



FutureScape Issue 20 - 28th June 2011

Welcome to the latest edition of FutureScape. We hope you enjoyed the last edition and look forward to your feedback on the topics in this issue.

In this special issue we are focusing on Nuclear energy and the recent crisis in global football governance. We examine the aftermath of the crisis at Fukushima, the implications for energy policy around Europe and the world and follow it up with a look at the faltering charge toward lower global emissions. Lastly we examine the future of the beautiful game - an issue close to our hearts!

This week we are delighted to welcome two guest contributors in Tom Lane and David Saer. Tom has provided fascinating articles on the fallout from the recent crisis in Japan as well as a look at global emissions levels. David has also looked at the nuclear issue, providing his thoughts on the impact of the Fukushima crisis on European Energy policy. We would like to extend our thanks to Tom and David for their thoughts. Brief profiles of Tom and David can be found at the foot of this newsletter.

As always, we warmly welcome your feedback, ideas and submissions for inclusion in future issues.

Copies of previous editions of the newsletter can be downloaded [here](#)

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Fast Future on Twitter

In response to requests from a number of our clients and newsletter followers, we are now posting shorter and more regular Twitter updates. These cover the issues we're looking at and the interesting developments we come across in our research programme. You can follow and discuss these posts [here](#)

Proactive Talent Retention Strategies

Our research has highlighted that despite the continuing shadow of the global financial crisis, there is growing demand and intense competition for the best talent. This demand is driven in particular by the rapid growth of developing markets and the resulting pace of expansion of multinationals in search of new growth opportunities.

As the balance of power and opportunity shifts in favour of 'talent', medium to large firms will have to adopt a far wider range of strategies to retain their top performers. In our survey, 75% of respondents agreed or strongly agreed that:

'To attract and retain talent, firms will increasingly undertake a variety of engagement activities such as 6-monthly stay / retention interviews.'

What measures are you adopting to sense and respond to the needs and aspirations of your key assets?

Future of HR

As part of our study on the future of HR, the global survey has now closed after receiving an excellent response from contributors representing a host of different industries around the world. We would like to extend a massive thank you to all those who contributed to the study via the survey and the expert interviews. The emerging insights are fascinating - highlighting fundamental challenges and significant opportunities over the coming decade. We will be sharing the report shortly. *Watch this space.*

Long Term Innovation Survey

Please take a few minutes to complete an interesting survey on long-term innovation thinking being run by our friends at Volans. You can find the survey link [here](#)

HALF LIFE

What are the long-term environmental and economic ramifications of the recent decisions to scrap nuclear power investment plans in Germany and Italy? What if the promised investment in alternative energy doesn't materialise?

The political fallout from the Fukushima disaster has been well documented. Germany, which currently derives around 25% of its energy supply from nuclear sources^[1] has decided to shut down its nuclear capacity by 2022. Italy has also voted against nuclear power, whilst in Japan, a June 2011 poll conducted by the Asahi Shimbun newspaper found

that 74% of respondents[2] supported a phase-out of Japan's nuclear industry. Since Japan has 54 nuclear power stations contributing some 17,580 megawatts of nuclear capacity online[3], such a phase-out has the potential to be drawn out and costly.

We understand the natural concerns about safety and the global shortage of nuclear construction skills and expertise. However, we also wonder whether any of the governments in Italy, Germany or Japan have considered fully the wider economic and environmental impacts of their decisions. The IEA stated in June 2011 that a halving of projected nuclear power expansion in the wake of Fukushima would increase the global growth in CO2 emission some 30 percent through 2035[4]. IEA chief economist Fatih Birol said that this '...is bad news in terms of having less diversification in the global energy mix, a less secure picture.'



