

**Financing Clean Energy:
A Framework for Public-Private Partnership to address Climate Change**

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**Keynote address
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Thank you for hosting this gathering. I agree very strongly with one of the things that you have suggested, which is that we need to view the challenge of clean energy not just as a danger to be avoided, but as an opportunity to be grasped, particularly for the developing world.

We are here today to address an urgent issue on the global development agenda, which is how to meet the rising demand for energy while reducing our carbon footprint.

In the past week, Europe led the way and I welcome Chancellor Merkel's announcement that Europe will reduce carbon emissions by 20 percent by 2020. It's not only a substantive step toward combating climate change, but it also creates opportunities to draw the private sector into that effort.

Many companies represented here are already investing in renewable energy, improving efficiency, and expanding research and development of climate friendly products.

That trend in the corporate sector has gone global. Earlier this year, a coalition of major US companies and NGOs that calls itself USCAP – that included DuPont, Caterpillar, and General Electric – called for a ground breaking national policy to tackle climate change.

What a difference a few years makes. Not long ago, it would have been almost impossible to imagine those companies coming together to discuss climate change, and now they are not just discussing, they are demanding action.

They are part of an emerging global consensus that the international community needs to do something – do something sooner rather than later – to pursue a low-carbon path and to leave a healthier planet for our children and grandchildren.

Part of our challenge is one that we have been living with for a long time, the challenge of fighting global poverty, and that is immense. Today, to remind you a billion people around the world are surviving from one day to the next on less than a dollar a day. That's a staggering number, and it's horrendous to think about that level of extreme poverty. But, if we look at recent history we know that there is hope.

In the last 25 years, 500 million people roughly – some half-a-billion people – have escaped poverty worldwide. Much of that progress has been driven by rapid economic growth in the two big emerging economies of China and India.

And that growth, let's face it, would have been impossible without increased energy consumption in those countries. And there is no question that growth needs to continue so that those who are still trapped in poverty have a chance for a better future.

Today, 1.6 billion people worldwide have no access to any electricity at all. In rural areas of the developing world, particularly in South Asia and Sub-Saharan Africa, as many as four out of every five people live without electricity.

So, energy demand in the developing world will and must increase. But we need to be prepared to respond to this rising demand with a smaller carbon footprint.

With these statistics in mind, we need to ask ourselves, "How do we reduce poverty and reduce carbon emissions at the same time?"

Poor countries have argued that they should not have to pay the price for fossil fuel dependent growth in the rich countries. And they are right.

Rich countries need to lead by example. Today, OECD countries are moving forward with plans to renovate and replace virtually their entire power plant infrastructure. The decisions made in capitals across Europe and North America today will affect generations to come, so it is essential that they make the right choices and invest in clean technology and move toward low carbon strategies.

And rich countries also need to lead with direct support to developing nations.

We need both to reduce poverty and reduce carbon emissions.

Instead of viewing emission reductions as a costly activity that simply reduces the burden of climate change, we should also view it as an opportunity to generate funds to invest in a different energy path – one that not only makes less use of carbon, but which diversifies the world's energy sources, which preserves the world's forests, and which enables a long-term shift away from finite and limited fossil fuels and toward greater reliance on renewable energy and on technological innovations. That's the opportunity that we confront.

Moving to a low carbon path will require more than just investments.

It will also require a long-term equitable global regulatory framework to reduce greenhouse emissions:

a framework in which rich countries show leadership by supporting developing countries in exchange for the global benefit of greener, smarter growth;
a framework that provides certainty to stimulate research and development in transformational technologies;
and a framework that allows carbon markets to thrive and bring financial flows to developing countries, flows that could reach the level of \$100 billion within a few decades.

Whatever solution emerges for reducing carbon emissions, one thing is clear. We will need to generate significant resources to help developing countries grow, while reducing the impact on the environment.

The UK's Environment Secretary David Miliband recently suggested that carbon trading could generate resource flows on the order of \$200 billion a year, half of which would go to the developing world, that is to say a \$100 Billion per year.

\$100 Billion is, of course, an enormous amount of money – it exceeds what is currently spent on Official Development Assistance by all the bilateral and multilateral institutions. But, think for a moment, it is dwarfed by what the world spends every year on fossil fuels. It is only 7 percent of the \$1.5 trillion that the world spends each year just on oil alone, not to mention gas and coal.

