CLIMATE INVESTING: TRANSITION TO A LOW-CARBON WORLD

New Subhead TK

By Justin Gerdes

Climate change is the most insidious of global challenges. Fossil fuels are the source of most planet-warming pollution. Yet coal, oil and natural gas are embedded in the machinery of every economy on Earth.

In June, Pope Frances focused on the issue of climate change in his encyclical, “Laudato Si’,” or “Praise Be to You, ” placing blame for the current level of destruction and degradation primarily on the use of fossil fuels and human activity. Arresting the growth in carbon emissions and transitioning economies in countries rich and poor in the coming decades, however, is likely to require trillions of dollars.

These challenges and more were on the agenda at “Climate Investing: Transition to a Low-Carbon World,” an interdisciplinary conference organized by the Mendoza College of Business. Two hundred business executives, investors, scientists, activists and students registered to attend the two-day event, which convened at the McKenna Hall conference center on September 29 and 30.

Ahead of the Climate Investing Conference, Leo Burke, conference organizer and director of the Global Commons Initiative at Mendoza College of Business, said the goals of the conference were simple: to develop a comprehensive understanding of the relevant issues; to determine effective actions that institutional and individual investors can take; and to identify new investing opportunities that can positively impact the climate and the planet.

Impetus for the event came in part from Burke's conviction that impact investing – investments made to generate both financial return and positive environmental impact – is ready to tackle climate change. But, because the challenge is so daunting, new investment vehicles and business models, as well as diverse perspectives, will be required.

"Not any single individual you could talk to has a handle on this whole enchilada, understands the economic, the scientific, the political, the cultural and the moral issues. People are all touching pieces of the elephant. We want to see, by having enough different voices in the room, if we can really develop a more comprehensive understanding of the issues," he explained.

Additional inspiration for the conference came from Burke's longtime work to raise awareness of the need to foster responsible stewardship of the global commons, resources such as the atmosphere, water, and biodiversity shared by all and owned by no one individually. "The total inheritance of humankind upon which life depends," as he put it. In undergraduate and MBA courses at Notre Dame, Burke asks his students to consider this question: "Is there a possibility for human civilization to recalibrate itself to conform to a set of values that includes the welfare of all its inhabitants?"

"There are some real constraints," he said. "Around 85 percent of global energy comes from fossil fuels; nobody in this transition that I've met to date is willing to have the lights go out. Everybody wants to maintain their current energy standard – having access to electricity or access to petrol for transportation, being able to take airplane trips."

This pressure to meet rising energy demand is compounded by a growing global population. "Between now and 2050, we're going to add at least 2 billion people to the planet. Those people are going to need energy as well. How do we do this in a way that is equitable? Is just? Is technologically possible? And doesn't damage the planet any more than we need to?" asked Burke.

Climate change on the political agenda

The Notre Dame conference fell at an opportune time for participants to reflect on and prepare for an end-of-year calendar dotted with important climate change milestones. For the world's 1.2 billion Catholics, Pope Francis' encyclical letter on the environment initiated a conversation that continued with the pontiff's first visit to the United States.

The week before the conference, Pope Francis urged governments to take action on climate change at two high-profile stops. On September 24, the pope addressed a joint session of Congress at the U.S. Capitol; the next day, he spoke before the UN General Assembly in New York City, just ahead of the official opening of the UN summit for adoption of the post-2015 sustainable development agenda. The next month, Turkey hosted the G20 Leaders' Summit in Antalya on November 15 and 16, with "Buttressing Sustainability" listed as one of three priorities for the Turkish presidency. Two weeks later, on November 30, representatives from nearly 200 nations were slated to gather in Paris at the UN Climate Change Conference to negotiate the terms of a global climate change agreement.

Investors to the planet's rescue

One looking for hope in the face of increasingly dire and urgent warnings from scientists about the rate of sea-level rise, the stability of the polar ice sheets or the health of coral reefs, can find succor in the increasingly bullish prospects for technologies the world will need to put economies on a more sustainable footing.

In the wake of the Great Recession, a growing cohort of countries, led by Germany, China and the United States, invested tens of billions of dollars in low-carbon technologies. The U.S. stimulus alone dedicated $90 billion to clean energy. As governments ramped up investment in clean energy, scientists and engineers made steady progress in boosting the efficiency and reducing the cost of renewable energy technology such as solar photovoltaic panels and wind turbines.

