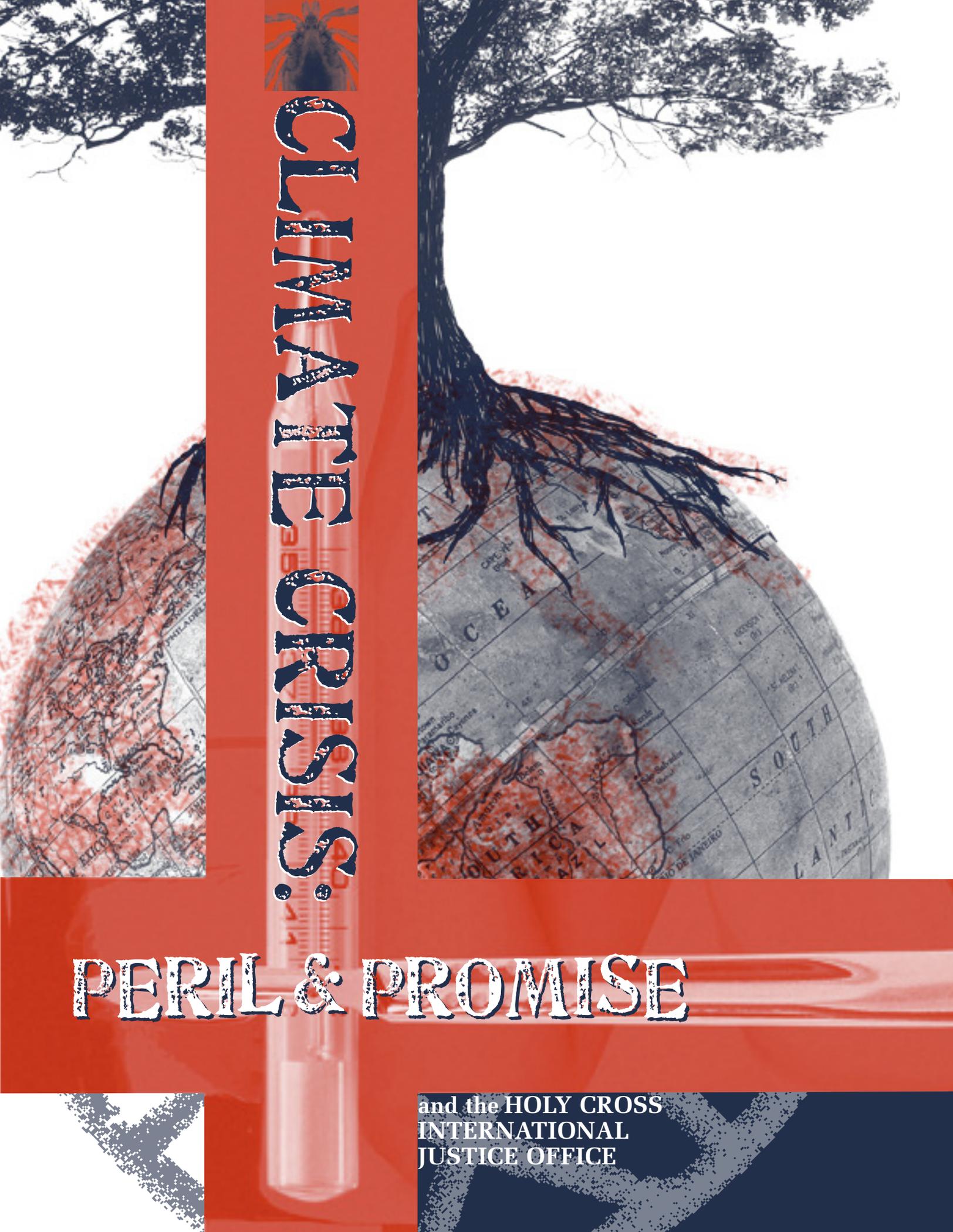




CLIMATE CRISIS:

PERIL & PROMISE

and the HOLY CROSS
INTERNATIONAL
JUSTICE OFFICE



WARMING OF THE CLIMATE SYSTEM IS UNEQUIVOCAL....

