

Can the Vatican be a Force for Green?

One Sunday last September, on a hillside near the Adriatic coast, Pope Benedict XVI offset his red Prada loafers with a shimmering emerald green cassock and took a stand for Mother Earth.

The occasion: World Creation Day. The audience: half a million young people from all over Italy, 300,000 of whom had camped overnight on the hillside, sleeping and praying in tents and on blankets as they waited for the Pope to arrive.

When he did, his words were startling. "Before it's too late," the 80-year-old Pope told the rapt crowd, "we need to make courageous choices that will recreate a strong alliance between man and Earth." Exhorting world leaders as well as Catholic youth, he decried global warming and declared, "We need a decisive 'yes' to safeguard creation and a strong commitment to reverse those trends that risk making degradation irreversible."

Then, to close what organizers called the first "eco-friendly" Catholic youth rally, Benedict led his listeners in an outdoor Mass.

Unlike the crowds at garbage-strewn Catholic youth rallies of the past, this audience made good use of the biodegradable utensils and color-coded recycling bags organizers provided. They went away bearing prayerbooks and backpacks made from recycled paper and plastic, and flashlights run on hand-cranked battery chargers — a precursor, perhaps, of the concrete actions that would spring from Pope Benedict's words.

Finally, in a green gesture that is becoming standard practice among the eco-minded, the Vatican arranged to offset the carbon dioxide the event generated by planting trees — many of them in areas of southern Italy damaged by summer fires.

A Sea Change for the Church

Benedict's words would be strong stuff coming from any leader. Coming from the Pope — who, besides ruling a small sovereign state, is the ultimate religious authority for nearly a billion people — they could send a jolt across the globe.

There's more. Consider these recent events:

- A week after the rally, the Pope sent encouragement to religious leaders offering a "prayer for the planet" beside a shrinking Greenland glacier. "Protecting water resources and paying attention to climate change," he wrote, "are important issues for the entire human family."
- In April, the Vatican hosted a two-day Conference on Climate Change where environmental officials, clergymen, and industry skeptics engaged in discussions so heated that some disputes spilled out into the hallways.
- In June, the Vatican announced plans to replace the cracked cement roof of its largest auditorium with a solar roof that will power the hall's lights, heating, and air conditioning, and provide power for other buildings in the Vatican.
- Finally, in July came a watershed announcement: the Vatican would be the first sovereign state on Earth to go carbon-neutral. An eco-restoration company called Planktos had offered, through its subsidiary KlimaFa ("Climate Tree"), to offset the Papal State's carbon emissions by planting a 37-acre forest in Hungary on the Vatican's behalf.

Taken singly, these events aren't earthshaking. Together, they could signal a sea change for one of history's most powerful institutions. Will the Pope follow through with "courageous choices" to fight global warming? Will the Church put its power to work to save the planet?

Is the Vatican really going green?

The Dawn of a Green Culture?

We've entered the age of carbon morality, where multinationals, NGOs, city governments, concert promoters — and now, religions — engage in green oneupmanship, racing to shrink their carbon footprints and atone for the sin of spewing CO2.

Now the Vatican, too, is a player in the carbon trading game. Accepting KlimaFa's gift, Cardinal Paul Poupard said, "In this way, the Vatican will do its small part in contributing to the elimination of polluting emissions from CO2, which is threatening the survival of this planet." He cited the Pope, saying that "the international community needs to respect and

encourage a 'Green Culture,' characterized by ethical values."

Environmental protection is not political, asserted Cardinal Poupard, echoing previous statements from the Vatican, and the commitments of a few will not be enough. What is needed, said the Cardinal, is "the dawn of a new culture, of new attitudes, and of a new mode of living that makes man aware of his place as caretaker of the Earth."

The practical-minded might argue that replacing a 40-year-old roof with a superior technology is less a sign of a new green culture than a smart business decision that happens to be green. A cynic might add that the Vatican desperately needs a new message in the wake of a global pedophilia scandal that has cost the Church more than a billion dollars in settlements over the past five years.

But other religious leaders suggest that the Vatican's emergent environmentalism is sincere — and eminently consistent with Christian tradition, Catholic or otherwise.

The Original Environmentalists

The church has a long tradition of caring for the environment, notes Dan Misleh, executive director of the Catholic Coalition on Climate Change. "We like to remind our friends in the environmental movement ... that we had Genesis before they had Earth Day."

Misleh doesn't think the Pope has turned over a new leaf. "This has always been a part of Benedict, even before he became Pope. The crisis we're facing has focused his attention, and the attention of lots of religious leaders." Neither are Church leaders using environmentalism as a populist appeal, says Misleh, nor to escape responsibility for their mistakes. Rather, the Pope is "demonstrating significant leadership because he thinks it's the right thing to do as a Christian and as the leader of the Roman Catholic Church." End of story.

Rusty Pritchard agrees that environmentalism is nothing new for Christians. Pritchard is national outreach director for the Evangelical Environmental Network (EEN), which took on global warming with its high-profile "What Would Jesus Drive?" campaign. "Our Earth Day was Day 6 of Creation, not April 22, 1970. Christians have always been charged with caring for the environment. It was the first thing God told us to do."

