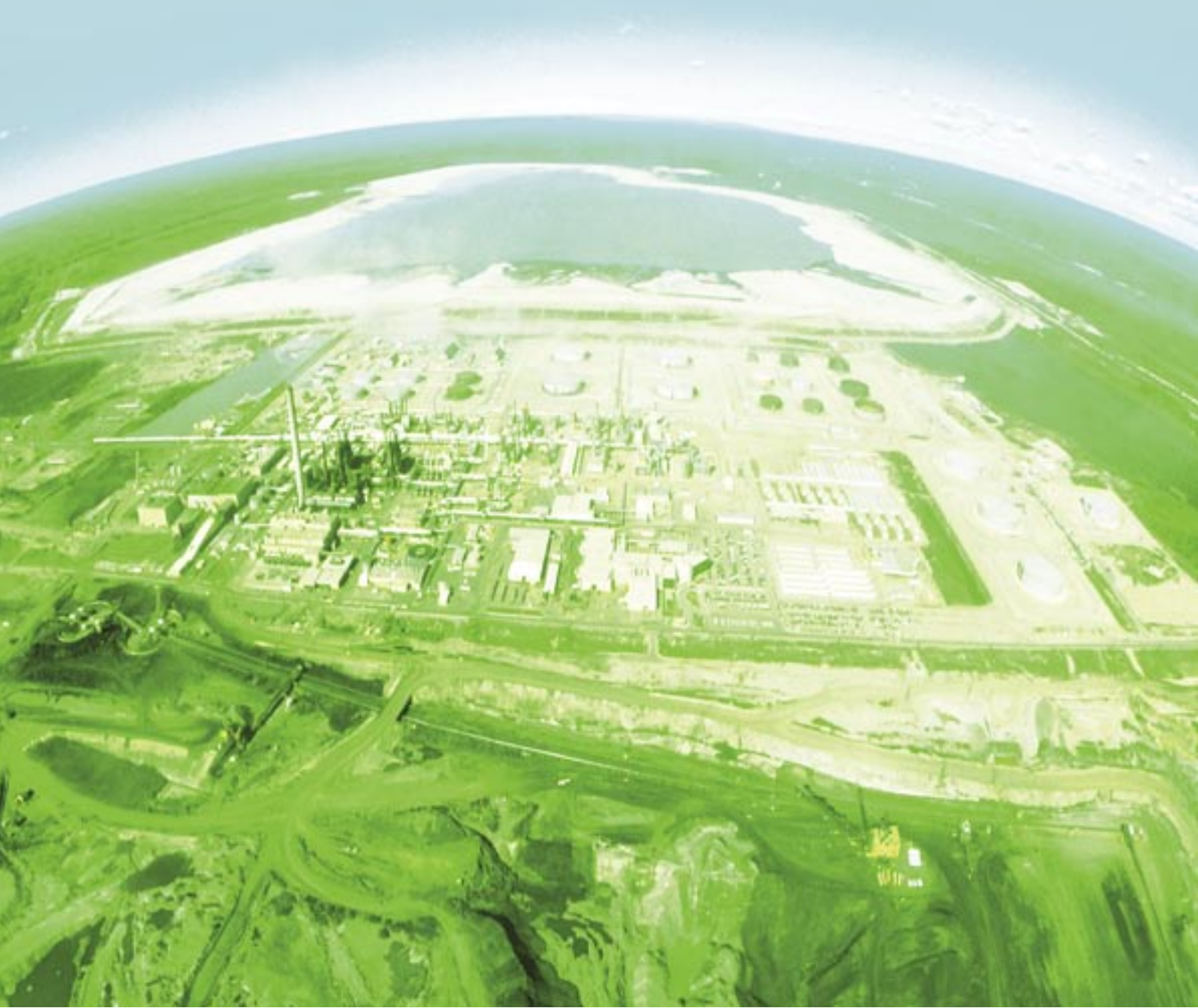


How the

# **WORLD BANK'S ENERGY FRAMEWORK**

**Sells the Climate and Poor People Short**



**A Civil Society Response to the World Bank's  
Investment Framework for Clean Energy and Development**

September 2006

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## ACRONYMS

CCS	Carbon Capture and Storage
CDM	Clean Development Mechanism
CURES	Citizens United for Renewable Energy and Sustainability
EIR	Extractive Industries Review
G+5	Group of 5 (China, India, Brazil, South Africa and Mexico)
G-8	Group of 8 (Canada, France, Germany, Italy, Japan, Russia, the United Kingdom and the United States)
GEF	Global Environment Facility
GHG	Greenhouse Gas
IGCC	Integrated Gasification Combined Cycle
IFI	International Financial Institutions
NGO	Non-governmental organization
PCF	Prototype Carbon Fund
UNFCCC	UN Framework Convention on Climate Change
WCD	World Commission on Dams

Speical thanks to Sangu Delle.

# EXECUTIVE SUMMARY

## A "Business as Usual" Approach to Climate Change and Poverty Reduction

**IN GLENEAGLES, SCOTLAND, G-8 LEADERS MANDATED THE WORLD BANK TO** create a new framework for clean energy and development, including investment and financing. In response to this mandate, the World Bank prepared a report on energy, climate change and poverty reduction for discussion at its Annual Meeting in Singapore in September 2006<sup>1</sup>. Entitled "An Investment Framework for Clean Energy and Development: A Progress Report," the document expands on a draft that was discussed at the Bank's Spring Meeting in April 2006. The Bank's most recent paper completes the first phase of the investment framework. A longer term program of country-level activities and global research is to be completed for the G-8 summit in Japan in 2008. The following report examines the World Bank's investment framework and presents a response from international civil society groups.

For many decades, the World Bank's energy lending has focused on centralized, large-scale, grid-based thermal and hydropower projects and on the privatization of public power utilities. This report shows that in spite of many promises to "green" its energy lending over the past 15 years, the World Bank's energy sector portfolio still fails to reap the double dividend of renewable energy technologies that would fight both poverty and climate change. The Bank continues to invest \$2 to \$3 billion a year in greenhouse gas-producing energy projects, which fuel climate change and fail to help the world's poor. Financing for renewable energy projects makes up less than 5 percent of the Bank's overall energy financing in fiscal year 2005.

The Bank's new framework will continue to sell the climate and poor people short. The April 2006 version of the clean energy investment framework is based on scenarios for global greenhouse gas emissions at levels that would allow "dangerous climate change" as defined by the Intergovernmental Panel on Climate Change. The framework also promotes additional funding for energy technologies that have negative social and environmental impacts, and that will in many cases further contribute to climate change. The framework does not catalyze the necessary massive shift to renewable energy technologies that could create the double dividend of environmental benefits and poverty reduction. The framework's "business as usual" approach will not adequately address climate change, and will continue to keep more than one billion poor people in the dark.

Moreover, the World Bank's lending emphasis on fossil fuels, the lack of transparency in decision-making procedures, the institution's neo-liberal bias, and the fact that voting power at the World Bank is dominated by Northern countries make the World Bank an inappropriate institution to devise global strategies to combat climate change.

The Bank continues to invest \$2 to \$3 billion a year in greenhouse gas-producing fossil fuel and conventional energy projects, which fuel climate change and fail to help the world's poor. Financing for renewable energy projects makes up less than 5 percent of the Bank's overall energy financing.

In order to decrease energy poverty and make the fundamental changes necessary to avoid dangerous climate change, public funding flowing from the global North to the global South must be redirected away from dirty fossil fuel extraction, and towards renewable energy and energy efficiency and meeting the basic energy needs of the poor.

