

# How the Pope Got Religion on Climate Change

by Eric Roston

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The Pontifical Academy of Sciences is the modern descendent of the Vatican's first scientific advisory, which began in 1603 and included Galileo among its members. Since 1923, academy scientists have met in Casina Pio IV, a palace built in 1561 for Pope Pius IV.

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Several dozen of the world's most prominent scientists sprang from their seats and left the Vatican hall where they were holding a conference on the environment in May 2014. They were bound for a meet-and-greet with Pope Francis at the modest Vatican hotel where he lives, the Domus Sanctae Marthae.

Among the horde was Veerabhadran Ramanathan, a climate scientist at the Scripps Institution of Oceanography. Since 2004, he has also been a member of a 400-year-old collective, one that operates as the pope's eyes and ears on the natural world: the Pontifical Academy of Sciences.

He had a message for Pope Francis. Only it was too long.

The academy's chancellor, Archbishop Marcelo Sánchez Sorondo, suggested to Ramanathan that he condense his thoughts to just two sentences — and deliver them to Francis in Spanish. Ramanathan, who speaks no Spanish, spent the balance of the eight-minute jaunt committing the words to memory. He got

it down with moments to spare. The phrases vanished as soon as he caught a glimpse of Pope Francis himself.

The pope has that effect on people.



Pope Francis receives advice about climate change science from some of the field's most accomplished veterans, including (left to right) Veerabhadran Ramanathan of the Scripps Institution of Oceanography; Hans Joachim Schellnhuber of the Potsdam Institute for Climate Impact Research; and Paul Crutzen, a Dutch chemist and Nobel laureate who helped discover why the earth's atmosphere was losing its protective ozone.

Photographs: Niu Xiaolei/Xinhua Press/Corbis, Ullstein Bild via Getty Images, Gil Cohen Magen/Corbis

Ramanathan, who is Hindu, reassembled his message in time, and in English. No pressure. All he had to do was sum up more than a century of thought and research that in the past two decades has been validated repeatedly by climate scientists globally. “We are concerned about climate change,” he told Francis. “The poorest 3 billion people are going to suffer the worst consequences.”

Ramanathan is one of many scientists and other advisers who have, over the last several decades, conveyed the urgency of climate change to the Vatican. Now, Francis is responding. On Thursday the Vatican will release an encyclical letter, essentially a teaching document for bishops, on climate change and poverty. It draws on and elevates the utterances and writings of previous popes, particularly John Paul II and Benedict XVI. Yesterday, the Italian magazine *L'Espresso* published an unauthorized draft of the letter, called “*Laudato Sii*” or “Praised Be.”

“Worth noting is the weakness of the international political response” to environmental decay, Francis writes, according to a Bloomberg translation of the draft. Political leaders bow too readily to technology and finance, he writes, and the results are apparent in their failure to protect natural systems: “There are too many special interests, and economic interest very easily comes to prevail over the common good and to manipulate information so that its plans are not hurt.”

Pope Francis wants the world economic order to be fairer to the poorest half of humanity. The haves are rewarded by modernity; the have-nots — 1.2 billion of whom live on a dollar a day, and 2.8 billion of whom have no modern energy — not so much.

The encyclical is timed to influence several upcoming United Nations events that are bringing this economic divide to the fore. In September, nations will convene in New York to finalize their so-called Sustainable Development Goals, which are designed to “end poverty in all forms everywhere.” In December, negotiators will meet in Paris for a consequential round of climate talks.

How the pope decided to try and change the world, who might follow him, and why, are questions that will be answered in the months ahead.

'They are there for pure scientific excellence, and they are not co-opted by any country. They're not co-opted by the United Nations.'

Past the Swiss Guard and around St. Peter's Basilica, the grounds of the Vatican open up, revealing the manicured landscape where popes stretch their legs. Just up the road looms the Casina Pio IV, where the pope's committee of science advisers has been meeting since 1923.

This committee now advises a pope who is a departure from the norm. Cardinal Jorge Bergoglio, archbishop of Buenos Aires, in March 2013 became the first supreme pontiff to name himself after the church's original environmental radical, St. Francis of Assisi. He's the first pope from the Americas and the first with a master's degree and work experience in chemistry.



