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PATHWAYS TO A "GREEN" GLOBAL ECONOMIC RECOVERY

Mr. Chairman and members of the Committee: I am delighted to be here today to share with you my thoughts on how we can work together to drive a green global economic recovery. My name is Jim Rogers and I am Chairman, CEO and President of Duke Energy Corporation.

Duke Energy provides electric power to more than 11 million people in five states: North Carolina, South Carolina, Ohio, Indiana and Kentucky. We are the third largest electric power holding company in the U.S. based on kilowatt-hour sales. Our diversified generation portfolio of 37,000 megawatts mirrors the mixture of supply in the U.S. as a whole with a blend of coal, nuclear, natural gas and hydropower.

We have also made sizeable investments in renewables, notably wind where we have more than 500 megawatts in operation and another 5,000 megawatts under development, and in biomass where we have formed a joint venture that has targeted the construction of at least ten 50 megawatt biopower facilities in the U.S. over the next five years. Finally, Duke Energy owns and operates approximately 4,000 megawatts of electric generation facilities in Central and South America. About 75 percent of this capacity is hydroelectric.

My views on these international challenges are not just shaped by my responsibilities running a large U.S. energy company with significant international operations. My perspective has also been formed from my

membership and participation in the World Economic Forum's Task Force on Low-Carbon Economic Prosperity, the Club of Madrid and UN Foundation "Global Leadership for Climate Action", Globe International, the World Business Council for Sustainable Development, and the Copenhagen Climate Council. We are a founding member of the Joint U.S.-China Cooperation on Clean Energy where we are focused on sharing information, experience, and expertise. And we are the only U.S. utility that is a founding member of the China Greentech Initiative. Some of the other U.S. members are Dell, Cisco, and GE.

Two Crises, Two Opportunities

Here and around the world we are facing two simultaneous and urgent crises: global climate change and a deep financial downturn. There are great similarities between them. No one nation alone can solve either problem. With both, government, NGO's and business must work together to find the right way forward.

Yet there are key differences: the economy has sustained a cycle of boom and bust for generations, whereas the environment is close to "bust", and it is not cyclical. We are fast approaching thresholds of irreversible damage to our global climate. But the government has the chance to address this great market failure to still minimize its worst impacts. And there is a great opportunity for us in both crises: if we structure our approach to climate change effectively, addressing the global climate crisis can also be one of the keys to addressing our global financial crisis.

I agree with a key point Sir Nicholas Stern has made: We must act now because if we don't, the economic costs, including the cost of our security here at home, will be much greater. Moreover, the costs and harm to those who are least able to adapt to the impacts of global climate change will rise significantly absent action now – and the unjust irony is they have contributed least to the problem.

Consumers Are At Risk: We Must Get This Right

I might add that my company and my customers are at ground zero for both the environmental and economic storms we face. Duke Energy is the third largest consumer of coal in the U.S. and we emit around 100 million tons of carbon dioxide annually. And as Senator Lugar knows, the Midwest has been particularly hard hit by this recession. With so much of this region dependent upon traditional coal-fired power plants, we have to be very careful about how we make the transition to a "decarbonized" economy. Yet we also know that new clean technology manufacturing can help re-start closed factories as the Gamesa wind turbine facility has in Pennsylvania.

So how do we move forward to capture this economic opportunity here at home and globally? We need government leadership to partner with industry to transition our economy to be cleaner, more efficient, and more competitive. The Waxman-Markey bill currently being marked up goes a long way toward providing a solid foundation upon which we can build a green global economic recovery. It creates a 40 year road map for U.S. carbon reductions; in our sector, it seeks to minimize consumer impacts and regional disparities by effectively distributing allowances directly to consumers of electric power; it creates enormous incentives for renewable energy; and it focuses needed resources on the development of the next generation of coal power plants that will include carbon capture and sequestration.

American Economic Opportunity

By putting a cap on emissions, encouraging energy efficiency and deployment of clean energy technologies, and providing a transition to allow carbon economy, the right climate legislation will not only increase our competitiveness by reducing energy consumption and reliance on foreign oil, but will also create clean energy jobs here at home in engineering, manufacturing, and construction.

The carbon intensity of the U.S. has begun to show steady declines on a normalized basis – that is greenhouse gas emissions per unit of GDP. Since 1950 U.S. energy use – measured per dollar of GDP – has declined more than 75 percent, from 9.4 British Thermal Units per dollar of GDP to just 2.5 BTUs.[1] Yet we have much more work to do.

According to the McKinsey Global Institute, "each person in the United States today consumes the equivalent of almost seven gallons of oil—80 percent more energy than Northwestern Europe, 94 percent more than Japan, and seven times the level of China." This waste harms our competitiveness. Yet, according to this same analysis, by deploying existing technologies that have an investment return of 10 percent or more, the U.S. can increase its energy productivity to cap our energy demand at today's levels.[2]

Of course one key aspect of this is in the utility industry is the disincentives to saving energy. Working as co-chair of the National Action Plan on Energy Efficiency, which has developed Vision 2025, a plan to increase dramatically energy efficiency by 2025, we encouraged states to examine the disincentives to utility energy efficiency and identified the barriers that consumers have to meeting that energy efficiency goal.