Those investments have paid off. Solar PV module prices have declined by 75 percent since 2009 and continue to fall. Wind turbine prices have fallen by 20 percent to 40 percent from their 2008 highs. As the cost of clean energy equipment plummeted, installations and renewable electricity production soared. Generation from utility-scale solar power plants in the United States is 31 times higher today than a decade ago. In the first half of 2015, renewable energy accounted for a record 32 percent of Germany's electricity production and wind turbines alone supplied 43 percent of Denmark's electricity.

With more clean energy technologies becoming more competitive in more markets every day — Deutsche Bank estimates that solar power will reach grid parity in up to 80 percent of global markets by the end of 2017 — investors and financiers have jumped into the space.

During the past five years, investors and energy industry veterans have devised a dizzying and ever-growing array of innovative tools and instruments to finance clean energy projects. Third-party ownership of solar installations enables homeowners to add rooftop solar with no money down; power purchase agreements (PPAs) allow government agencies and school districts to install solar arrays with no upfront cost; energy savings performance contracts permit local and state governments to retrofit energy-leaking buildings without tapping taxpayer funds by using energy savings to pay for upgrades; property assessed clean energy financing enables building owners to install energy-saving equipment at no upfront cost and repay for improvements via property tax bills; and public companies called yieldcos bundle renewable energy project assets in order to generate predictable cash flows for investors.

Participants at the climate investing conference learned about still more solutions. In an interview, John Fullerton, founder and president of Capital Institute, a nonpartisan, transdisciplinary collaborative launched in 2010, and conference panelist (see sidebar), said he plans to talk about ways to combat the endemic short-termism of public companies. One tool his firm advocates for is a cash flow-sharing partnership called Evergreen Direct Investing (EDI). Similar to a yieldco, real estate investment trust (REIT), or master limited partnership (MLP), an EDI focuses on delivering earnings via long-term, resilient cash flows. "If you think about investing that way," says Fullerton, "it opens up a whole new realm of opportunities for investors to partner with businesses to engineer the massive business model transformation we need."

All of these tools enable investors to profit by devoting money to clean energy projects a carbon-constrained world needs; at the same time, climate activists are leading an increasingly visible and effective campaign to persuade investors to divest from the planet-warming fossil fuels a carbon-constrained world must reject. And the movement just notched its most impressive victories thus far. On September 2, the California Assembly voted to send a bill to Governor Jerry Brown that would compel the California Public Employees' Retirement System (CalPERS) and California State Teachers' Retirement System (CalSTRS), the nation's largest pension funds, to divest their coal assets.

For Fullerton, such steps, though welcome, are just the beginning. The value of the divestment movement, he said, "is to put [climate change] in a moral context. But it's really the opening salvo. Shifting the energy system is not about buying and selling stocks; it's about investing tens of trillions of dollars in a new energy system." ■

Photography by Matt Cashore (ND '94)

ND's No-Coal Goal

Pope Francis issued his second encyclical, Laudato Si' (Praise Be to You): On Care for Our Common Home on June 18. Running 192 pages, the papal letter squarely addresses climate change, and urgently calls for Catholics, the Catholic Church and practicing Christians to turn away from consumerism as a prevailing ideology, and to recognize the devastation wrought on the environment as a result of reliance on fossil fuels and human activities:

This sister [Earth] now cries out to us because of the harm we have inflicted on her by our irresponsible use and abuse of the goods with which God has endowed her. We have come to see ourselves as her lords and masters, entitled to plunder her at will. The violence present in our hearts, wounded by sin, is also reflected in the symptoms of sickness evident in the soil, in the water, in the air and in all forms of life."

On Sept. 21, University of Notre Dame President John I. Jenkins, CSC, responded to the pope's message, announcing that the University will cease burning coal entirely within five years, and cut its carbon footprint by more than half by 2030, according to a University press release.

"In recognition of both Pope Francis' encyclical and his visit this week to the United States, Notre Dame is recommitting to make the world a greener place, beginning in our own backyard," Father Jenkins said. "Of greater importance, however, are the contributions our faculty and students are making across disciplines to find sustainability answers, especially for poor countries in most need of development and the most vulnerable to climate change."

Father Jenkins also announced that Notre Dame was planning to invest $113 million in renewable energy sources and projects, including a hydroelectric project, solar power and geothermal fields both on and off campus. Collectively, these efforts will reduce CO_2 emissions by 47,500 tons.