To achieve the required greenhouse gas emissions reductions and to meet the needs of those lacking modern energy, Northern governments and multilateral and bilateral development agencies should:

- End public subsidies for fossil fuels.
- Step up efforts to meet the basic energy needs of the poor.
- Redirect existing dirty energy financing to renewable technologies and energy efficiency projects via an appropriate multilateral framework or agency.
- Adopt aggressive targets for greenhouse gas emission reductions.



Woman walks her bicycle in the Niger Delta.

PHOTO CREDIT: IFIE LOTT

# INTRODUCTION

## Responding to Climate Change and Energy Poverty with Renewable Energy and Energy Efficiency

**CLIMATE CHANGE PRESENTS AN OVERWHELMING CHALLENGE, ALREADY CAUSING** disproportionate suffering among the world's poor. Weather patterns are moving to a range of extremes, and many areas are experiencing longer periods of drought during dry seasons and more severe flooding during wet seasons. Severe weather is becoming more frequent, creating massive hurricanes and destruction. These climate changes threaten water supplies, crop patterns, growing seasons, and human health. Due to misguided energy and transportation systems and unsustainable lifestyles, the world's richest populations are primarily responsible for the greenhouse gas emissions that fuel these problems. At the other end of the spectrum, the world's poorest people, many of whom depend heavily on the natural environment for basic necessities, are most vulnerable and least able to respond to the impacts of climate change.

At the same time, 2.4 billion of the world's poorest people still lack access to efficient, clean cooking and heating fuels and 1.6 billion are still without electricity. The lack of access to basic energy services has serious social, economic and environmental consequences. In many developing countries, most women spend several hours collecting firewood every day. Indoor air pollution caused by open fires and inefficient stoves claims an estimated 2 million lives each year. Without electricity, children cannot learn after dark, medicine cannot be refrigerated, job development in rural areas is hindered, and safe drinking water cannot be supplied to many places.

Renewable energy technologies such as wind, solar, modern biomass, geothermal and small hydropower could generate a double dividend for the environment and poverty reduction, and as such present logical responses to the problems of climate change and energy poverty. Renewable energy sources do not produce greenhouse gas emissions that lead to climate change, and they do not produce the other air pollutants that the burning of fossil fuels creates. Renewable energy sources are available locally, create local jobs and do not usually have negative social and environmental impacts.

Energy efficiency is also critical to reducing greenhouse gas emissions. In lower-income developing countries, making efficient use of energy from the start will be important in setting the course for keeping energy costs low and avoiding greenhouse gas emissions from new energy use. In middle-income countries, it is possible to greatly improve the energy efficiency of industrial processes and energy use by making better use of energy that is already being produced.

## What is Renewable Energy?

In accordance with the Citizens United for Renewable Energy and Sustainability (CURES), an international NGO network founded after the World Summit on Sustainable Development in 2002, this report considers the following technologies to be sources of renewable energy:

*“New renewable sources” include modern biomass, World Commission on Dams (WCD) compliant small (up to 10 MW) hydro (mechanical as well as electric), geothermal, wind, all solar, tidal, wave and other marine energy. Modern biomass includes improved use of traditional biomass such as ‘smokeless’ efficient cooking stoves as well as electricity generation, heat production and liquid fuels from carbon neutral and low input, sustainable sources of biomass.*

*Energy efficiency refers to all dynamically improved energy efficiency and energy conservation measures on the demand/end use side such as appliances, motor drives, housing and services including transport.<sup>2</sup>*

These are the types of energy that should be promoted by a multilateral agency looking to transition out of fossil fuels and onto a low carbon path.



Bakola ‘pygmy’ woman at settlement near the Chad-Cameroon Oil Pipeline, supported by the World Bank.

PHOTO CREDIT: SUZANNE BREITKOPF

# BACKGROUND

## The World Bank's Track Record on Climate Change and Access to Energy

### **A BRIEF LOOK AT THE HISTORY OF THE WORLD BANK'S APPROACH TO ENERGY**

development provides an important perspective on the institution's current attempts to position itself at the forefront of efforts to combat climate change. The Bank's checkered past indicates deep contradictions and limitations within the institution when it comes to climate-friendly and poverty reducing energy priorities and policies.

At the World Summit on Sustainable Development held in Rio de Janeiro in 1992, the World Bank, together with the United Nations Environment Programme and the UN Development Programme, was entrusted with the task of mobilizing the financial resources needed to implement the UN Framework Convention on Climate Change. The Global Environmental Facility (GEF), housed within the World Bank, was created as a mechanism for compensating developing countries for the additional costs of undertaking activities to preserve biodiversity, prevent desertification, and protect the earth's climate.

The GEF was supposed to help mainstream lending for renewable energy technologies throughout the World Bank's energy portfolio. This has not happened. In spite of the Bank's mandate to reduce poverty in an environmentally sustainable way, renewable energy is still an afterthought at the World Bank. While the GEF finances climate-friendly activities to the tune of tens of millions of dollars a year, the Bank continues to finance climate-changing fossil fuel and conventional energy projects in the range of \$2 to \$3 billion a year. From the 1992 Earth Summit through late 2004, the World Bank Group approved \$11 billion in financing for 128 fossil fuel extraction projects in 45 countries – all of which will contribute over 43 billion tons of carbon dioxide emissions. Nearly half of these Bank-supported oil, gas, and coal projects (and over 80 percent of oil projects alone) are designed for export to the global marketplace – mainly Northern countries.<sup>3</sup>

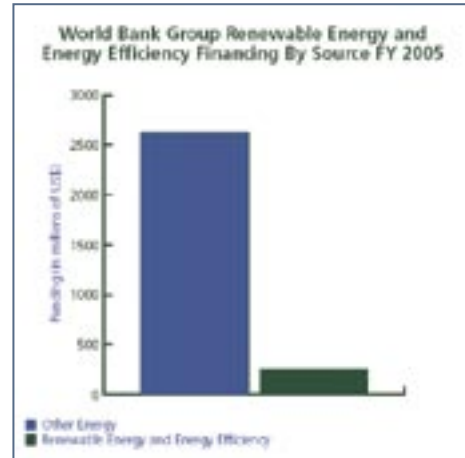
### **WORLD BANK ENERGY POLICY: A BRIEF HISTORY**

For decades, the World Bank has helped open developing countries' fossil fuel sectors in order to satisfy the growing energy needs of Northern industrialized countries. In 1981, under pressure from the Ronald Reagan administration a U.S. Treasury Department review of the Bank's energy lending program urged the Bank to play a lead role in the "expansion and diversification of global energy supplies to enhance security of supplies and reduce OPEC market power over oil prices."<sup>8</sup> The Bank has implemented these directives with great success over the past two decades.

## The World Bank Group's Energy Portfolio<sup>4</sup>

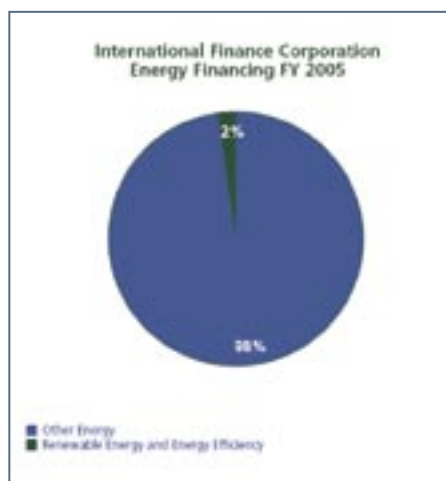
Despite its rhetoric on climate change and poverty, the World Bank Group continues to invest substantially in large oil and gas projects and conventional energy sources. Renewable energy and energy efficiency make up a small proportion of the Bank's energy financing.

