



CLIMATE CHANGE: the food-energy-water nexus

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PART 1

**Jon Duncan, Old Mutual Investment Group,
in conversation with Will Day, Cambridge
Institute for Sustainability Leadership**

Read Part 2 of this conversation, Climate Change: price & policy,
on www.oldmutualinvest.com

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TOMORROW, as invested as you are

Old Mutual Investment Group is serious about responsible investment and green economic growth, and in June 2015 we held our first conference showcasing how we incorporate environmental, social and governance (ESG) factors into our investment processes, and our green growth investments that support the transition to a low-carbon, resource-efficient, socially equitable economy.

As a mark of our willingness to spark robust debate in this arena, we included external experts in the debate. Sustainability luminary Will Day was our keynote speaker, and the event publication, *Tomorrow, as invested as you are*, included a selection of external contributors who are well respected in their fields of endeavour: climate change, green economic development, corporate governance and integrated reporting. Following the conference, Jon Duncan spent some time in conversation with Will Day about climate change. This article is part one of their dialogue.

WILL DAY

Will is a Sustainability Advisor to PwC. He brings a wide range of experience from 25 years of working with NGO relief and development organisations. As an independent consultant, and as Special Advisor to the United Nations Development Programme (UNDP), he has helped facilitate cross-sector engagement between governments, companies and civil society organisations in various parts of the world, with a strong focus on the role of the private sector in development. As a faculty member of the University of Cambridge Institute for Sustainability Leadership, he has focused on the identification, analysis and communication of global mega trends, and their potential social and economic impacts, to senior business and government clients. Will was Chair of the UK Sustainable Development Commission until March 2011 and was a board member of the Overseas Development Institute (ODI) until October 2012.



JON DUNCAN

Jon Duncan leads the Responsible Investment (RI) programme at Old Mutual Group. The RI programme is focused on driving the systematic integration of material environmental, social and corporate governance (ESG) issues across the Group's £319.4bn* of funds under management. Jon also heads up the Sustainability Research and Engagement function at the Group's South Africa-based asset manager, Old Mutual Investment Group, where he is involved in company and industry ESG research; the analysis of green growth opportunities; and engagement on regulatory issues and local industry initiatives, such as the Code for Responsible Investing South Africa (CRISA). Jon was involved in the drafting of CRISA and currently sits on the CRISA committee, which drives the application of the Code in South Africa.

An engineer by training, with a Master's degree in Environmental Science, he has over 20 years of professional experience in the field of sustainability research and engagement. He has worked extensively in Africa across a range of sectors, supporting organisations with strategic social, environmental and sustainability related issues.



* As at 31 December 2014



Climate Change: the food-energy-water nexus

Jon Duncan: Will, with your vast knowledge of the environmental and social challenges that the global community needs to solve, what is the one thing that keeps you up at night?

Will Day: The thought that children being born now will grow up in societies that do not allow them to live dignified and fulfilling lives, with the opportunity to make their own contributions to thriving economies. The reason for this is that the necessary systems and infrastructure are not currently in place — be they energy systems, education systems or health systems.

And, because we are in the middle of an extraordinary information revolution, whether you're a child herding goats on a hill in Somalia or living in an unplanned, low-income community in West Africa, you know what you are missing out on, and you will wish to be a part of a better world. These young people will know that we have let them down, and they will grow up to be understandably bitter and frustrated. I think that we have it within our power to change things, and it is our collective failure to deliver these vital socio-economic systems that keeps me awake at night.

"I think that we have it within our power to change things."

JD: These are the children of developing nations, and it is no secret that they are most impacted by the effects of climate change, many of which feature on the World Economic Forum's 2015 top 10 global risks list, which is nothing new. Despite this, just as we have failed to implement socio-economic infrastructure, we do not appear to be responding appropriately to climate change either. Can you comment?

WD: Climate is always the elephant in the room, and is both a cause and a symptom. It is a classic example of a situation in which we know exactly what we are doing wrong, and yet we continue to do it, despite understanding the consequences it will have — and is already having. There is plenty of wilful ignorance around — it is so much more comfortable to assume that someone else is going to fix it, or to hope that technology will come to our rescue.

The real injustice is that while it is the activities of economically developed nations that have most significantly influenced climate stability to date, it is the people who live in poverty around the world, and in developing nations, who will suffer most from the serious impacts that a changing climate will have on weather, water, energy and food.

TOP 10 GLOBAL RISKS

1. Fiscal crises in key economies
2. Structurally high unemployment/underemployment
3. Water crises
4. Severe income disparity
5. Failure of climate change mitigation and adaptation
6. Greater incidence of extreme weather events (e.g. floods, storms, fires)
7. Global governance failure
8. Food crises
9. Failure of a major financial mechanism/institution
10. Profound political and social instability

Source: WEF Global Risks Perception Survey 2013-14

Note: From a list of 31 risks, survey respondents were asked to identify the five they are most concerned about.