Climate Change 2007: Synthesis Report,
Intergovernmental Panel on Climate Change (IPCC)

CLIMATE CHANGE: TRUTH

The debate is over. Scientists confirm, and most prior skeptics concede, that global warming and climate change are real and already impacting humans, other species and Earth's ecosystems.

Physical evidence is overwhelming and spans the planet.

Increasing temperatures

- ⊗ Global surface temperature rose about .74°C (1.3°F) over the past century.
- ⊗ 1998–2007 was the hottest decade on record.
- ⊗ Despite La Niña's cooling, 2007's global mean temperature was the second warmest on record.

Accelerating ice and snow melt

- ⊗ Mountain glaciers and snow cover are retreating—from the Himalayas to Africa to the Americas.
- ⊗ Ice sheets in Greenland and Antarctica are shrinking far faster than expected.
- ⊗ Arctic sea ice has shrunk to new lows; by 2015, scientists predict summer disappearance.

Rising sea levels

- 🌐 Melting glaciers, ice caps and polar ice are swelling Earth's oceans.
- 🌐 Warming waters expand, contributing further to higher seas.

Shifting weather patterns

- 🌐 Precipitation levels are changing, creating both more floods and more droughts.
- 🌐 Signs of spring like insect emergence are occurring earlier.
- 🌐 Intense heat waves, more powerful storms, hurricanes and other extreme weather events are becoming more common.

**We,
the human race,
have substantially altered
the Earth's atmosphere.**

Rajendra Pachauri, IPCC chair

Just as the reality of climate change is now indisputable, so is its primary cause. Scientists studying rapid warming during the past century agree that natural variability cannot account for current trends. The primary driver of global warming and consequent climate change is human-generated emissions of greenhouse gases (GHGs), like carbon dioxide (CO₂), methane and nitrous oxide.

Earth is blanketed by natural greenhouse gases that regulate temperature by trapping solar heat before it can return to space. By pouring additional GHGs into the atmosphere, humans have enhanced this “greenhouse effect” so more heat is trapped, causing temperatures to rise.



Fossil fuels are the primary culprits. Burning coal, oil, and natural gas releases billions of tons of GHGs every year. Deforestation, massive livestock herding and agricultural and industrial processes also contribute significant amounts.

Human-induced emissions increased 70 percent just between 1979 and 2004. In 2005, atmospheric concentrations of CO₂ and methane drastically exceeded the natural range over the past 650,000 years.

...AND CONSEQUENCES

Rising temperatures are already dramatically affecting ecosystems and human communities; impacts will interact and intensify as warming continues.

Ecosystems and biodiversity> Climate change is transforming critical ecosystems that support life. Roughly half of the world's coral reefs are "bleaching" from ocean warming and acidification from CO₂, endangering both corals and marine life dependent on them. Declining sea ice and shorter, milder winters are disrupting ice-based ecologies like the Arctic—threatening polar bears, fish and other species. Rich mangrove and salt marsh habitats that protect coastal areas are drowning as sea levels rise.

Certain impacts of climate change will be irreversible. While some plants and animals will adapt, for many change will happen too quickly. With only 2°C warming, scientists predict 15 to 40 percent of species could face extinction.

Human health> Warming now contributes to over 150,000 deaths and 5 million illnesses each

year; the World Health Organization warns these numbers could double by 2030. Rising temperatures are expanding the range and activity of disease carriers like mosquitoes and ticks, spreading threats like malaria, dengue fever and West Nile virus. Warming also intensifies smog, so respiratory illnesses and deaths stemming from air pollution are growing. Increasingly frequent weather extremes are claiming more lives, especially among children and others already vulnerable.

Human security> Higher temperatures, glacier melt, and changing rainfall and runoff are dramatically reducing food and water security in many parts of the world. By 2020, agricultural yields in some African countries are expected to shrink by 50 percent and the number of undernourished people in sub-Saharan Africa to double 1990 levels. Significant parts of Asia and the Americas face imminent water shortages as glacial systems collapse.

Food and water stress, plus flooding from rising seas and more intense tropical storms, will create millions of “climate refugees.” Migration pressures and increased competition for dwindling resources will likely exacerbate regional tensions and spark distributional conflicts, further undermining stability.