From 1992 to 2004, the World Bank Group financed an estimated \$28 billion in fossil fuel projects, including extraction, power plants, and sector reforms – averaging about \$2 billion each year. The estimated lifetime carbon emissions resulting from these projects is 43.4 billion tons, almost half of which have been or will be produced as a result of extractive industry projects aimed at exporting oil to the global marketplace.<sup>5</sup>



The proportion of renewable energy and energy efficiency financing remains low. Using the Bank's own figures for fiscal year 2005<sup>6</sup>, "new" renewables and energy efficiency<sup>7</sup> made up only 10 percent of the institution's new lending for energy projects. At the International Finance Corporation, the private sector arm of the World Bank, renewables and efficiency made up only 2 percent of the energy financing in fiscal year 2005.

The Bank also includes large hydropower projects in its renewable energy figures, which makes its renewable numbers appear artificially high. For example, the Bank claims that it financed \$748 million overall in renewable energy and energy efficiency in fiscal year 2005. But 60 percent, or US\$449 million of the US\$748 million that the



Bank claims in renewable and efficiency financing, is for hydropower with a capacity over 10 megawatts. This set of projects even includes US\$152 million for the highly controversial Nam Theun 2 dam in Laos, which will harm the livelihoods of more than 100,000 people and will emit a considerable amount of greenhouse gases. Considering large hydropower "renewable" is a misclassification because of the irreversible environmental and social impacts of these projects, including, in some cases, greenhouse gas emissions.



**EARLY POLICY DOCUMENTS:** Non-governmental organizations began confronting the World Bank's skewed energy lending in 1992. After a lengthy consultation process with NGOs and endorsement by its board, the Bank released two policy documents on energy issues – "The World Bank's Role in the Electric Power Sector"<sup>9</sup> and "Energy Efficiency and Conservation in the Developing World"<sup>10</sup> – that laid out the following policies:

- A commitment to transparency in decision-making;
- An agreement that least cost energy planning, long pushed by environmentalists, should be advanced;
- An agreement that energy subsidies for fossil fuels and other traditionally environmentally unsustainable energy resources should be removed;
- An agreement with environmentalists that demand-side management and energy efficiency should be prioritized over energy expansion;
- A commitment to pursuing "pollution reducing technology" more aggressively in its energy lending; and
- Concurrence with environmentalists that all of the above policies should be integrated into dialogues with borrowing governments and given high visibility in loan agreements.

These principles were praised by environmental organizations, but, like many Bank commitments, have proven hollow over time; they have not been backed by the financial commitments necessary to make them a priority within the Bank.<sup>11</sup> Then, in August 1996, the Bank back-tracked on its own binding operational policies on energy, downgrading them to non-binding "good practices" (GP 4.45 Electric Power Sector"; GP 4.46 Energy Efficiency"). Had these policies remained in force, they alone could have had a significant impact on the global climate.

**SOLAR INITIATIVE:** Launched in 1994, the Solar Initiative aimed to raise awareness among Bank staff and clients about how to commercialize renewable energy technologies. However, the Bank's own budget for promoting these technologies was insignificant and the Solar Initiative demanded that renewables be commercialized without subsidies, ignoring the fact that fossil fuel-based energy was already well-established and heavily-subsidized. Without economic incentives for investment in renewables, it was unreasonable to expect that these emerging sources of energy would be able to compete with conventional energy.

**CARBON BACKCASTING STUDY:** In 1995, the World Bank launched a carbon backcasting study.<sup>12</sup> The study, released in 1997, looked at how the Bank's energy portfolio would have been affected if carbon emissions had been considered in project selection. The study found that if the cost of expected carbon emissions had been calculated at \$20 per ton, renewables would have become more attractive investments, and coal a pariah. Although this exercise engaged a variety of expert scientists and economists, it resulted in no changes in the World Bank's energy policy.

Global Environment Facility criticism: In 1998, the GEF echoed civil society concerns regarding World Bank investments in fossil fuels and climate change:

*“The Bank has not succeeded in systematically integrating global environmental objectives into economic and sector work or into the CAS [Country Assistance Strategy] process; nor has it taken meaningful action to reduce its traditional role as financier of fossil fuel power development... Continued financing by the World Bank for such projects (as conventional fossil fuel generation) is inconsistent with mainstreaming of the global environment in the Bank’s regular operations.”<sup>13</sup>*

**FUEL FOR THOUGHT:** In response to all of these criticisms and calls for accounting, the World Bank developed a document entitled: “Fuel for Thought: An Environmental Strategy for the Energy Sector.” First issued in 1998, then revised and reissued in 1999, this report again disappointed many external stakeholders by failing to deliver on a promise to provide targets and timetables for renewable energy lending or to address the need for energy poverty alleviation. The final report refused to embrace proposed methodologies to account for expected greenhouse gas emissions from each Bank-financed project before approval. The Bank even ignored suggestions to put in place clear energy efficiency screening requirements to improve the design of projects. Nor did the final report emphasize meeting the energy needs of the 2 billion rural poor lacking basic energy services.

**WORLD COMMISSION ON DAMS:** The World Bank’s involvement in controversial large dam projects such as the Sardar Sarovar Dam in India’s Narmada Valley triggered massive local conflicts and international civil society campaigns. In 1997, the Bank agreed to support an independent assessment of the development impacts of large dams through the World Commission on Dams (WCD). It helped select the members of the Commission, and the former Bank President James Wolfensohn repeatedly praised the WCD as a model case of resolving development conflicts through multi-stakeholder processes.

The final report of the WCD was published in November 2000.<sup>14</sup> It was highly critical of the development impacts of large dams, and of the role of financial institutions in pushing such projects without careful consideration of their environmental and social impacts and the available energy alternatives. The report put forward a series of recommendations for future water and energy projects, including a requirement that there be a balanced assessment of all available options and recognized public acceptance before undertaking such projects.

The World Bank, which had been closely involved in the WCD process, walked away from these recommendations; the Bank’s senior water advisor even pressured governments and other institutions to reject the WCD report. The World Bank instead adopted a new Water Resources Sector Strategy in February 2003 which called for new investments in high-risk projects such as large dams.<sup>15</sup>

**EXTRACTIVE INDUSTRIES REVIEW:** In response to continued civil society concern over oil, gas, and mining projects, then World Bank President James Wolfensohn launched the World Bank’s Extractive Industries Review (EIR) in 2001 to determine

the effect of extractive industries on the world's poorest. This exhaustive study, involving government, NGOs, and business, was presented to the board in 2004.

The report recommended that the Bank "phase out investments in oil production by 2008 and devote its scarce resources to investments in renewable energy resource development, emissions-reducing projects, clean energy technology, energy efficiency and conservation, and other efforts that de-link energy use from greenhouse gas emissions. During this phase-out period, WBG investments in oil should be exceptional, limited only to poor countries with few alternatives." The report also recommended that the Bank continue its moratorium on lending for coal and increase lending for renewable energy by 20 percent annually.<sup>16</sup>

The Bank's board of directors rejected most of the report's recommendations, but committed to a target of a 20 percent increase each year for five years in renewable energy lending and greater transparency around oil industry revenues. In fiscal year 2005, the Bank barely achieved this 20 percent increase, relying heavily on a rise in carbon finance and Global Environment Facility projects to demonstrate the increase.