The Pontifical Academy of Sciences is a Vatican agency that has origins in Galileo's time. It's made up of 80 of the world's top scientists, who keep the Bishop of Rome and the Vatican up to speed on new scientific research. On April 28, the academy hosted a conference on climate change and poverty. The religious leaders are seated to the right. The scientists face them, across the room. At the central podium, beneath the bust of Pope John Paul II, United Nations Secretary-General Ban Ki-moon delivers his address. They met in the great hall of the Vatican's Casina Pio IV. The inscription on either side of the bust extols Pope John Paul II's 1992 apology to Galileo.

Photographer: Alessandra Benedetti/Bloomberg Business

The Pontifical Academy has about 80 members, all of them appointed for life. Scientists hail from many nations, religions, and disciplines, which today include astronomy, biochemistry, physics, and mathematics. Members pursue the scientific issues they deem most important to society, without Vatican interference. Unlike the National Academy of Sciences, which is financially independent from the U.S., the Pontifical Academy relies on the Vatican to keep the lights on.

The full academy meets every two years and is often granted an audience from the pope. In the stretches between the biannual sessions, scientists hold workshops and produce reports on whichever topics they agree are most important for the pope to understand. “The pope has his own experts, who are completely secular,” said Ramanathan. “Not all of them even believe in a god. They are there for pure scientific excellence, and they are not co-opted by any country. They’re not co-opted by the United Nations.”

Reaching the pope is one thing. They also wanted to reach everybody else. Ramanathan and a coterie of his colleagues endorsed a follow-up plan. They would bring leaders of reason and faith together under one roof to talk about the most consequential risk humanity has had to confront since the advent of nuclear weaponry.

That’s why in April, the Vatican invited representatives from the world’s religions — including Buddhists, Hindus, Jews, Muslims, and other Christians — to a symposium discussing climate science and the ways religious leaders might lead on the issue.

More than a dozen faith leaders heard from one of the world’s top climate scientists, Hans Joachim Schellnhuber, about how the earth went “from glacial chaos to climate paradise” during the last big climate transition 12,000 years ago, and what we may be in store for next.

They heard from Nobel Laureate Paul Crutzen, who popularized the notion that human industry has shoved the world into a new geological phase — the “anthropocene,” or in plainspeak, “the human age.”

And they heard Jeffrey Sachs, prolific writer and Columbia University economist, say that “we can still, but just barely,” avoid pollution levels that lead to dangerous climate change risk.

Academy events have addressed the basics of climate change going back at least to October 1980. That’s when Italian physicist Giampietro Puppi addressed the academy during a weeklong workshop on energy.

“The introduction into the atmosphere of an additional amount of particulates and gas, as a result of fuel burning,” said Puppi, an academy member from 1978 until his death, in 2006, “represents in the medium term, decades to centuries, the most important issue and the one of greatest concern on a global scale.”

Since then, climate and pollution have kept coming back as Pontifical Academy themes. A “study week” on atmospheric pollution was held in 1983. The pace picked up in the late 1990s, as the international policy community began to talk more seriously about how to confront the challenge. The academy has put on more than a dozen events, with accompanying papers, on climate or sustainability since the early 1980s. Pope John Paul II added a Pontifical Academy of Social Sciences in 1994, which often collaborates with its older sibling on these topics.

Members of the academy don't always get feedback from the pope or Vatican officials on their work. They don't know what Francis thinks, for example, of their 1999 report on how living things and the earth's geology interact, or a 2006 session on uncertainty in science. The pontiff never revealed his thoughts on a 2011 report documenting the melting Himalayan glaciers, which provide water to a billion people.

In the past, "the pope has referred to our work, and we see what he appreciates," said Werner Arber, a Nobel-winning molecular biologist and the president of the Pontifical Academy of Sciences. "He did not say what he did not appreciate."