**...we have only a very brief window
of opportunity to deal with climate change
...no longer than a decade at the most.**

James Hansen, Director, NASA's Goddard Institute for Space Studies, September 2006



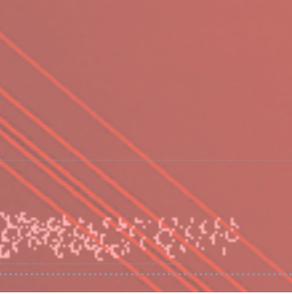
The problem of climate change is urgent and potentially catastrophic. Analysts identify a 2°C global temperature rise above pre-industrial levels as a threshold beyond which impacts will be much more severe and the threat of major, irreversible damage more likely.

Mitigation> Staying at or beneath that 2°C threshold will require very stringent goals, achieved as quickly as possible. Most estimates require global CO₂ emissions to peak no later than 2015, then fall steadily to at least 85 percent of 2000 emissions by 2050, stabilizing in the range of 300 to 350 parts per million in the atmosphere.

Meeting this target will require unprecedented international cooperation, but studies confirm it is both doable and affordable, *if we act soon*. The cost of mitigating climate change would then be only a small fraction of the world economy, much less than current military spending. On the other hand, the costs of inaction are estimated much higher, as much as 20 percent of the world's Gross Domestic Product.

Adaptation> But cutting emissions is not the only task. CO₂ persists in the atmosphere roughly a century so even if emissions were stabilized today, warming would continue for some time. Further changes in climate are inevitable; *all* countries must reduce their vulnerability to climate change impacts.

Most rich nations are already developing strategies and investing heavily in “climate defense.” Developing countries face far more severe adaptation challenges. Climate change will affect poor



nations the earliest and the most, those with the fewest resources and least technological capacity to respond.

Industrialized nations bear historical responsibility for climate change. It is morally imperative that those who created this crisis strengthen the adaptive capacity of poorer countries and agree to equitable plans for curbing emissions that safeguard human development

THE WAY FORWARD

There is no quick fix or simple solution for climate change. Its challenges demand an array of strategies and actions at all levels.

Substantive emissions reduction is the immediate priority. Fortunately, tools to achieve this are already available to policymakers, the private sector and the public. Safe and sustainable options include:

Putting a price on carbon> The price of carbon use must begin to reflect its environmental costs. This can be realized by ending all subsidies for fossil fuels and establishing either a tax on carbon emissions or mandatory “carbon capping.”

“Cap and trade” programs take different forms. In those most effective, government sets a total emissions cap and requires businesses to buy permits to emit set amounts. Those that can cut emissions more easily can sell allowances to others. The number of permits issued is decreased annually, guaranteeing reduced emissions. Revenue from permit sales is utilized by government or returned to citizens, cushioning them from price increases.

Conserving energy> Increased energy efficiency in transport, industry, building design and household services can dramatically decrease energy consumption. By using current best practices and technologies available in the near future, worldwide energy demand can be reduced by 47 percent “business as usual” projections by 2050.

Lifestyle choices play a critical role in energy conservation. Adopting less consumptive patterns, choosing to fly and drive less, supporting local merchants and growers, and eating less energy-intensive diets not only reduces emissions, but improves quality of life and creates a culture of sustainable living.

Switching to renewables> While fossil fuels are becoming scarcer and more costly to produce, global reserves of renewable energy can provide nearly six times the power the world currently consumes—forever. A 2007 Greenpeace study *Energy [R]evolution* concludes that renewable energy, joined with efficiencies, can meet half the world’s energy needs by 2050.

In choosing renewables, it is crucial to select only those least damaging to nature that yield far more energy than is used in their production. Studies and experience now document that most first-generation agrofuels fail this test and also endanger world food supplies.

Sequestering carbon—naturally> Loss of forests accounts for as much as 30 percent of global GHG emissions, more than the transport sector. Trees capture and store tremendous amounts of carbon naturally. Curbing deforestation and



planting new forests are highly effective ways to reduce emissions at low cost.

Environmentalists are divided on “clean coal” strategies like technological carbon capture and storage. While some regard these as necessary interim steps to cut emissions, others question the practicality, affordability and safety of unproven technologies.

