, solar photovoltaic systems, diesel generators, wind turbines and natural gas fired mi
a number of clear benefits to the energy system. These technologies reduce energy losses in transmission and distribution lines, pro
reactive power losses, defer substation upgrades, defer the need for new transmission and distribution capacity, increase reliability
reduce the need for spinning reserves. For example, the application of distributed generation on one side of a transmission bottlen
congestion, which in turn lowers prices and ultimately increases reliability for consumers. Installation of a distributed technology
than upgrading a transmission corridor.

While all distributed generation technologies provide the benefits to the electric system I just described, not all meet the g
efficient and cost-effective electric service to consumers. For example, diesel generators have become the darling of the emergency
yet they are one of the dirtiest technologies we have. In some applications, they are 60-100 times more polluting than combined cyc
diesel generator running for a year produces 7 tons of particulate/soot, 152 tons of carbon monoxide and 123 tons of nitrogen oxide
exhaust has been listed as a known carcinogen. Natural gas-fired distributed technology is not currently as clean as the central statio
combustion turbine, and fuel cells powered by natural gas derived hydrogen offer little to no net environmental benefits over a com
turbine.

Distributed generating technologies that are fueled by renewable energy resources, such as wind and solar, provide signifi
benefits as they displace fossil-fuel generation or other generating technologies with greater environmental impacts. Solar electric
technologies are most abundant in rural areas of the Northwest and can provide energy independence and/or more reliable electric

Tax incentive programs to encourage development and use of distributed generation should recognize and account for the
the environmental characteristics of the various distributed technologies. Tax incentives should prioritize distributed renewable te
discouraging further investments in environmentally damaging technologies.

Financial incentives would most certainly increase investments in distributed renewable generation yet there are other poli
prevent full utilization of distributed technology that must be addressed. Although these barriers are outside the scope of this Com
mentioning a few because there are bills in the Congress that attempt to address some of them. National policy is needed to establi
interconnection to the grid, to standardize procedures for processing permit and interconnection requests, and to prohibit discrimin
imposed by regulators and utilities.

newable Energy Facilities

The development of new renewable energy resources can exaserbate and also relieve transmission problems. Renewable r
rural areas away from load centers, which means that they may be dependent on potentially constrained transmission paths as any o
fuel generating plant. Least-cost planning of transmission that includes non-transmission solutions such as the resources discussed
placement of renewable resources within the grid will benefit larger scale renewables facilities in the long-run.

In fact, uniform and fair interconnection standards as mentioned in my above remarks regarding distributed generation can
investments in distributed renewable generation and non-transmission solutions, which would reduce congestion and free up the tra
remotely sited renewables, such as wind farms.

The Northwest and many rural areas are blessed with tremendous potential for wind, solar, and geothermal power. Wind i
competitive of the resources, and once large-scale projects are permitted, they can be built within six months. We now have 110 M
projects in the Northwest with over 360 MW of wind and geothermal projects under construction. Another 1200 MW of wind is u
could be operating by 2003. Strategically sited wind projects have important economic development benefits beyond the reduction
since for every turbine installed on a farmer's property, the landowner receives a royalty payment from the wind developer. This h
for these farmers and ranchers and helps them stay in business.

fficiency and Oil Pipelines

Like fossil-fuel power generation and transmission line siting, oil and gas extraction and pipeline siting have significant en
Before creating, extending or expanding tax incentives for oil extraction, processing or transport, Congress should first determine w
benefit consumers and the environment. Will an increase in U.S. oil production really bring costs down, reduce our dependence on
environment? Reducing demand for oil through efficiency is a better way to benefit consumers and the environment.

According to the American Council for an Energy-Efficient Economy, raising fuel economy standards for automobiles to 4
feasible without sacrificing safety, jobs or high quality automobiles. This can be done using existing technology that the auto indus
applications. Current Corporate Average Fuel Economy (CAF*f*) standards, at 27.5 miles per gallon for passenger cars are saving 3
day, yet the standards have not changed, even
declined slightly, since 1985. Increasing these standards to 40 mpg would save an additional 2 million barrels per day, save consu
pump, and be the single biggest step to curbing global warming by dramatically cutting carbon dioxide emissions. Will additional
achieve these ends?

AT CAN THE SENATE DO?

Let me close with a list of things Congress can do to assure that these energy efficiency, distributed renewable generation, opportunities do not escape our grasp and are fully utilized to meet our infrastructure needs. Supporting energy efficiency, distribu renewable energy proposals in general will help solve our infrastructure problems as these resources will be more aggressively imp reduce and meet load.

gs, solar hot water and

photovoltaic systems and efficient heating, cooling and water heating equipment. The buildings sector ac of U.S. energy use, $250 of average customers annual utility bills and 35 percent of air emissions nationw overlooked as a source of energy waste. Energy use in buildings can be cut in half using cost-effective te hard to find but available to consumers. The financial incentives in this bill will move these technologies market and improve accessibility to consumers by using performance-based tax incentives instead of pric provisions. A performance-based approach prevents gold plating of efficiency measures and rewards mea most savings. This bill aims to transform markets such that the entire chain of production and consumpti manufacturer to the contractor or vendor to the consumer, adopts the new technologies and practices quic comparative analysis of the benefits and costs of proposed tax incentives for energy efficient buildings, c Florida Solar Energy Center, shows that S. 207 provides the most energy and consumer savings at the lea

investments in energy

efficiency and low income energy bill assistance. The proposed RPS creates a market-driven mechanism efficient at supporting the development of new renewable resources. The system benefits trust leverages a long-term stable source of funding for investments in clean energy resources and assistance to those fam

urces. Several bills in

the Senate address this vital component of the incentive package.

ors. While this bill is

limited in the types of appliances it applies to it provides a clear and simple incentive to get families to pu will help them save energy and money. Here in the Northwest, electric and water utilities and the Northw Alliance have offered financial incentives for the purchase of energy efficient clothes washers that has inc penetration of these washers from 1 to 13 percent.

ally-owned utilities for twenty years. The REPI is the companion mechanism to the renewable energy production tax credit for p utilities. Providing incentives for the output of electricity from renewable energy facilities helps ensure t from concept to actual production.

- n technologies. These incentives should be applied to all customer classes.

- ch as fuel cells, hybrid electric/gasoline, advanced batteries, and alternative fuels. This bill compliments proposals to increase C tries to accelerate technologies that will improve vehicle fuel efficiency. This bill stands out among other because it links the amount of the tax credit it offers in part to the actual fuel economy of the vehicle.

IV. CONCLUSION

We can have a secure, clean energy future if we prioritize energy efficiency and renewable resource, and move forward wi stimulate implementation. We do not have to overbuild fossil fuel power plants nor build huge numbers of new transmission lines t We have plentiful, quick and cost-effective solutions from energy efficiency, renewable energy, distributed renewable generation ar you for the opportunity to present this testimony.