**G-8 DISCUSSIONS:** Following up on various initiatives, in 2001 the G-8 governments met in Genoa, Italy, where they discussed a proposal that would commit rich nations to help one billion people around the world get their power from renewable energy sources. Among the report's recommendations was a proposal to encourage a shift in the priorities of international lending agencies, like the World Bank, to support more clean energy projects in poor countries. Although much of the rest of the G-8 supported the initiative, the Bush Administration blocked the proposal.

After all of these failed initiatives at meaningful change, at the close of the 2005 G-8 Summit in Gleneagles, Scotland, G-8 leaders requested that the World Bank "take a leadership role in creating a new framework for clean energy and development, including investment and financing."

Children carry water in the Niger Delta with gas flares in the background.



PHOTO CREDIT: PETER RODERICK,  
CLIMATE JUSTICE PROGRAMME

## THE NEW INVESTMENT FRAMEWORK: A BRIEF SUMMARY

In April 2006, the Bank produced its first version of a “Clean Energy and Development: Towards an Investment Framework” in response to the G-8’s Gleneagles mandate.<sup>17</sup> The framework is intended to serve as a global vehicle to increase energy investments in developing countries. The initial framework was structured around the following three interlocking pillars and outlined a two-year work program to be completed by the 2008 G-8 Summit in Japan.

- **Energy for development:** The framework postulates that developing and transition countries will require US\$300 billion in annual energy investments to meet projected energy needs over the next 25 years. The framework states that extensive policy reforms – such as the removal of broad-based subsidies, legal and regulatory reforms, energy efficiency standards, and emissions trading – are essential to encourage private sector investors to meet the energy financing gap. It notes that the international financial institutions (IFIs) need to play a key role in encouraging such reforms.
- **Lower carbon energy production:** The framework notes that greenhouse gas (GHG) emissions must be significantly reduced given threats posed by human-induced climate change, though it is vague regarding the level of reductions necessary. While industrialized countries bear primary responsibility for greenhouse gas emissions reductions, the framework notes that developing countries, and in particular the G+5 countries (Brazil, China, India, Mexico, and South Africa), must also limit GHG emissions. Policy reforms would be required to encourage adoption of lower-carbon energy technologies in developing countries. However, the framework includes controversial, large-scale, centralized technologies, such as so-called “clean coal,” carbon capture and storage, nuclear energy, and large dams, in its list of lower carbon energy options. It notes that renewable technologies such as solar and wind are competitive only in certain circumstances. The framework emphasizes greater energy efficiency. It asserts that massive new financing would be required to try to mitigate threats of climate change and notes that the private sector has called for much greater “risk coverage” for private sector energy investments. Importantly, the framework calls for the establishment of a long-term, predictable GHG regulatory framework beyond 2012 at the end of the first commitment period of the Kyoto Protocol to provide stability and reduce the investor risk in carbon trading.
- **Adaptation to climate impacts:** The framework recognizes that the impacts of global climate change will fall disproportionately on developing countries. The document states that international efforts need to focus on reducing vulnerabilities of climate sensitive sectors such as agriculture and water resources (such as through use of drought-resistant seeds, expanded water storage, etc.). The Bank estimates that US\$10 to US\$40 billion is required annually to assist developing countries adapt to climate change.

The framework includes controversial, large-scale, centralized technologies, such as so-called “clean coal,” carbon capture and storage, nuclear energy, and large dams, in its list of lower carbon energy options.

In August 2006 the Bank produced a progress report that contains a revised version of the investment framework.<sup>18</sup> Responding to criticisms of the earlier draft as well as to requests for further analysis of existing and proposed financing mechanisms, the August draft framework builds on the earlier draft's three-pillar approach:

- **More attention to access:** Stung by criticisms of the lack of attention to energy access of the poorest populations, the August draft added an "Action Plan for Energy Access," with a special emphasis on Sub-Saharan Africa. The Plan would include expanded electrification programs (both grid and off-grid), increased generation capacity, and targeted services for key public facilities. It does not propose shifting investments to renewable energy sources however, but prioritizes "large regional hydro and thermal generation plants" as the appropriate way to provide this access.<sup>19</sup> Regarding policy reforms, the revised framework calls for "adequate" pricing of energy services, protecting property rights and rule of law, increased transparency and public oversight. IFIs would need to increase financing, including energy sector adjustment lending, to low-income countries. The framework concludes that existing financing mechanisms – IFIs, donor resources, private capital – are adequate to meet energy demands of developing countries.
- **Financing vehicles:** The framework calls for new financing vehicles to "buy down" the costs of adopting lower carbon energy production technologies in poorer countries. The Bank proposes establishing a Clean Energy Financing Vehicle to offer discounted, long-term loans for acquisition of lower-carbon energy technology. The US\$10 billion vehicle would be financed by donor governments. The Bank also proposes the creation of a grant-based Clean Energy Support Fund to subsidize lower-carbon energy approaches. A separate Clean Energy Project Development Facility would help middle-income countries design lower-carbon intensive projects and programs.
- **More money for adaptation:** The framework notes that at least US\$1 billion in additional annual financing is required to assist countries with climate adaptation. New insurance programs could be an important part of adaptation measures.
- **World Bank actions:** The August version of the framework includes a section on steps the World Bank could take to advance the investment framework. These actions include:
  - Continue to work to remove barriers to private sector participation in energy sectors of borrowing countries
  - Expand energy-sector lending and risk mitigation products
  - Support preparation and implementation of an Africa Energy Access Plan
  - Undertake country-level analytical studies on lower-carbon energy production and use and develop a "Climate Screening tool"
  - Consider financing and administering new financing vehicles, if approved
  - Harmonize work with other IFIs and international partnerships.

## The World Bank: Carbon Trader with Conflicting Interests

The World Bank has become a major international trader of carbon credits. Its new role creates a series of conflicts of interests.

At their third conference in Kyoto in December 1997, the Parties to the UN Framework Convention on Climate Change launched the Clean Development Mechanism (CDM). The CDM was designed as a scheme to allow countries with emissions reductions targets under the Kyoto Protocol to invest in projects that lead to emissions reductions in greenhouse gases in developing countries. Simultaneously, the World Bank unveiled its own proposal for carbon trading, a Prototype Carbon Fund (PCF). The fund officially opened in 1999. Since then, the Bank has created two other carbon funds and administers several funds on behalf of individual donor countries, including Italy, the Netherlands, and Spain.

The World Bank is the largest public broker of carbon purchases, with over \$1 billion in its carbon credit portfolio. Internal documents on the origins of the Prototype Carbon Fund show that it was created as a way to generate revenue. The Bank makes up to 10 percent in commissions on all the carbon credits it purchases for the fund it administers.

The following criticisms call into question the Bank's prominent role as carbon trader:

- The World Bank is in a position to both profit from the CDM and to influence the mechanism's rules, which creates a conflict of interest. The Bank has actively lobbied the CDM to make its rules more investor-friendly, and less meaningful in terms of actually cutting climate pollution. In particular the Bank tried to weaken the interpretation of the CDM's all-important concept of "additionality", i.e. that a project should only be eligible for carbon credits if it would not go forward without the benefits it receives from these credits. The weakening of these rules allows projects to go forward that have no benefits for climate whatsoever.
- The Bank's carbon funds have a disgraceful record of contracting to buy credits from projects that would likely be completed regardless of whether they received carbon credits. For example, the Xiaogushan hydropower project in China was declared the least-cost project option by the Asian Development Bank, and was already under construction when the World Bank proposed supporting it with carbon credits.<sup>20</sup> In this case the carbon credits provided a nice financial bonus to the developers, but the financial incentive did not prevent even one ton of greenhouse gases from being emitted. Since the carbon credits that the World Bank brokers allow the Northern buyers to continue polluting, these types of projects have a negative impact on the global climate.