Today

**I set before you life or death.
Choose life, so that you and your descendants
may live.**

Deuteronomy 30:19

Climate change carries both peril and promise. If we fail to act wisely, we risk radically changing Earth, making it inhospitable to much of life.

But the climate crisis also invites us to reinvent our relationships with Earth and one another—to create new, sustainable ways of meeting economic and social needs that are in harmony with the planet and foster *authentic* human development.

Life or death, abundance or disaster ...
for the entire Earth community.

**AN AWESOME RESPONSIBILITY—
AND IT IS OURS.**

WHAT CAN WE DO ?

Learn more about global warming, climate change and possible solutions.

- 🌐 Visit our regularly updated climate change resource sections at:
<www.holycrossjustice.org/2008climatechange.htm> and <www.cscsisters.org/justice/2008ClimateChange.asp>.
- 🌐 Read the United Nations Environment Programme Fact Sheets on Climate Change (English and Spanish) at <www.unep.org/themes/climatechange/Resources/Facts.asp>

Put a price on *your* carbon emissions.

- 🌐 Measure *your* contribution to greenhouse gas emissions at <www.carbonfootprint.com/calculator.aspx>.
- 🌐 Reduce your emissions as much as possible, then neutralize the rest by purchasing high quality carbon offsets from certified vendors like NativeEnergy, Sustainable Travel International and Planetair.
- 🌐 Invest in renewable energy, energy efficiency projects and reforestation efforts.

Conserve energy—reduce, reuse, recycle

- 🌐 Reduce transportation emissions by using fuel-efficient vehicles (at least 35 mpg or 14.9 km/L), flying and driving less, carpooling and using public or alternative forms of transport.
- 🌐 Replace incandescent light bulbs with compact fluorescent bulbs (CFLs).
- 🌐 Eliminate energy loss from buildings by insulating well and sealing cracks and other air paths.
- 🌐 Purchase certified energy-efficient equipment and choose the most energy-efficient settings.

- 🌐 Save trees by buying paper with recycled content, two-sided printing, and using Microsoft Print Preview or *GreenPrint* software <www.printgreener.com> to avoid printing unnecessary pages.
- 🌐 Eliminate “voltage vampires” that use energy when turned off. Unplug electronics and other appliances with standby capability when not in use (e.g., televisions, computers and cell phone chargers).
- 🌐 Reduce your “carbon *foodprint*”—greenhouse gases created in the production and shipping of food you purchase. Eat less meat and buy organic, locally grown fruits and vegetables <www.coolfoodcampaign.org>.

Switch to renewables

- 🌐 Research and utilize alternative energy technologies (e.g., solar, wind, biogas, geothermal, biomass) available in your locale.
- 🌐 Buy electricity generated by renewable resources.
- 🌐 Replace fossil fuel based synthetic fertilizers with composted yard and kitchen waste. Composting also reduces methane-producing waste in landfills <www.compostguide.com>.

Impact policy

- 🌐 Lobby your government to negotiate and adopt fair, but stringent global emissions targets.
- 🌐 Monitor your country’s compliance with international climate agreements.
- 🌐 Support legislative initiatives that positively address climate change: e.g., mandatory cap and trade policies | investment in renewable energy | banning coal-burning power plants | protecting existing forests, reforestation and afforestation.

RESOURCES

Web Sites

Climate Action Network(CAN) International <www.climatenetwork.org/> provides information to a worldwide network of NGOs promoting government and individual action to reduce human-induced climate change. The site links to regional CAN web sites in Canada, France, Latin America, the United States, South Asia and West Africa.

WWF International <www.panda.org> has extensive information on climate change, energy and policy solutions, and practical actions individuals can take. WWF's global network <www.wwf.org> links to sites in Brazil, Canada, France, India, Mexico and the United States.

Oxfam International <www.oxfam.org> provides stories and analyses of the impacts of climate change on poor persons and communities and on human development efforts throughout the world. Information is available in English, French and Spanish.

350: Global Warming, Global Action, Global Future <<http://350.org/>>, the web site for a global grassroots movement promoting 350 parts per million as the safe upper limit for CO₂ in Earth's atmosphere, provides educational materials and action strategies to achieve this goal. Information is available in English, French, Spanish and Portuguese.