In a previous address to the Notre Dame faculty, Father Jenkins said that Pope Francis "presents us with a comprehensive moral vision about the environment, technology, the character of our communal lives, our responsibility to the poor and marginalized, the dangers of a compulsive consumerism and the need for global solidarity. It is a challenging moral vision, but one for which, I believe, our world is hungry, and no university is better positioned to respond."

Father Jenkins cited a lengthy list of environmental initiatives at the University, including the Climate Investing Conference organized by the Mendoza College of Business, that reflect Notre Dame's commitment to discovering new approaches and technologies to address the challenge of climate change.

The efforts include reducing carbon emissions from the campus combined heat and power plant by eliminating use of coal. This will entail the increased use of natural gas in the short term. In the long term, the University will install new technologies, such as gas-turbine technologies, geothermal systems, solar energy, hydropower and heat recovery.

Notre Dame currently generates about 50 percent of the University's electrical energy needs, with the other half coming through the purchase of power from Indiana Michigan Power.

Read more about the University's energy plans at green.ND.edu.

Excerpted from Sept. 21 press release: Notre Dame goal: No coal

A Global Compact for Sustainable Development

By Oliver F. Williams, CSC

On the morning of Sept. 21, Pope Francis addressed the worldwide heads of state and government gathered at the United Nations New York headquarters, focusing on the key themes of his June 2015 encyclical, "On Care for Our Common Home" (Laudate Si'). He presented the dangers from "the environmental deterioration caused by human activity," the need to show compassion for immigrants, refugees and all the poor, and the urgent need to work for peace in a troubled world.

Some critics have interpreted the encyclical as hostile to capitalism, and not open to the work of the United Nations Global Compact (UNGC), the official agency charged with advancing the UN's 17 Sustainable Development Goals (SDGs). For example, while the encyclical lists some of the legitimate shortcomings of capitalism, it does not reference the fact that more than a billion people have been lifted out of dire poverty in the last 20 years due to global business. Because of this concern, the UN formed a small committee to prepare a brief response to the encyclical. (See "Open Letter to His Holiness Pope Francis from the United Nations Global Compact Responding to Laudato Si'" at unglobalcompact.org.)

As a member of that committee, I was pleased to endorse and praise the pope's vision, while adding language indicating that capitalism can be part of the solution and not simply the problem. Indeed, the pope was clear at the UN that he sees business as playing a key role in advancing a better world for all. Reiterating a recurring theme, he said that "business is a noble vocation," but it must not neglect "service to the common good."

The next day, CEOs of more than 400 select businesses and heads of state gathered for a forum, "The United Nations Private Sector Forum 2015: Implementing the Sustainable Development Goals." As a member of the UNGC Foundation board of directors, I found myself sitting near the likes of Angela Merkel, chancellor of Germany; Mark Zuckerberg, CEO of Facebook; Bono, lead singer of the band U2; Ban Ki-moon, UN Secretary General; and Paul Polman, CEO of Unilever, among others.

Dozens of companies used the forum as a platform to announce new programs in support of the SDGs. To name but a few: Sumitomo Chemical pledged to provide more than one million insecticide-treated bed nets to protect people from malaria; GlaxoSmithKline intends to improve access to health care for more than 20 million underserved people by 2020; and LEGO committed to implement Children's Rights and Business Principles, pledging $ 8.2 million to the effort. (For full listing and description of the business projects, see the website unglobalcompact.org)

The Notre Dame community will have the opportunity to learn more about the UNGC and the pope's vision of capitalism during a conference on April 3-4 at Mendoza. Sponsored by the Notre Dame Center for Ethics and Religious Values in Business, the event will feature two keynote speakers: Sir Mark Moody-Stuart, former CEO and Chairman of Shell Oil and Gas Companies and the current chair of the UNGC Foundation, will discuss alternate energy possibilities; Archbishop Bernadito Auza, the pope's representative at the United Nations in New York City, will outline how the pope envisions the role of capitalism is the global economy. Visit mendozaevents.nd.edu/encyclical/ for more information. ■

Everything is Connected

By Martijn Cremers

Editor's note: *The following is an excerpt of an essay, "Francis Challenges Us All," by Finance Professor Martijn Cremers that appeared originally on U.S. News & World Report's website on Sept. 23. Cremers wrote the piece in response to Pope Francis' U.S. visit, and as a reflection about the pope's encyclical Laudato Si'. The entire essay is available on USN&WR website.*

[The message of Laudato Si'] that "everything is connected" challenges us in different ways depending on our outlook. If we try to live as faithful Christians, do we recognize that being "protectors of God's handiwork is essential to a life of virtue," or are we in need of an "ecological conversion"? If we are (presumptive) experts in one particular area of knowledge, such as technology or finance, is this "integrated into a broader vision of reality," or have these tools become ends in themselves without keeping a clear recognition of their "potentially negative impact on human beings"?