- Finally, the World Bank's role as a carbon trader puts a spotlight on the contradictions within the Bank's own portfolio of energy projects. The Bank continues to contribute to climate change through its support for fossil fuel projects even while it purports to help solve the problem of climate change through its carbon funds. Every year between 1992 and 2004, the World Bank on average supported fossil fuel projects that have lifetime emissions of 1,457 megatons of carbon.<sup>21</sup> This figure is four to 29 times the amount of emissions reductions anticipated under the CDM per year.<sup>22</sup>

The emissions reductions realized through the carbon funds are thus massively outweighed by emissions production from projects in the Bank's overall energy portfolio. Through the PCF, the Bank is counting (down to the half-ton), the greenhouse gas emissions supposedly avoided through carbon-credit earning projects. At the same time it refuses to calculate the carbon emissions from its own energy investment portfolio. In this way, the Bank counts what it prevents but not what it produces, masking the net impact of its energy operations on climate change.

Filling up gasoline for a motor bike on  
Sulawesi, Indonesia.



## Plantar Eucalyptus Plantation: How World Bank Carbon Financing Can Cheat the Climate and the Poor

The Plantar eucalyptus plantation in Brazil is one of the more disturbing carbon finance projects promoted by the World Bank. Plantar, located in the state of Minas Gerais, owns some 700,000 hectares – much of it acquired by pushing local communities off their land under previous dictatorial regimes. In 2002, the World Bank's Prototype Carbon Fund agreed to purchase carbon credits from Plantar for a monoculture eucalyptus grove covering 23,100 hectares. The project systematically harvests fast-growing and water-guzzling eucalyptus trees every six years to be used as charcoal for the production of pig iron – a low grade of iron – by the company. For small farmers living nearby, the consequences of this tree plantation have been devastating: streams and swamps have been sucked dry by the thirsty trees, chemicals contaminate the air and water, and the diverse plant and animal species that once inhabited the land have all but vanished. In addition, local farmer families have expressed safety concerns. Some have received threats for wanting to enter the plantations and children have reportedly been harassed on the public roads by company guards.

The eucalyptus plantations are allegedly avoiding the production of 4.3 million tons of carbon dioxide that would be emitted if coal were used for smelting the pig iron instead of the charcoal from Plantar's plantations. That's 4.3 million carbon credits that can be sold to a Northern industry that is unwilling to reduce its emissions domestically by the same amount. Is there truly a net benefit? Unless the eucalyptus trees are destroyed by fire or other natural causes, within 7 to 21 years, they will be cut down for use in pig iron production. The carbon dioxide produced by Northern industries that have bought the Prototype Carbon Fund's carbon credits, however, will remain in the atmosphere, for 50 to 200 years.



Pipes for the Nigeria-Ghana gas pipeline.

PHOTO CREDIT: DAPHNE WYSHAM



# CLIMATE CHANGE

## The New Framework Will Not Effectively Combat Climate Change

**IN COMING YEARS, THE IMPACTS OF CLIMATE CHANGE WILL DISPROPORTIONATELY** affect developing countries. Droughts, flooding, severe storms, and other climate change impacts are already occurring and will continue to threaten communities worldwide. The Intergovernmental Panel on Climate Change says that, in Africa, for example, climate change will “add to stress on water resources, food security, human health, and infrastructure.”<sup>23</sup> A recent Christian Aid report finds that, “a staggering 182 million people in sub-Saharan Africa alone could die of disease directly attributable to climate change by the end of the century.”<sup>24</sup>

The impacts and reality of climate change are becoming better understood, but worldwide emissions continue to rise and fossil fuel use continues to grow, particularly in countries in the global North. Money from Northern governments continues to support fossil fuel projects in developing countries through multilateral and bilateral institutions, often to only have the oil and gas sent back to the North to drive fossil fuel consumption. Very little action is being taken to curb emissions or fossil fuel use in the countries most responsible for climate change or with the money they send overseas.

### **WORLD BANK’S FRAMEWORK DOES NOT ADEQUATELY ADDRESS CLIMATE CHANGE**

The World Bank investment framework clearly acknowledges the impacts of climate change on developing countries and lays out a strategy that is supposed to improve access to ‘clean’ energy in the developing world while combating the problems associated with climate change. But the proposals in the Bank’s framework are neither clean nor climate friendly, nor are they likely to serve the poor.

Instead of focusing on renewable energy that has close to zero greenhouse gas emissions, the framework reinforces a continuing dependence on fossil fuels, especially coal and natural gas. The Bank also includes nuclear power and large hydro-power in the mix, even though the negative social and environmental impacts of these technologies are well known.

## CLIMATE SCENARIOS WOULD ALLOW GREENHOUSE GASES TO REACH CATASTROPHIC LEVELS

In the April 2006 version of the framework, the global climate scenarios on which the framework is based assume emissions levels and atmospheric carbon dioxide concentrations that are so high that they put the world on a path toward major catastrophe:

- The Bank admits in its framework that if atmospheric carbon dioxide increases above 450 parts per million, a global temperature rise beyond 2 degrees Celsius above pre-industrial levels is almost assured. The 2 degree limit has been adopted by the European Union and non-governmental organizations as the threshold for dangerous climate change, beyond which further temperature rise would cause “massive species extinctions and dramatic changes in ecosystems [which] will have severe consequences for human well-being.” However, the draft considers scenarios that range from 450 to 1000 parts per million of carbon dioxide, sending the message that it might be a viable option to allow carbon levels to reach well beyond 450 parts per million.
- In addition, the draft assumes a 60 percent growth in greenhouse gas emissions by 2030 as its “reference case” scenario for world energy use. This reference scenario would see hundreds of millions of people in less developed countries put at higher risk of starvation and disease, or turned into “environmental refugees” due to a sea level rise that could reach 3 feet or more within a century. Recent scientific reports suggest such an increase would place between 1.2 billion and 3 billion people at risk of water shortages, and would cause millions of tons of cereal crops to fail.

The August 2006 draft, by contrast, does not suggest any limit for greenhouse gas emissions, suggesting that none is needed — no limit is just as dangerous as proposing a high limit.

- While developing countries have no emissions targets yet, this does not justify the Bank’s promotion of a fossil fuel-intensive energy path in these countries. Instead of promoting coal and natural gas, the Bank should be using its resources to show how both developed and developing countries can ensure the lowest greenhouse gas emissions trajectory possible. The Bank should undertake a transparent assessment of all costs, including those associated with greenhouse gas emissions and social and environmental impacts, in order to evaluate appropriate energy options.
- The clean coal and natural gas technologies that the Bank intends to promote will reinforce the carbon-emitting fossil-fuel path that developing countries are on today. New coal plants and natural gas pipelines have high sunk costs and long lifetimes that will deter investment in alternative energy sources and delay a move to a truly clean, renewable energy path for the developing world. There is no justification for Northern governments to help developing countries down an energy path that will contribute to harmful climate change, and will likely only become more costly in the future.

## PUBLIC RESOURCES SHOULD BE DIRECTED TOWARDS TRULY SUSTAINABLE ALTERNATIVES

Both draft versions of the framework put forward a wide array of 'clean' energy technologies for developing countries. But many of the proposed technologies are not clean – they rely on carbon-emitting, non-renewable energy sources, like coal and natural gas. And several technologies, such as carbon capture and storage, are still unproven. Other proposed technologies, such as large dams and nuclear power, have been shown to cause major environmental and social damage.