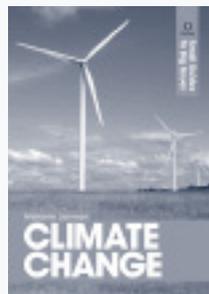


Resources continued ->>

Books/Reports



A New Climate for Theology: God, the World, and Global Warming, Sallie McFague, Fortress Press, Minneapolis, 2008. McFague suggests climate change is occurring because we fail to see ourselves as inextricably bound to Earth and its systems. Critiquing unlimited desire that drives the market system, she presents an alternative economic vision and re-imagines our species as part of an unfolding universe that expresses divine love and human freedom.



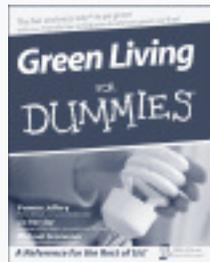
Climate Change, Melanie Jarman, Pluto Press, London, 2007. Jarman provides a succinct analysis of the causes and impacts of global warming and responses needed. Arguing forcefully for “climate justice,” she calls on rich countries to acknowledge their responsibility for climate change and fund adaptive efforts in developing countries.



Fighting Climate Change: Human Solidarity in a Divided World, Kevin Watkins, United Nations Development Programme, New York, 2007. This 2007–08 *Human Development Report* provides a comprehensive description of the challenges posed by climate change, particularly its impacts

Resources continued ->>

Books/Reports



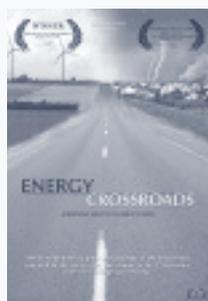
on developing countries.
Available in multiple languages at
<<http://hdr.undp.org/en/reports/global/hdr2007-2008>>.

Green Living for Dummies,
Yvonne Jeffery, Liz Barclay and
Michael Grosvenor, Wiley
Publishing, Hoboken, 2008. This
practical and eminently readable
guide is packed with strategies for
applying green principles in our
daily lives. Award-winning authors
describe in simple terms how to
make eco-friendly home improve-
ments, reduce energy use, green
our transportation, eat locally and
organically, and much, much more.

DVDs



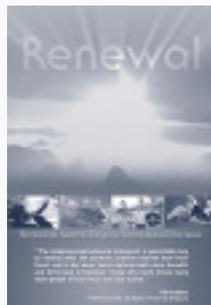
**Six Degrees Could Change the
World** investigates the potential
impact of Earth's rising tempera-
tures, leading viewers on a degree-
by-degree journey that explores
what each critical degree could
mean for the future of our people
and the planet (90 minutes,
English, 2008).



**Energy Crossroads: A Burning
Need to Change Course** exposes
the problems associated with ener-
gy production and consumption in
the industrialized world and offers
practical cost-effective alternatives

Resources continued ->>

DVDs



to counter climate change
(55 minutes, English, 2007)

Renewal: Stories from America's Religious- Environmental Movement relates the stories of people across the United States working to build a sustainable future from within their Christian, Jewish, Buddhist and Muslim traditions (90 minutes total, arranged in 10- to 15-minute segments, English, 2007).

Energy for a Developing World (from *e2 energy: The Economies of Being Environmentally Conscious*) highlights the work of *Grameen Shakti*, an organization that distributes solar panels and portable biogas systems to rural Bangladeshis. The project demonstrates highly successful, sustainable options for addressing small-scale energy needs in developing countries (30 minutes, English, 2007).

DVDs and other resources may be borrowed free of charge from the CSC Justice Resource Library (e-mail: dtaylor@cscsisters.org; phone: 574-284-5500; fax 574-284-5596).



For more information contact us via
e-mail or check our web sites:

HOLY CROSS
INTERNATIONAL
JUSTICE
OFFICE



**Holy Cross International
Justice Office**

403 Bertrand Annex—Saint Mary's
Notre Dame, IN 46556-5018, USA

Telephone: (574) 284-5502

E-mail: mturgi@igc.org

www.holycrossjustice.org