JD: This basic resource nexus creates a real dilemma for developing nations, many of which are dependent on water-intensive, coal-fired power plants to produce base-load energy as the basis for driving growth. How should these countries be responding?

WD: This is a difficult issue because we know that the unabated burning of coal has already had a huge impact on the climate, and burning fossil fuel in thermal plants is also a huge consumer of water. The last months have seen a growing set of respected and politically canny international voices, from the G7 to the International Energy Agency (IEA), saying that we have to take the global economy to zero carbon.

The IEA has earmarked 2100 as the time by which that must happen, but the truth is that is far too late, and we have to act now. What would make a huge impact is if coal was taken out of the global energy mix as soon as possible. However, this is very hard even to think about if you are a developing nation where the main source of power is currently coal.

JD: Would you say that such a reluctance could be excused in the face of the emerging market need for growth?

WD: Although the easy answer to that question is “yes”, you really need to understand the negative socio-economic consequences of a disrupted climate, particularly for emerging economies. There are plenty of practical examples, but the impact on African agriculture, which employs and feeds vast numbers of people, will be enormous. Even with the amount of climate change that is already locked into the system, the physical ability to grow crops will be significantly impacted.

We can't just assume that we will be able to continue to grow crops in the same places, and many countries currently rely on agriculture as a source of hard currency, which they need in order to pay for vital imports. These countries really can't afford to put the decarbonisation of long-term economic growth on the back burner. Why would you invest in the problem if you have an opportunity to invest in the solution?

“We should be looking at energy generation, not just in terms of megawatts generated, but in terms of its thirst.”

JD: My feeling is that there is a social equity argument to be made for developing nations to be allowed to increase their carbon emissions for a period of time before they decrease in line with what science requires. This creates a need for a more diverse energy mix. Is renewable energy the solution?

WD: I believe it is an important part of the solution – in terms of both its energy output and its water efficiency. I was very struck by the amount of water that Old Mutual's renewable energy investments are saving – quite literally, hundreds of millions of litres of water are being saved a year by individual renewable energy projects, which is fantastic [solar uses approximately 1/6 of the water used by coal per megawatts (MW) generated*]. And, at a time when water is becoming increasingly precious, we should be looking at energy generation not just in terms of MW generated, but also in terms of its thirst.

JD: You say that renewables can be *part* of the solution. So, despite the fact that coal is the major source of man-made greenhouse gas (GHG) emissions, it is not the only culprit?

WD: Certainly not. There is methane from fracking and a whole set of related issues (including water intensity), and the fact remains that many commercial processes, including agricultural practices, release a lot of GHGs and can also be water intensive. The reality is that we have to fundamentally rethink how we deliver economic growth and farm, so that we can achieve a low- or zero-carbon economy, coupled with equitable social development.

*The Hidden Costs of Electricity: Comparing the Hidden Costs of Power Generation Fuels.
A report by the **Civil Society Institute**



JD: Einstein famously said that you can't solve a problem at the same level of thinking that created it – do you believe that we can solve our issues within our current economic models, or do we need to write a new story with regard to, for example, our food production, as you suggest?

WD: I think there are lots of ways in which we need to look hard at the current agricultural system – from farm to fork, from seed to landfill – and work out how to become less wasteful and use resources more efficiently.

On the one hand, we are about to place significant additional demands on agricultural production as the planet's human population grows. As people get richer, we also tend to consume more. So, economic growth leads to increased consumption, and yet this additional consumption is not necessarily making us happier. In fact, in many cases it is making us sicker. On top of this, we waste a lot in production, eat too much of the wrong things, and then throw a lot away [in the US approximately 40% of food produced is discarded**]. All of this offers us a real opportunity to improve production techniques, food processing and consumption, and to reduce final disposal.

“We need to ... work out how to become less wasteful and use resources more efficiently.”

JD: What would a key factor be?

WD: Meat production is a significant contributor to global warming, and the current and predicted levels of meat consumption are not sustainable. I am not a vegetarian, but I do know that meat is not a particularly useful part of my diet if I eat too much of it. We need to reduce meat consumption both for our health and that of the environment. We also can't afford to fish the last fish out of the sea, nor can we afford the global epidemic of diabetes and obesity to continue simply because we don't eat properly.

So from a sustainability perspective – in terms of both the environment and human wellbeing – households need to eat less meat and consume more pulses, vegetables and fruit. It may be that price helps this to happen. If the proper cost of the water and the carbon that it takes to put meat on our tables becomes reflected in the price, people may start to treat meat as “special occasion” food, rather than as an everyday expectation.

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