There are better uses for these funds. Instead of importing fossil fuels we could be investing in innovation that will allow us to meet our energy needs for more diverse sources and without damaging the environment.

So, clean energy should not be perceived simply as a cost. It should be seen as an opportunity to invest in a different future... an opportunity to diversify our energy sources and expenditures.

With UK Chancellor Gordon Brown's leadership at the Gleneagles Summit in Scotland two years ago, the G8 countries asked the World Bank to produce a road map for accelerating investments in clean energy for the developing world in cooperation with other international financial institutions.

The Clean Energy Investment Framework identifies the scale of investments needed:

- to increase access to energy, especially in sub-Saharan Africa;
- to accelerate the transition to a low-carbon economy and
- to adapt to climate variability and change.

Over the last three years, the World Bank Group's total energy support has been increased to the neighborhood of \$3-4 billion per year – that represents an increase of 40 percent over the previous three-year period. And last year, 37 percent of that lending was directed to low-carbon initiatives.

But given the huge demands, more needs to be done to leverage private sector financing, both to close the gap and to spur innovation.

So, let me briefly talk about four areas where we have been actively supporting climate-friendly solutions.

First, investing in efficiency and conservation, because despite all of our best efforts to diversify, it is clear that most developing countries will need to rely heavily on carbon based fuels for the foreseeable future, I guess it depends on how far you see into the future... let's put it this way, for a long time to come. So, we are focusing on opportunities to improve efficiency and conservation in the use of fossil fuels.

As larger emerging economies like China and India pursue rapid growth, we are working with them to develop strategies and financing plans that reduce their carbon footprints.

For instance, we are partnering with Chinese banks to convince the local private sector of the business case for energy efficiency. For the first time, three key players in the Chinese economy – utilities, suppliers of energy efficient equipment, and commercial banks – have come together to create a new financing model, a market based solution, to promote energy efficiency.

Through our analytical work, we are also supporting China's efforts to restructure its district heating sector and we are working with the Chinese steel industry to save energy through redesigning current production processes.

We are helping Mexico, Brazil, China, and India to pilot more energy-efficient modes of urban transport.

We are also promoting Green Investment Schemes, which link emission-trading revenues to low-carbon investments in Latvia, Ukraine, Bulgaria, and we are starting similar work in Russia. And I can say from a visit I made in Belgrade to an 'antique', I can think of no other word for it, heating plant for a hospital that was pouring steam into the winter environment, that there are enormous opportunities from simply bringing Central and Eastern Europe up to the level of energy efficiency that is already been achieved in Western Europe. But in all of this, a strong partnership with the private sector is especially important.

To give you one example, as part of the Global Gas Flaring Reduction Partnership, we are helping oil producing countries and companies to increase the use of natural gas, which would otherwise be flared or burned and damage the environment.

This partnership mobilized \$1.7 billion in private capital for gas flaring reduction projects in Ecuador, Indonesia, Nigeria, and Russia that offset some 6 million tones of CO₂ emissions.

That partnership model could be also useful to promote other climate-friendly technologies. Given the very large coal reserves in the US, China, and India, techniques such as Integrated Gasification Combined Cycle (IGCC) coupled with Carbon Capture and Storage (CCS) could help us make use of a valuable resource for development, and do it in a way that leaves a smaller carbon footprint.

Could a public-private partnership help us accomplish this? We will be looking to this conference for insights.

As we scale up our efforts, we will need to look at innovative financial tools, including guarantees and other instruments that can leverage the private sector and respond to the specific needs of our partner countries. Our carbon finance work will be an important part of this.

Today, the World Bank Group is managing nearly \$2 billion in nine carbon funds, of which \$1.4 billion has already been committed.

These funds are supporting low-carbon investments that range from destruction of industrial gases to the capture of methane in landfills. Investments are also aimed at improved energy efficiency in steel production, bagasse co-generation, renewable energy, land use change, and combating deforestation.

And now in consultation with the governments and private sector participants in these funds, the Bank is designing a new carbon finance facility that would purchase emission reductions beyond the regulatory period of the Kyoto Protocol, and I believe the decision last week at the European Summit should reinforce and strengthen those efforts.