There is no indication in the framework that any sort of lifecycle analysis of carbon emissions or costs will be used in deciding which of these technology options to use. It is likewise unclear that any environmental or social impacts outside of the cost of saving carbon will be considered when deciding for or against any of these technologies. The environmental and social externalities of each of these energy technologies must be considered when estimating the relative costs of these energy options.

### "Clean" Coal<sup>26</sup>

The World Bank framework puts a heavy emphasis on the promotion of "clean coal" technologies in developing countries. "Clean coal" is a term given to coal that has been chemically washed of minerals and other impurities. While "clean coal" is less polluting when burned than conventional coal, it still creates substantial amounts of greenhouse gases. Additionally, mining coal still poses significant environmental problems and human rights abuses. Making coal use more efficient does not address the problems associated with mining coal, which degrades land, pollutes rivers and streams, and harms workers.

**INTEGRATED GASIFICATION COMBINED CYCLE (IGCC):** Integrated Gasification Combined Cycle (IGCC) power plants use synthetic gas created from coal as the main fuel for energy production. The synthetic gas is produced when coal is heated up, but not burned, and gas is given off — a process also known as "gasification." The IGCC process uses steam generated as waste heat to drive another turbine, thereby the name "combined cycle."

The "carbon dinosaur" fights against climate change.



PHOTO CREDIT: JANNEKE BRUIJL

While IGCC power plants are more efficient than conventional ones, they still emit substantial amounts of carbon dioxide. The World Bank's report suggests that new coal power plants would only increase efficiency by 10 to 13 percent, and that substantial subsidies will be needed to build these plants: "...It is likely that the coal industry will require incentives or regulations (e.g., constraints on carbon emissions) to routinely build the 45-48 percent efficient ultra-super critical or integrated gasification combined cycle (IGCC) plants instead of conventional coal-fired power plants with 35-37 percent efficiency." Other technologies, such as wind power, could produce greater cuts in carbon dioxide emissions at a lower cost than IGCC plants.

**CARBON CAPTURE AND STORAGE:** To actually reduce the amount of carbon released in the air, the new coal technologies rely on carbon capture and storage (CCS) to bury carbon underground or in the ocean. But this technology is currently unproven and expensive. The costs are estimated to be as high as \$2,088 per kilowatt for an integrated gasification combined cycle plant with carbon capture and storage.<sup>27</sup>

This technology also raises a number of practical concerns. There are no proven CO<sub>2</sub> storage facilities. Storage of the CO<sub>2</sub> is envisaged either in deep geological formations, deep oceans, or in the form of mineral carbonates. Yet recent studies show that CO<sub>2</sub> stored underground is causing a chemical reaction that may end up dissolving the very mineral that helps keep the gas underground.

While carbon capture and storage advocates claim that it could reduce greenhouse gas emissions from coal and other fossil fuels by 80 to 90 percent, they often fail to mention how much energy the process of carbon capture and storage requires — anywhere from 10 to 40 percent more than the energy production process itself. This could increase both the price of the plant by 30 to 60 percent and the quantity of fuels needed to capture the carbon. This, in turn, has environmental impacts — both at the source of mining for fossil fuels, and when the waste products, such as mercury — a common byproduct of coal burning — are disposed of. After capture, the CO<sub>2</sub> must be transported to suitable storage sites. This is done by pipeline, which is generally the cheapest form of transport, or by ship when no pipelines are available. Both methods are currently used for transporting CO<sub>2</sub> for other applications. The energy costs associated with transportation are significant.

Using limited public resources to subsidize coal-related technologies will perpetuate and promote reliance on an inherently dirty energy source, at a higher cost than cleaner alternatives and at the expense of improving energy efficiency or putting countries on a truly renewable, sustainable energy path. The World Bank would do better to invest in cleaner technologies, such as wind power, that produce energy without the environmental and social impacts of coal and the uncertainty of new technologies.

### **Large Hydropower**

The World Bank framework prioritizes "large regional hydropower and thermal generation plants" as the appropriate way to expand access of the poor to energy. The framework also presents "advanced fossil-fuel technologies (...), hydropower, wind and nuclear" as the solutions to combat climate change.<sup>28</sup>

Large hydropower projects are not a clean or renewable source of electricity. According to the independent World Commission on Dams, "large dams generally have a range of extensive impacts on rivers, watersheds and aquatic ecosystems" and "have led to irreversible loss of species and ecosystems". Dams have altered 60 percent of the length of the world's large river systems and have caused a rapid loss of freshwater biodiversity. According to the Millennium Ecosystem Assessment, "freshwater ecosystems tend to have the highest proportion of species threatened with extinction". Up to 35 percent of freshwater fish species are estimated to have become extinct, endangered or vulnerable. Dams have also flooded hundreds of thousands of square kilometers of valuable ecosystems, including irreplaceable habitats for endangered species and the farmlands of the rural poor. Finally, most large hydropower projects also have devastating social impacts. According to the World Commission on Dams, large dams have so far displaced 40 to 80 million people, and have impoverished most of them in the process.

The environmental impacts of large dams also include the emission of greenhouse gases. Because of their methane emissions, the climate impacts of tropical hydropower reservoirs have often exceeded those of conventional fossil fuel plants generating equivalent amounts of energy. Emissions from the Balbina reservoir in Brazil, for example, are estimated to be some 25 to 28 times higher per kilowatt hour than emissions from modern coal-fired power plants. The World Bank-financed Nam Theun 2 hydropower project in Laos could result in higher greenhouse gas emissions than a natural gas plant generating the same amount of electricity.

Large hydropower projects (above 10 MW), particularly in tropical areas, should not be considered a renewable or "clean" technology, given their social and environmental impacts and the likelihood that they will create substantial greenhouse gas emissions.

World Bank protest in Indonesia.



## Nuclear Power<sup>29</sup>

By including nuclear power in its definition of “clean energy,” the World Bank has ignored the impacts of the full production cycle, in terms of its greenhouse gas emissions and broader sustainability criteria.

The framework wrongly states that nuclear power has zero carbon emissions. While this is the case for reactor operations, it does not consider the carbon emissions from uranium mining, processing, enrichment, fuel fabrication, long-term radioactive waste storage and decommissioning. Counting these emissions reveals that although the carbon footprint of nuclear power remains well below that of coal and oil, it is much more significant than renewable technologies like wind and solar, or increased energy efficiency programs.

Nuclear power, by virtue of its own indirect carbon emissions and high costs, does not offer an effective means of reducing greenhouse gases. At \$2000 to \$4000 per kilowatt, nuclear power is a much less cost-effective strategy to reduce carbon emissions than other energy technologies.<sup>30</sup> In order for nuclear power to make a significant dent in carbon emissions (a 20 percent decline) there would need to be three to four times more reactors in the world, costing trillions of dollars. Paying for these reactors would divert significant resources from other emissions-free technologies. By some estimates, ‘nuclear power saves as little as half as much carbon per dollar as wind power and traditional cogeneration, half to a ninth as much as innovative cogeneration, and a little as a tenth as much carbon per dollar as end-use efficiency.’<sup>31</sup>

Beyond economics, nuclear power is particularly unsuited for developing countries, not only for safety, waste disposal, and proliferation concerns, but because of infrastructure and human resource needs. There is already a shortage of trained professionals to operate and regulate the nuclear industry worldwide, and even more acutely in developing countries. And, as a power-grid based technology, the development of nuclear power will do little to meet the energy needs of the hundreds of millions of people that live without access to electricity sources.