If we have great concern for the environment, is this "joined to a sincere love for our fellow human beings and an unwavering commitment to resolving the [broader] problems of society," or is our environmentalism "inconsistent [by] remaining completely indifferent to human trafficking, unconcerned about the poor, or undertaking to destroy another human being deemed unwanted" in abortion?

Francis discusses the implications of this core message in a large variety of contexts. As there is not enough space here to tackle the encyclical's treatment of business in general, let me end with a brief summary of what seemed most pertinent to me – unsurprisingly perhaps for a professor of finance at the University of Notre Dame, where our business school's motto is "Ask More of Business" – namely his suggestions for the role of markets and finance.

While the encyclical does not use these terms, I would summarize the pope's views as advocating "impact investing," which I would define as investing in businesses that create value through fulfilling relatively neglected social or environmental needs, where the social, environmental and financial impacts all matter and are all measured, and that operate in a competitive market environment with ensuing accountability, transparency and efficiency. Impact investing recognizes that "profit cannot be the sole [my emphasis] criterion," but rather each action in business "is always a moral – and not simply economic – act."

More generally, impact investing reminds us that no business should want to profit in ways that harm other persons or the environment, and thus that all corporations should care about their social and environmental impacts (and not just their financial bottom line).

Laudato Si' helps us with the critical task of re-forming our consciences, relationships and habits. ■

Speaker Spotlights:

Mark Campanale

Founder and Executive Director, Carbon Tracker Initiative

At the start of the interview, Mark Campanale commented about a study published on August 25 by researchers with the Stranded Assets Programme at the University of Oxford's Smith School of Enterprise and the Environment. The authors argue that because the investment consultant "gatekeepers" who advise pension funds and other large investors are rewarded for short-term gains, long-term risks (climate change) and opportunities (green investment) aren't given full consideration.

Campanale conceded that investors are hindered by short-termism and performance benchmarks. He noted that in equity markets fund management contracts are for three years and performance is measured against a benchmark over that period. "That tends to fix the mind. It leads to herd behavior." But, he added, for investment advisors, "It really comes down to what the clients ask them to look at." So fund managers must themselves confront a question: "Is keeping the world a safe place one of the things that pension fund managers have to address?"

As he prepared to speak during the Climate Investing Conference, he considered the key message he hoped the attendees would take away. "We can't rely only on solutions provided by governments. Civil society and other stakeholders have to participate," he said. "What we have seen happen in the last two years is that the financial community, which tends to get lumped in together with the business community, has separated. Investors are coming behind a climate agreement. This is a very important, subtle change."

Campanale was ready to place the onus for action on investors. If governments don't come up with something strong in Paris, he asked, what do investors do then? "There has to be an orderly transition to the low-carbon future, and that requires investors to divert capital from fossil fuels and into renewables. It also means beginning to wind down fossil fuel companies, and that may mean replacing board members, putting in place what I would call '2 degree-compliant business plans.'"

"Investors don't have to wait for governments to tell them do this," he added. "They can just do it."

John Fullerton

Founder and President, Capital Institute

As John Fullerton sees it, any attempt to explain how enough money will be mobilized to fund the low-carbon transition must address three questions:

1) How to get very large sums of capital flowing to real-world projects? "We need to recognize that the global banking system, particularly now after the banking crisis, simply doesn't have the balance sheet and risk appetite to do the project financing that is going to need to accompany the $40 trillion of energy infrastructure investment," he says. "The capital requirements and liquidity requirements make that kind of activity unattractive to banks."

2) How to deal with short-termism of public corporations? At the conference, Fullerton planned to present what he calls more "radical" alternatives, including evergreen direct investing, "to tackle the short-termism problem that will enable big public companies to actually make the business model transformation that they know they need to make but are constrained from making because of Wall Street's quarterly earnings mentality."

3) What can be done to overcome austerity-constrained state balance sheets? With many economies around the world still recovering from the Great Recession, politicians are wary of boosting public spending.