[1] Joel Makower, Strategies for the Green Economy.

[2] Wasted Energy: How the U.S. Can Reach Its Energy Productivity Potential," McKinsey Global Institute, July 2007, available at: http://www.mckinsey.com/mgi/publications/wasted_energy/index.asp.

The United States also lags behind its global competitors in the race to fuel the clean energy future. According to the research firm New Energy Finance, the value of low-carbon energy market is expected to reach $450 billion annually by 2012, rising to $600 billion annually in 2020. In 2007, global investment in sustainable energy broke all previous records, with $148.4 billion of new money raised in 2007, an increase of 60 percent over 2006. Total financial transactions in sustainable energy, including acquisition activity, was $204.9 billion.[3]

China is Investing in Greentech

While I recognize that the Chinese market differs substantially than the U.S., it is still worth noting that China has committed $221 billion over the next two years toward their clean energy economy. That's double the U.S. investment in everything from wind to solar to advanced batteries. China now has renewable energy, energy efficiency, and fuel economy standards that are all more aggressive than our own. I also realize that China is developing more coal plants than the U.S., but the point that should be emphasized is they are also preparing to meet new energy challenges.

According to the Chinese Sustainable Energy Programs: "By 2008, average Chinese passenger cars had to meet a 36 miles per gallon (mpg) fuel efficiency standard. In late 2007, the U.S. standard for passenger vehicles was raised to 35 mpg, but not until 2020. China is also in the process of setting fuel economy standards for trucks and agricultural vehicles. These policies together are going to reduce China's GHG emissions by 488 million tons of CO2 by 2030."[4] In comparison, the EU commitment under Kyoto is about 300 million tons of CO2 between 1997 and 2012.

[3] Global Trends in Sustainable Energy Investment, 2008, New Energy Finance and United Nations Environment Program.

[4] The China Sustainable Energy Program is a joint project of the Packard Foundation and the Energy Foundation.

Perhaps most striking, China has established the world's most aggressive energy efficiency target, which calls for a 20 percent reduction in energy intensity between 2005 and 2010 (which is a nation's energy consumption per unit of GDP). If fully implemented, this target would translate to a reduction of over 1.5 billion tons of CO2 in just five years. Although China is not yet on track to fully reach this goal, they are working toward it and are already taxing the least efficient performers in major emitting industries to increase productivity.[5]

China's Renewable Energy Law, which came into force in 2005, has set the world's most aggressive renewable energy target. By 2020, 15 percent of all energy is to come from wind, biomass, solar and hydropower energy, compared to its current 7 percent. China projects that it will have 137 gigawatts of renewable power generation by then, plus vehicle fuels with at least 15 percent renewable energy content. In August 2007, China's National Development and Reform Commission launched its Medium to Long-term Renewable Energy Development Plan. By 2020, installed capacity for small hydro, wind, biomass, and solar will reach 75 GW, 30GW, 30 GW and 1.8 GW, respectively. 'Estimated total investment needs for realizing these target amounts to nearly US $270 billion. As you know, the U.S. has yet to establish a national renewable energy platform.[6]

These investments and policies are paying off. This year, China is expected to become the world's largest wind turbine manufacturer. Until the late 1990's, the U.S. dominated the global solar energy market. Now Japan, China and Germany are the leaders. These other countries have policies that have created better markets for clean technologies, so the business opportunities have moved overseas. According to recent research by Lazard, of the world's top 10 solar, 10 wind, and 10 advanced battery manufacturing companies, only five of the 30 are American companies.[7]

[5] Ibid.

[6] Ibid.

[7] Lazard research for Kleiner Perkins Caufield and Byers.

Arguments against action on energy and climate suggest we can't afford to take action; yet the reality is we can't afford not to act if we hope to compete and lead. We need comprehensive energy and carbon legislation to provide the certainty and rules of the road by which we can plan, build, and compete. The sooner Congress provides a clear set of rules, the sooner investments will be made. We must unleash the spirit of economic entrepreneurship to tackle this challenge.

A Global Deal To Drive A Green Economic Recovery

Internationally, I have been working to develop recommendations and help shape the structure of a global agreement through the World Economic Forum's Gleneagles Dialogue, through Global Leaders for Climate Action (under the auspices of the Club of Madrid and the UN Foundation), and as a member of the Executive Committee of the World Business Council on Sustainable Development.

It is clear to me that just as effective comprehensive carbon legislation in the U.S. is what we need to drive our economic recovery, so too can a smart global agreement on climate change support global economic prosperity. And there are other benefits to agreement: first, the sooner we act, the lower the costs of impacts we will face in the future; second, the opportunities to cooperate on policy and technology strategies can improve our relationships; and by reducing global impacts from climate change, we will increase stability and improve national security.