Indeed, there are so many prominent green religious leaders that the Pope doesn't even make Grist's Top 5. In fact, Grist's top spot goes to the Ecumenical Patriarch, aka the "Green Patriarch" — the guy leading the prayers beside that Greenland glacier, and the first, way back in 1997, to assert that abusing the environment is a sin.

The Dalai Lama ranks second, followed by Sally Bingham of Grace Cathedral, who started Interfaith Power and Light to help churches become better stewards of the environment. Bingham's environmental awakening came because "I didn't believe that we should be baptizing with polluted water. It made no sense to me to wash people of their sins with water that itself had been sinned against." The cleansing didn't stop at the baptismal water's edge: IP&L has spread to 22 states and eliminated nearly 3,000 tons of emissions in California alone last year.

Pope Benedict does make the Grist list — he comes in at No. 6 — but if he has had a green epiphany, he's kept mum about it. Instead, he owes his eco-ranking to his electric Popemobile and having installed the first solar roofs in the Vatican. Not a word about those carbon offsets.

Buying Your Way Out

For one thing, not everyone thinks they qualify as environmental leadership.

Dan Kammen, professor of Energy and Society at UC Berkeley's Energy and Resources Group, says "offsets should be used as a means of last resort, not as the first round. It's a way to buy yourself out, and the Vatican is not all that poor." Anyway, says Kammen, the Vatican is so small that offsetting its limited emissions may not mean very much.

"The thing with reducing emissions is that everybody wants to do it but nobody wants to pay for it, and forestry offsets are the bargain out there. They're good as an addition, or in areas where there's no other option — like airline travel, where we don't know how to remove those emissions. But for the Vatican's emissions, where Italy is drenched in sun and has quite good wind, it's very unclear that partnering with an offset company makes the most sense."

Rusty Pritchard agrees. "The offsets are all forestry offsets –- they're not the first thing they'd want to do. Energy efficiency and renewable energy are going to give you a much better long term reduction. Forestry is uncertain in the actual benefits. There are a lot of subtle issues in guaranteeing that it's doing what it says it is."

Pritchard also points out that while the Vatican is doing a partial offset, "They're not offsetting all the flying done by the Church hierarchy around the globe. They're offsetting the impact of the physical structures of the Vatican, but not all that air travel, which would be a whole other layer."

What's Wrong with Planting Trees?

Furthermore, while going carbon-neutral won headlines for the Vatican, the atmospheric science involved is more complicated than accepting a plaque and planting some seedlings.

The first wrinkle: While atmospheric CO2 is warming the planet, and trees do absorb CO2 as they grow, it doesn't necessarily follow that those trees will cool the planet.

Ken Caldeira has done extensive studies of how forests affect the global carbon cycle at Stanford's Carnegie Institute, where he works in the Department of Global Ecology. Basically, Caldeira explains, forests affect global temperature in two ways. First, they cool the atmosphere and counteract global warming by taking up CO2 and producing moisture. But unlike snow, which reflects sunlight away from the Earth, a forest's dark color means it absorbs heat and warms the atmosphere.

This is called the albedo effect, and it explains why, on a global scale, the latitude at which forests are planted makes all the difference. According to Caldeira's research, planting forests in the tropics "would be clearly beneficial in mitigating global-scale warming," while mid-latitudes "offer only marginal benefits," and planting trees at high-latitudes would actually be counterproductive.

"In general," says Caldeira, "temperate forests will have a warming effect, but it would really depend on the location."

In other words, planting forests in Hungary, at a latitude just north of Montreal, could actually have a warming effect — though that would depend on the amount of snow in the area. In terms of global warming, says Caldeira, "it may have a small effect one way or the other, but it's probably a wash." Of course, there are other benefits to planting forests, such as improving soil, retaining groundwater, and harboring diverse animal species. By removing carbon from the atmosphere, trees also work to reduce ocean acidity and improve sea-life — all of which, Caldeira notes, are potentially greater benefits than their minimal effect on global warming.

But that's not what the trees are being given 'credit' for. So how does one calculate and quantify the good works of a tree?

A Carbon Complex

Compounding the difficulties of carbon accounting, Caldeira says, "There's a question of longevity. Will the forest be there in a thousand years? How long will it take to absorb a certain amount of CO2?"

KlimaFa says the longevity of its forests is guaranteed by its partnership with the Hungarian government . The forests will be part of a Hungarian national park, on land which was cleared in the Middle Ages, but is off-limits for agriculture today as a condition of Hungary's EU membership. The resourceful Hungarians have found a new way to profit from their parkland: by selling carbon credits for planting trees. But it will take years for those trees to soak up the CO2 emissions the Vatican aims to offset right now — and as the Pope said, when it comes to global warming, we need to act "before it's too late."

As for the thousand-year forest, that may depend on the longevity of the Hungarian government — or of agricultural subsidies in the EU.