The second focus of our effort is expanding investment and access to renewable energy.

We know that there is no silver bullet. But, here too, we know that the private sector is the key to progress and innovation.

Wind, solar, geothermal, hydro, and bio-energy are all part of a diversified energy path. These technologies can reach areas where it is impractical to build and maintain a centralized power grid.

We are promoting geothermal in Kenya and small hydropower in rural areas in Uganda. In Nepal, we are supporting a biogas program that replaces firewood for cooking in rural households, thus reducing indoor air pollution as well as reducing carbon emissions.

We are working on the commercialization of fuel cells in remote areas in Africa. And in India, Kenya, and Morocco we are promoting the use of solar panels for electricity.

In Guinea-Bissau, we have a Bank project that uses cashew shells to generate electricity – a project that can directly support the cashew industry that is responsible for two-thirds of that small country's GDP.

In 1992, renewable energy accounted for only 0.1 percent of India's total generation capacity. We have been supporting India by providing \$108 million in credits and raising \$200 million from the private sector to promote renewable energy and strengthen relevant institutions. By 2002, India's share of renewable energy increased to 3 percent, while that's still a small percentage, it represents a thirty-fold increase in just one decade.

In Brazil, I had the wonderful opportunity to visit a sugar-ethanol plant outside of San Paulo. There they are producing ethanol on a large scale and with exceptional efficiency. It is no surprise that biofuels of all kinds are at the top of President Lulu's agenda.

And I think there may also be countries in Africa that have the right combination of climate, land, and water that might make biofuel production a real possibility. I realize that what is successful in Brazil may not work in other places. But it is

definitely something that should be assessed and barriers to international trade in ethanol need to be assessed as well.

More broadly, second generation technologies hold promise and we look forward to supporting strong R&D programs.

The third focus of World Bank efforts lies in preserving forests. We know that around 20 percent of greenhouse gas emissions result from poor land management, especially deforestation. That not only threatens the global climate, it also destroys wildlife and erodes the natural wealth of the poor.

Together with both our official and non-governmental partners, we are developing a Pilot Forest Carbon Facility that will help countries combat deforestation and be rewarded with carbon finance.

The proposed pilot fund would set the stage for a future large-scale carbon market, it would build countries capabilities to harness the future carbon market and pilot performance based payments to avoid deforestation and improve natural resource management, particularly forest management.

Fourth, in the area of adaptation, we are working with our partner countries to help them adapt to some of the negative impacts of climate change.

This is a serious problem for the poor countries. Developing countries, and particularly the poorest people in those countries, are often the ones who are hardest hit by changes in climate or by extreme weather event such as floods, droughts, heat waves, and rising sea levels. They are often the least prepared to cope. If you're living already on the edge, environmental calamities can easily push you over.

The World Bank was among the leaders in addressing adaptation to climate risk by pioneering insurance work in the Caribbean, in Latin America, and in South Asia. Just last month, we launched the Caribbean Catastrophic Insurance Facility with support from a multi-donor trust fund. The challenge now is to replicate these lessons more widely, especially in Sub-Saharan Africa, and the Pacific Islands.

And we are also discussing with our partners ways to promote development that is sustainable and resilient to climate variability – you might say how to 'climate proof' our development investments.

We recognize at the World Bank that we need to walk the talk in our own operations. We have made the World Bank Group headquarters carbon neutral. And we also believe it is time, in coordination with our development partners, to develop a system that can estimate the carbon intensity of our projects.

I am encouraged to see that a number of private companies at this conference and elsewhere are moving in the same direction.

Today, we are faced with compelling evidence that our consumption of fossil fuels is seriously hurting the environment – and the longer we delay action, the more costly it will be to try to correct it. Business as usual is not an option.

We have the opportunity to move towards a climate-friendly development path and to secure a cleaner, more stable future for our children and grandchildren.

If governments, the private sector, and international development institutions work together, we can turn the emerging global consensus on climate change into concrete action. We can fund innovation and find solutions.

And we could look more confidently toward a very different future – one where we do not have to choose between prosperity and a healthy environment, because both would be within our reach.

At the World Bank Group, we are eager to play our part to deliver a double dividend to the developing world and to help safeguard our global environment.

Thank you.