The World Bank should affirm that its funds will not be used, directly or indirectly, for nuclear power projects.



A nuclear landscape.

PHOTO CREDIT: PHOTOS.COM

**ENERGY INEQUALITY HAS RISEN TO STRIKING LEVELS. IN 2005, PEOPLE LIVING** in high-income countries consumed 21 times more modern energy per capita than people in low-income countries.<sup>32</sup> Worldwide, 2.4 billion rely on traditional biomass (wood, dung and crop waste) for cooking and 1.6 billion people do not have access to electricity, 80 percent of whom live in rural areas. Almost two thirds of all Africans and 83 percent of people living in rural Africa have no access to modern energy supplies such as electricity.<sup>33</sup> In absolute figures, the number of Africans living without electricity is expected to increase from 509 million today to 650 million by 2030.<sup>34</sup>

The lack of access to electricity and to clean and efficient cooking and heating fuels has serious social, economic and environmental consequences. Most African women spend several hours collecting firewood every day – time that they could spend more productively on other activities. Indoor air pollution caused by open fires and inefficient stoves claims an estimated 2 million lives each year. Without electricity, children cannot learn after dark, medicine cannot be refrigerated, rural enterprises are hampered in creating jobs, and safe drinking water cannot be supplied in many places. The International Energy Agency estimates that modern energy will need to be provided to an additional 700 million people by 2015 if the Millennium Development Goals are to be met.<sup>35</sup> Despite this evident need, the extension of basic electricity services to the world's poor have often not been given the same priority as providing energy to business and industrial consumers to boost economic growth.

### **WORLD BANK'S FRAMEWORK DOES NOT HELP THE POOR**

The World Bank investment framework focuses on expanding electricity generation through conventional means, such as centralized power plant and power line distribution, in order to promote economic growth and expanded access to energy services. It does not propose shifting investments to renewable energy sources, but instead prioritizes "large regional hydro and thermal generation plants" as the appropriate way to provide access for the poor.<sup>36</sup> This approach is highly questionable on two accounts: First, conventional energy technologies cause serious social and environmental costs that are usually borne by the poorest members of society. Secondly, rural communities that are not connected to the electricity grid are often bypassed by the expansion of conventional electricity generation, as well as by development strategies that assume economic growth trickles down to the poor.<sup>37</sup>

## LOCAL RENEWABLE ENERGY SHOULD BE PROMOTED

For the following reasons, an energy development strategy that focuses on renewable energy technologies and rural electrification is more likely to combat climate change while reducing poverty and helping to reach the Millennium Development Goals:

- **Renewable energy has low social and environmental impacts:**  
Conventional energy technologies appear comparably cheap because their social and environmental costs are externalized. Thermal power plants and large reservoirs, particularly in tropical regions, emit large amounts of greenhouse gases and have serious impacts on the local environment. According to the World Commission on Dams, large dams have displaced an estimated 40 to 80 million poor people. In comparison, energy sources derived from wind, solar and small-hydro have much lower social and environmental impacts. Additionally, renewable energy avoids the rampant health problems found in most drilling, dam and mining areas that result from the influx of workers and job seekers.
- **Renewable energy can often be the most cost effective choice:** The cost of extending electric grids to rural areas with low population densities is often prohibitive. In comparison, local grids based on renewable energy sources are a cost-effective approach to serving the poor.
- **Renewable energy is less likely to cause corruption and conflict:**  
Conventional energy projects like oil and gas pipelines and large dams are prone to corruption and abuse of revenues, often leading them to cost much more than originally intended. These large projects can also cause tension and conflict as a result of governments vying for control of global energy resources.
- **Renewable energy can promote self-reliance and ownership of resources:**  
Renewable energy technologies such as modern sustainable biomass, geothermal, wind, solar, small-scale hydro and marine energy are more commonly based on local resources than centralized conventional technologies. They can reduce dependence on conventional energy resources that run the risk of volatile prices and availability. Establishing local, renewable energy resources through cooperatives or small businesses can promote community ownership of energy and encourage participation in control of energy resources, increasing energy independence and self-reliance.
- **Renewable energy creates jobs:** Power generation based on fossil fuels, large hydropower, and nuclear power creates an estimated 75 to 370 jobs per terawatt hour. In comparison, wind energy creates 900 to 2,400 jobs; bioenergy from sugarcane 3,700 to 5,400 jobs; and solar power, an estimated 29,600 to 107,000 jobs per terawatt hour.<sup>38</sup> Renewable energy often creates jobs for non-skilled, local workers, whereas conventional capital-intensive energy industries generally rely on a small number of educated, often foreign, professionals.

Currently, renewable energy technologies have a capacity of 160 gigawatts worldwide, which makes up about 4 percent of the global power generating capacity. The fastest growing energy technologies are solar panels or "photovoltaics" (with an annual growth rate of 60 percent since 2000) and wind power (with an average growth rate



of 28 percent). The costs of wind power have declined by 12 to 18 percent with each doubling of global capacity, and those of solar photovoltaics, by 20 percent.<sup>39</sup>

Renewable energy technologies will not be able to address all energy needs of developing countries over the short term. However, they could go a long way to cover the basic energy needs of the world's poor. A single individual's basic electricity needs (including agricultural, industrial and commercial uses and transmission losses) are estimated at 56 watts. The basic electricity needs of 1 billion people could thus be covered with a generating capacity of 56 gigawatts.<sup>40</sup>

A program to create 56 gigawatts of capacity with low or no-carbon technologies (including capacity building) would cost an estimated \$100 billion dollars.<sup>41</sup> In comparison, the worldwide subsidies for conventional sources of energy (and particularly fossil fuels) are estimated to amount to at least \$150 to \$250 billion per year.<sup>42</sup> Increased support from governments and international financial institutions for renewable energy technologies would bring down the relative costs of these technologies not just for poverty reduction, but also for combating climate change.

International financial institutions play a critical role in driving policy and financing decisions in the energy sectors of Southern countries. At present, the World Bank's energy portfolio is heavily slanted towards conventional energy technologies, and less than 10 percent of World Bank energy financing each year goes to renewables and energy efficiency (see box "The World Bank Group's Energy Portfolio"). The Bank's framework for future energy investment does not suggest a significant shift in this emphasis.

The villagers affected by the Lesotho Highlands Water Project will be the last to receive benefits from the project.



## End Oil Aid: Oil Subsidies and External Debt

Soaring oil prices are undermining the benefits of debt cancellation and putting serious stress on many of the world's most impoverished countries. Adjusted for inflation, oil is now more expensive than at any time since 1980, and the rising cost of oil imports is draining far more money out of impoverished countries than debt cancellation is contributing each year. For example, it is estimated that the cost of Tanzania's oil imports will rise from roughly \$190 million in 2002 to about \$480 million in 2006, representing an additional \$290 million in payments each year for roughly the same amount of oil. In comparison, debt cancellation is expected to free up roughly \$140 million in Tanzania in 2006, less than half of the additional amount that the country is paying for oil imports each year.

This is not the first time that volatile oil prices have played a role in exacerbating debt. The oil shocks of 1973-74 and 1979-80 played a central role in triggering the modern debt crisis and clearly exposed the dangers of oil dependence. Unfortunately, the world's industrialized countries and international institutions like the World Bank responded to the oil shocks of the 1970s by focusing their efforts on increasing oil supplies rather than overcoming oil addiction. The World Bank alone has provided billions of dollars in handouts to oil corporations since the last oil shock. It has also pressured impoverished countries to restructure legal and regulatory frameworks in ways that privilege the largest and most profitable corporations on earth. These policies have both fueled global warming and encouraged oil dependence.