Caldeira also raises the question of "additionality": "Is this a new forest? Would this place have been reforested anyway?" If they left the land alone, the forests would eventually grow back. KlimaFa is speeding up the process by planting a mix of alder, beech, and ash. Yet while these will be better for the ecosystem over the long term, they won't soak up carbon as fast as, say, a mono-crop pine forest.

But one calculation is a no-brainer: Given that Planktos plans to sell carbon credits on a thousand hectares, the 15 hectares they donated to the Vatican is a PR bargain. The CEO of Planktos/KlimaFa declined a request for an interview. In Rusty Pritchard's opinion, however, "the company that donated the offsets recognizes that it's not a perfect solution. When forests are young, they grow quickly and take up a lot of carbon; when they're older, they slow down and achieve a kind of balance."

Faith and Works

The bottom line, says Pritchard, is this: "You can't offset all the world's carbon emissions just by planting trees — you need to be looking for other ways, for renewable energy and conservation measures that wouldn't otherwise be going on."

"Before the Vatican starts doing offsets, they need to be efficient themselves," agrees Sally Bingham. "And use as much renewable energy as they can. And whenever they're buying offsets, to make sure the money goes to new renewable energy. Otherwise, we're not replacing the coal or natural gas."

Which raises a question: Should the Vatican do more? Should the vast wealth in the papal purse be put to work instead of relying on donations? Should the Vatican imitate the Clinton Global Initiative or InterFaith Power and Light by enlisting leaders in specific actions and implementing on-the-ground initiatives for energy efficiency and green power? Should the Church circulate petitions or educate the faithful?

Maybe not. Despite the Pope's recent speeches, Misleh hasn't seen any specific papal directives — which doesn't concern him: "The environment is not the end-all and be-all of what we do as Catholics," he says. "Climate change is not the only issue of concern to the Church. It is one of many." Church leaders aren't going to "drop everything they're doing to focus solely on climate change" — though they have made an important contribution to the debate by asking leaders and people of faith to show compassion for the poor.

Reasonable? Possibly. The dawn of a green culture? Hardly.

"Prudence, Poverty, and the Common Good"

When the IPCC made its report on global warming in February, the church was struck by its conclusion that climate change would impact "first and foremost the poorest and weakest." It was the realization that "the people who contribute least to the problem are the ones who suffer most," says Sally Bingham, that has "opened the eyes of Church leaders to realize this is about environmental justice."

Various Bishops and church organizations have taken steps to address this point, joining the National Religious Partnership for the Environment (NRPE) in sending a letter to Congress, speaking to the United Nations, and holding environmental conferences. In all these communications, Misleh says, the church is preaching three things:

- Prudence: "We ought to do the prudent thing and reduce our emissions, and stop the worst impacts of climate change by our own behavior."
- Poverty: "Part of being a disciple means serving the least among us. Climate change is going to impact the poorest people, and our priority is to help take care of the poor."
- The Common Good: "We live on one planet, and the resources are meant to be shared by all. All humans have the right to share in the fruits of the earth."

Will these words be translated into action? We'll see. Dan Misleh admits that with one staffer in addition to himself, "we currently don't have the capacity to focus on greening up church buildings." But the Pope does bring a powerful voice to bear, says Rusty Pritchard. "The Pope is preaching about this all over the globe. His real influence is to inspire others to take action, so in that sense it's exactly the right thing to do."

"I applaud the fact that he recognizes the seriousness of this issue and is taking steps to do something," says Sally Bingham. "The Pope is a very influential voice. It's important for him to talk about how urgent this issue is ... and join the rest of the faith community to highlight the moral and ethical value that defines what it means to be human."

In the carbon trading game, "what it means to be human" is still up for grabs. Moving on from the Vatican, Planktos has announced a new initiative designed to increase the "ethical value" of at least one small human. Planktos calls Boróka Torda, who was born in Budapest on August 20, "Europe's greenest newborn." By planting enough trees to offset a lifetime of carbon emissions — a mere 300, as it turns out — Planktos is touting her as a "totally green world citizen."

"While we don't know with perfect certainty what baby Boróka's carbon footprint will be," says a company press release that celebrates Boróka's first steps, "we've used benchmarks from multiple agencies to calculate the amount."

"What is amazing and heartening about these baby-sized numbers is that they are not so large as to be prohibitively costly," Planktos CEO Russ George gushes. "We really can save the world one baby step at a time."

The problem with baby steps is that it takes a long time to get from here to there — and time is running out. Then again, if we plan to plant our way out of this crisis, space may be the real dealbreaker. Multiply 300 trees by 6.7 billion humans and you've got more than 2 trillion holes to dig. Good luck finding that kind of room in Hungary.

"New generations will be entrusted with the future of the planet," Pope Benedict told hundreds of thousands of young Catholics on that hillside above the Adriatic. That planet, the Pope added, "bears clear signs of a type of development that has not always protected nature's delicate equilibriums." Unfortunately, all signs indicate that delicacy won't be enough to restore those equilibriums, at least not in time to make a useful difference. For that, action is required — action more vigorous than planting trees on a few hectares in Hungary or slipping on a green cassock for an outdoor Mass. Let's hope that when the Pope gets those red Prada loafers moving, he has more than baby steps in mind.