To reach a deal that includes developing countries the U.S. must demonstrate leadership and reengage in international negotiations. Seventy to eighty percent of the existing greenhouse gas concentrations in the atmosphere are from developed countries, and the U.S. continues to emit one-quarter of the world's emissions with only five percent of the world's population. There is a short window of opportunity for the U.S. to show its commitment to resolving the climate change challenge through strong action.

Without a mandatory cap on greenhouse gas emissions here, it is highly unlikely that key developing countries like China will make their own commitments. And without a new agreement we won't have the market signals to drive financial flows to more efficient, cleaner energy, and greater global productivity. A global deal will also expand opportunities to find the lowest cost emission reductions; a global approach to emissions reductions allows each dollar to be spent where it can go the farthest.

So to facilitate a truly global deal, we need a strong legislative package of medium and long-term domestic targets, along with a suite of commitments and mechanisms to engage internationally. These include:

- Mandatory domestic reductions of greenhouse gas emissions;
- Provisions for valuing standing forests and other types of international offsets;
- Bilateral and multilateral mechanisms to accelerate clean technology deployment overseas;
- Financing for investments in these clean technologies (clean energy and carbon mitigation technologies) in developing countries; and
- Assistance to the most vulnerable populations for adaptation to climate change, to reduce climate change's greatest impacts such as drought, flooding, and sea level rise. Oxfam estimates that developing country costs of adaptation will be some $50 billion.

<u>Benefits Of A Global Deal With Developing Countries</u>

These provisions also serve America's interests. Mandatory reductions here drive domestic competitiveness and the development of vital new technologies. Carbon reductions from protecting international forests are low cost and have great co-benefits from poverty alleviation, to protection of biodiversity and will bring nations like Brazil and Indonesia to the table for the global agreement. Support for clean technology deployment and financing in developing economies benefits American innovators because it is these developing economies that can be the greatest market opportunities.

According to New Energy Finance, in 2004-05, developing countries accounted for 10 percent of global asset finance, which doubled to 20 percent in 2006-07, reflecting a surge in sustainable energy capacity in these countries. In addition, investment in shipping, airline, and auto efficiency and cleaner technologies and fuels also reduces our dependence on oil. Finally, adaptation assistance serves America's national security interests as well: as the Center for Naval Analysis has found, climate change is a great potential threat to our national security, undermining our stability and efforts to alleviate poverty which also exacerbates global instability. To ensure U.S. leadership, I understand that Senator Kerry has informed the Senate Budget Committee of his support for a 5 billion dollar reserve fund to assist with the implementation of agreements reached at the fifteenth Conference of the Parties in Copenhagen this December.

Competition and Cooperation With China

Some have argued that to ensure China and other rapidly industrializing countries make their own commitments, the U.S. needs to put in place border tax adjustments for carbon-intensive imports. However, China and India, the primary targets of U.S. trade measures in domestic legislation, are not leading suppliers of carbon-intensive exports to the U.S. Therefore, U.S. trade measures may not create substantial leverage to shape climate change policies of other countries – particularly China and India – even though they could provoke retaliation that hits U.S. exports.

The U.S. should consider leading with cooperation, engaging China and India in the climate negotiations so as to reach global agreement and contribute to cooperative financing and technology arrangements that move all of us to reduce carbon emissions. Secretary Clinton has called for the U.S. and China and Japan to collaborate on clean cars and building efficiency. In fact investments in efficiency are the cheapest carbon reduction investments we can make. The electrification of transportation will reduce emissions and oil consumption, both leading to reduced carbon emissions and better U.S. security as we wean ourselves off massive infusions of foreign oil.

I strongly believe that one of the most effective approaches to solving the climate issue will be to develop a series of public and private partnerships with China. Thus we are currently working with several Chinese organizations (and seeking other Chinese partnerships) to speed the development of smart grid and carbon capture and sequestration technologies. I have also been involved in efforts to have the three largest consumers of coal, the U.S., China and Australia, combine their efforts to quickly test and deploy advanced coal technologies including facilities with carbon capture and sequestration.

I am proud that Duke is currently building the first "next generation" coal gasification plant at our Edwardsport station in Indiana. We are also working to add carbon capture and sequestration to this project. But with China opening new coal-fired power plants on a monthly basis we have to accelerate our work on not just carbon capture from new plants but create retrofit options as well. This is a formidable technological and financial challenge. I think it behooves the U.S. to work with the other two "coal powers", China and Australia, to pool our resources, to share data and to develop standard approaches that can quickly move this key solution from conception to commercial installation.

Conclusion: We Must Lead

Through domestic action and international leadership and cooperation, we can drive a green economic recovery worldwide. The energy provisions in the stimulus package were a down payment on the transformation of our economy. But we need Congress to pass comprehensive climate legislation to build off of the stimulus investments, to continue the transition to a cleaner, more prosperous future for this country, and to regain our technological and moral leadership on this challenge globally.

We stand ready to work with both the Administration and Congress to get it done. We can lead. And we must lead.