United Nations Secretary-General Ban Ki-moon (center) addressed a group of 150 scientists, religious leaders, and their entourage at the Vatican on April 28. The pope's scientific advisory, the Pontifical Academy of Sciences, hosted an interfaith event dedicated to climate change and poverty. It was also co-sponsored by two other groups: a UN initiative called the Sustainable Development Solutions Network, led by Columbia University economist Jeffrey Sachs (left), and by Religions for Peace, a global interfaith organization led by William Vendley (right).

Photographs: Niu Xiaolei/Xinhua Press/Corbis; John Moore/Getty Images; Ramin Talaie/Corbis

Last year's event, the one punctuated by the meetup with Francis, seemed to resonate with Vatican officials. They were compelled by the work of Sachs — who's also director of the UN Sustainable Development Solutions Network — according to Martin Rees, a British astronomer and an academy member since 1990.

"The Vatican is as opaque to me as to you!" Rees said in an e-mail. But he welcomes the encyclical, in particular because of its potential influence in Latin America, Africa, and East Asia — and "maybe also in your Republican Party."

The encyclical itself has been in development since the start of the pope's two-year-old tenure, beginning as a rough draft sketched out by the Pontifical Council on Justice and Peace, the Vatican's social justice arm. Cardinal Peter Turkson said he delivered a first effort to Francis in July 2014, at which point the pontiff took over authorship.

The extensive amount of time that's passed since then, Turkson said in April, might be a clue as to how many people Francis was consulting with, and how deeply he was considering their input. "This is the pope writing this from his own gut feeling," he said.

The pope can't single-handedly stop desert from overtaking northern Nigeria. He can't cool India, irrigate California, drain Texas, or keep Arctic sea ice frozen.

He's popular and influential, but Francis doesn't have an environmental regulatory agency or a compliant legislature at his disposal. Rather, the bluntest instrument he has is the ability to apply moral pressure on the highest levels of civic and economic power.

By convening religious leaders in April, the Pontifical Academy of Sciences was doing more than compiling edifying reading material for the bishop of Rome; the encyclical was written by then, anyway, and already with the translators. The scientists, with the Vatican's blessing, were calling on other faiths to carry their data and the pope's concern to the rest of the world.

The number of people represented at the climate workshop may have been between 2 billion and 2.5 billion, according to William Vendley, general secretary of the interfaith group Religions for Peace. That's a big number. It's Francis's theoretical power base. Call it trickle-down morality.

With the encyclical's official release imminent, the pope's team of clergy, activists, and erstwhile tricklers are ready to go. The Vatican has made background material available to its bishops. Religious organizations and networks, such as Catholic Climate Covenant, are working with cardinals, archbishops, and bishops to push the encyclical's message.

With five months to go before nations meet in Paris to try to clinch a climate treaty, Francis's plan may very well lead to some grass-roots political pressure in climate-critical nations home to large populations of Roman Catholics.

Advocacy groups are already active in the largest Catholic nations vulnerable to climate change. Brazil is home to the Amazon and a major global source of produce. The nation's Observatório do Clima, a nonprofit, produced an unusual video portraying a pope preparing for a boxing match with Jesus as his trainer. And the Philippines, Poland, Canada, the U.S., and Australia may also face pressure from climate activists who are either inspired by or taking advantage of Francis.

The pope may have what St. Francis of Assisi called "Brother Wind" at his back this week. But picking a fight with the guardians of business-as-usual isn't going to be easy. Many may change their view of the pope or the church rather than change their views on climate change or UN-led antipoverty measures.

But most of the world can't be bothered with high-level politics. They're concerned with failing monsoons, encroaching seas, disappearing forests, and unprecedented storms. Cardinal John Onaiyekan, the archbishop of Abuja, Nigeria, offered one such example at April's event. He described seeing the effects of ecological change and fossil-fuel production. Encroaching deserts push villagers south into cities, where they may find only menial labor — or, worse, the draw of "antisocial exploits," like Boko Haram. He said oil production in the south has disrupted communities and destroyed ecosystems.

Onaiyekan's tale of modern Nigeria was a picture of avoidable despair, of people too weathered by circumstances to cope with the big picture under discussion that day at the Vatican. Nigeria's poor are asking far simpler questions than the pope and his scientific advisers about the changing world around them.

"You begin to wonder," he said, voicing their perspective, "are the gods angry?"