Policy changes from governments will be necessary to help to remove these barriers, said Fullerton. "The most important thing the public sector can do is to stack the deck or define the playing field such that these investments are profitable," he said. "And the way to do that, the first thing we need to do is take the subsidies out of the fossil fuel economy because those are, obviously, pushing us in the wrong direction." A nudge in the right direction demands that fossil fuel prices reflect their negative environmental costs. "Until we put a price on the externality of climate change," he said, "the market system can't lead us where we need it to go." Here, Fullerton advocates for "a simple and accelerating but uniformly applied tax on carbon."

One of the key themes Fullerton planned to stress at the conference is the enormity of the scale of capital required to fund the low-carbon transition. He noted that the International Energy Agency (IEA) estimates it will cost $44 trillion through 2050 to decarbonize the energy sector. "I contrast that with the entire market capitalization of all public companies on planet Earth – and this was before the recent sell-off, so it's actually worse – it's $60 trillion." He added, "We don't understand what $40 trillion means. It's just a gigantic number. And it's not trading of securities; it's real-life projects that require bulldozers and cement and trucks. We haven't woken up to the enormity of what we're looking at."

William F. Hederman

Deputy Director for Systems Integration and Senior Advisor to the Secretary, U.S. Department of Energy

Asked what he hoped conference participants would take away from his "Industry and Policy" panel, Hederman said, "There is very likely to be attractive investment for business going forward that relates to climate issues. There are also likely to be areas where policymakers believe there is a need for further investment and they're likely not going to happen naturally – from a private sector perspective – because the return on the investment may not be there. One of the things I would hope this conference can do is to sort those investment situations out, and start to make progress on how we proceed under the different circumstances."

In situations where investments won't happen without support, he said, "government and industry need to find public-private partnerships ways to proceed to make those investments happen." But, despite the challenges, there are no shortage of investment opportunities. "There are an immense number of investments that can be made in conservation, increased productivity, and findings ways to use less energy, which, in general, leads to producing less carbon, emitting less methane. Those are business opportunities under market conditions," he said.

What do investors and business leaders tell Hederman they need from government? "There are a lot of institutional barriers," he said. "Something that is frequently brought up is the need to reduce regulatory uncertainty. On carbon regulation, that's a big issue. If there were a value to removing carbon from emission streams, that would improve the investment opportunities a great deal. But that's still a work in progress." Another favorite topic? Industry says it needs more technology options: the battery that is cost effective, a way to put in photovoltaics that works, to get wind energy offshore in a way that is economical. But, in the meantime, he said, "there are millions of investments that can be made that will reduce emissions, and that will harden our systems to the changes already underway. And they are genuine business opportunities for investors."

After listing a few of the dramatic changes in the sector in recent years – the emergence of battery storage, the sharp decline in the cost of clean energy – I remarked that it must be an exciting time for industry veterans like himself. "I have been working in exciting times my entire career in energy. The big difference in the last five or 10 years is the excitement is coming from good news; whereas for most of the decades, most of the excitement was from bad news," he joked. "In the last decade or two, the investment in renewables has begun to pay off."

Carolyn Y. Woo

President and CEO, Catholic Relief Services

In mid-June, Carolyn Woo was in Rome, invited by the Vatican to participate in the formal launch of Pope Francis' encyclical on climate change. Woo, the former Dean of the Mendoza College of Business, was charged with presenting the views of the business community. "I was deeply touched," Woo said. "I felt like my whole life's work – I don't know how it all added up – but somehow, when it converges at the Vatican, on the deepest issue we face as a human race, and both the care of the Earth and the care of the poor, I just felt the grace of God."

She went on, "Everyone has a role in the problem, and everyone has a role in the solution. Business, clearly, has a very significant role in terms of the ability to do good and the ability to do harm. The encyclical makes the issue a relevant one, an urgent one, a moral one, and an issue of faith."

How optimistic is she that business can be a force for good? "Where I see more resistance is government. We actually need more assistance from government in terms of two things: How do we handle carbon disclosure and carbon pricing? Once you have that, it gives numbers, it gives a set of rules to move the system forward. I think many businesses recognize these issues because it creates risk for them. They recognize many different types of opportunities that could help them by reducing carbon and, in many cases, reducing costs. Overall, as you actually listen to business, they are asking for some sort of common set of rules so that it could level the playing ground."

Woo is the conference's closing keynote speaker. What does she want participants to think about as they leave? On climate change, she said, her message has three takeaways: It is a responsibility; it is an opportunity; and it is a matter of the heart. With that, she returned to the message of Pope Francis' climate change missive. "When the pope says this is a conversion, what he is calling for is a very different way to look at our relationships, our relationship to the Earth, our relationship to others, particularly the question of what do we take away and what do we give back." ■