Governments and international institutions like the World Bank should stop using development assistance to support companies like Exxon, Shell and BP. Instead, aid money should go to initiatives that fight global warming and help countries overcome their dependence on oil. It is time to end oil aid and focus on promoting new renewables and energy efficiency.



Friends of the Earth International protested at the Shell shareholder's meeting in The Hague in May 2006.

PHOTO CREDIT: GWENDAL DANGUY DES DESERTS

**THE WORLD BANK'S CHECKERED HISTORY ON ENERGY AND CLIMATE ISSUES** makes it a poor candidate to lead international efforts in combating climate change. The World Bank's structure, governance, decision-making processes, and programmatic bias make it unlikely that the institution could make the changes necessary to effectively take on this role.

**NEO-LIBERAL BIAS:** Together with the International Monetary Fund, the World Bank is a major promoter of neo-liberal policy prescriptions that are often pushed onto borrowers as conditions for accessing financing. The Bank has encouraged the privatization of resources in support of multi-national corporations, often leaving communities more impoverished than before. The Bank has also pressured countries to undertake fossil fuel projects that have perpetuated poverty and debt. This neo-liberal bias does not necessarily allow for the types of policy interventions such as new regulations and subsidies required for a shift to cleaner and sustainable energy paths.

**ONE DOLLAR, ONE VOTE:** The Bank's structure ensures that the wealthiest countries control the Bank, crowding out the voice and interests of poorer members. Just seven countries possess 43 percent of the voting power of the 184-member country institution – more than all borrowing countries combined. The Bank's largest shareholder, the US, routinely opposes all Bank-financed projects that seek to implement provisions of the Kyoto Protocol.

**LACK OF TRANSPARENCY:** The Bank's Board operates behind closed doors. Furthermore, the Bank does not release complete information on projects under consideration before decisions are made, which greatly limits public input.



Protests in front of the World Bank in Washington, DC.

PHOTO CREDIT: DAPHNE WYSHAM

# CONCLUSION

## Conclusion and Recommendations

**CLIMATE CHANGE AND ENERGY POVERTY ARE URGENT ISSUES THAT NEED TO BE** addressed immediately. The impacts of climate change will disproportionately affect developing countries, threatening lives and livelihoods and hindering development. At the same time, the lack of access to electricity and to clean and efficient cooking and heating fuels has serious social, economic and environmental consequences. Renewable energy and energy efficiency present an opportunity to address both of these issues.

The World Bank's history on energy, poverty, and climate issues and its institutional structure make it the wrong place to concentrate new resources or authority in the emerging global climate regime. The August draft of the Bank's clean energy investment framework has shown some improvements over the April draft. However the Bank's approach is still fundamentally flawed. It does not include emissions targets, and places too much emphasis on fossil fuel technologies. And although it puts increased emphasis on poverty reduction, it should place a stronger emphasis on renewable energy as a more likely way to combat climate change and reduce poverty.

Additionally, even while acknowledging the consequences of global climate change, the Bank still refuses to stop financing fossil-fuel energy production. In addition, the Bank's donor-dominated structure makes it an unlikely place to address global climate change concerns, for which Northern countries are largely responsible.

As disproportionate contributors to climate change, Northern governments must take responsibility to drastically reduce greenhouse gas emissions at home. Northern governments should also provide funding for developing country governments to start on truly clean and renewable energy paths that provide modern energy and electricity services to those who currently lack access.

To achieve the required greenhouse gas emissions reductions and to meet the needs of those lacking modern energy, Northern governments and multilateral and bilateral development agencies should:

- **End public subsidies for fossil fuels:** Public funding for fossil fuels is a complete anachronism at a time of excess profits, high prices, and escalating concern about climate change. Rich countries should stop subsidizing fossil fuels both at home and abroad. This includes putting an end to the widespread practice of using aid budgets and public international financial institutions like

the World Bank Group to subsidize and support the expansion of the fossil fuel industry, including through broad energy sector and infrastructure financing.

As shown in the World Bank's own Extractive Industries Review, these projects do not alleviate poverty or address the energy needs of the poor. Instead, "fossil fuel aid" increases dependence on dirty energy, serves as "corporate welfare" to already rich companies, exacerbates debt in impoverished countries, is often associated with human rights abuses, corruption and conflict, and increases global carbon emissions.

- **Step up efforts to meet the basic energy needs of the poor:** Access to electricity and fuel for cooking and heating is a basic need. The rural poor are in greatest need of access to electricity, motive power, and efficient, clean and affordable cooking and heating fuels. Renewable energy technologies based on local availability and capacity (such as modern biomass, small hydro, geothermal, wind, and solar) are particularly appropriate options to support rural off-grid electrification. Improved stoves can make the use of cooking and heating fuels much more efficient. Multilateral and bilateral financial institutions should massively step up their efforts to support rural electrification and renewable energy programs that are owned and controlled by local people and based on their needs.

Rich countries should concentrate their aid and development budgets and other public subsidies in the energy sector on alternatives to fossil fuels – such as new renewables and energy efficiency. Power utilities should cross-subsidize electricity connections and tariffs for the poor, and international financial institutions should not impose any policy conditions that prevent utilities from doing so.

- **Redirect existing dirty energy financing to renewable technologies and energy efficiency projects via an appropriate multilateral framework or agency:** The World Bank Group continues to be dominated by the United States and other rich countries that are the world's heaviest polluters. As such, the World Bank is not the appropriate institution to design and execute a global framework for clean energy and development. This task should be the mission of an international agency that is not skewed towards Northern interests. One appropriate forum could be the United Nations. Any additional resources that rich countries make available for energy investment in the developing world should be channeled through such an institution or through bilateral programs and other alternative mechanisms.

Renewable energy technologies are a global public good that reduce poverty. We should direct our energies towards effective action to attain the double dividend of poverty reduction and combating climate change.

- **Adopt aggressive targets for greenhouse gas emission reductions:** An aggressive commitment to reduce emissions, under the UN Framework Convention on Climate Change, should guide the selection of investments by Northern governments and multilateral and bilateral development agencies, including an elimination of subsidies for fossil fuels.

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- <sup>35</sup> REN 21, "Energy for Development: The Potential Role of Renewable Energy in Meeting the Millennium Development Goals," Worldwatch Institute, 2005, p. 5.
- <sup>36</sup> The World Bank, "An Investment Framework for Clean Energy and Development: A Progress Report," August 4, 2006, paragraph 24.
- <sup>37</sup> While the Bank's framework mentions off-grid approaches in several places, it provides no elaboration or prioritization.
- <sup>38</sup> José Goldemberg, "The Case for Renewable Energies, Thematic Background paper, Secretariat of the International Conference for Renewable Energies," Bonn 2004, p. 5.
- <sup>39</sup> REN 21, "Renewables 2005: Global Status Report," Worldwatch Institute, 2005, pp. 4, 12.
- <sup>40</sup> William Fulkerson et al. "Sustainable, efficient electricity service for one billion people," Energy for Sustainable Development, June 2005, pp. 26-34, p. 31.
- <sup>41</sup> Ibid.
- <sup>42</sup> REN 21, "Renewables 2005: Global Status Report," Worldwatch Institute, 2005, p. 16.
- <sup>43</sup> Percentages given for the IBRD. Percentages vary for IDA, the IFC, and MIGA.

Public protest action in Washington in 2004 depicting World Bank aid as a "Trojan Horse".



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