Image 1: A complex issue

Whilst many governments have promised increased renewable investment in the wake of decisions to cut nuclear programmes, high levels of state indebtedness and the current cost of renewable investment suggest that such commitments may be hard to deliver in practice. The IEA notes that under a halved nuclear future, coal and gas demand would increase by about 5 percent by 2035, and renewables by 6 percent, compared with what the IEA had expected before Fukushima. This could imply upward pressure on fuel and power prices, not to mention possible global warming related costs - at a time of sclerotic growth for many western economies. In contrast, the Gulf region is actively investing in nuclear power; Saudi Arabia has announced its intention to build 16 reactors by 2030 at an estimated cost of \$100 billion[5]. Indeed the political expediency of scrapping nuclear power in some countries may prove an increasingly expensive long term strategy.

The World Health Organization estimates that some 600,000 Chinese died prematurely in 2007 from air pollution[6] whilst China's Daily News reports official figures claiming that 2433 Chinese coal miners died in 2010[7]. These issues will not be resolved, indeed they may be exacerbated, by a knee-jerk nuclear moratorium of sorts. We would suggest that before deciding on a complete ban, a more rigorous research programme could be undertaken to find ways of improving the safety, construction and operation of nuclear plants to ensure they can be built and run reliably and cost effectively.

THE FALLOUT FROM FUKUSHIMA by Tom Lane

Has public perception of nuclear power as a dangerous option reached a tipping point? Could this mean we see a future free of nuclear power generation way before anyone might have predicted?

As Japan continues to recover from the terrible loss of life reaped by the earthquake and tsunami, new information has emerged from the owners of the Fukushima plant surrounding the events that took place on March 11th. It has been confirmed that in addition to the known meltdown in reactor 1, both reactors 2 and 3 also suffered a meltdown just a few days later[8]. Data provided by Tokyo Electric Power (Tepco) suggested that reactors 2 and 3 started to melt due to broken cooling systems. But exactly what caused this cooling system to fail remains contentious.

There is mounting speculation that the earthquake was to blame for the meltdown, contradicting Tepco's claim that its nuclear facilities could withstand the most serious tremors and that the meltdowns were caused by damage inflicted by the tsunami. This new information, coupled with scepticism due to conflicting reports at the time and frustration over Tepco's lack of transparency, has led to a surge of anti-nuclear sympathies developing across the globe, reaching their peak in Europe.

Amidst a European-wide implementation of stress-tests on nuclear facilities, Germany has become the first country to agree upon a timetabled decommissioning of its nuclear infrastructure, pledging to shut all its nuclear reactors by 2022. The decision marks a government U-turn for Chancellor Angela Merkel's centre-right coalition, who earlier this year backed a proposal to extend the life of ageing nuclear power stations across the country. In a firm rebuke to the nuclear lobby, Germany's Environment Minister Norbert Roettgen stated "It's definite: the latest end for the last three nuclear power plants is 2022. There will be no clause for revision"[9]. A contested issue across the country, the move represents a significant rethink of the government's energy strategy as Germany currently relies on nuclear power for nearly a quarter of its total energy consumption.

The move also comes just days after the Swiss Cabinet called for the country's five nuclear reactors to be decommissioned by 2034. A decision that will be debated in the country's parliament - with the outcome expected in June. This trend has also been repeated in Italy where the government has won a vote of confidence on plans to shelve the construction of nuclear power stations. On the 24th May, Silvio Berlusconi's government won a ballot by 313 to 291, citing Fukushima as the catalyst for the debate.

Italy is currently the only member of the G8 that does not generate electricity from nuclear power. It is also one of the few that experiences regular earthquakes. The vote is seen as significant as the Italian government had previously backed nuclear power as a long term energy source for the country. Similar announcements regarding decommissioning current plants or the phasing out of new nuclear builds have also been echoed in Thailand and Malaysia.

These policy reversals indicate an increasing uncertainty over the current safety and future role of nuclear technology in commercial power production. Whilst the UK and France remain committed to their own nuclear strategies, both are coming under increasing pressure from anti-nuclear campaigners and demands for clarity from the 'nuclear industrial lobby' over their plans for the future.

By moving away from nuclear power Japan, Germany, Italy and potentially Switzerland, Malaysia and Thailand will become increasingly reliant on traditional energy sources in the short term. Japan is expected to increase its oil imports heavily in the coming years as it makes up for energy shortfalls caused by the current suspension of the majority of its nuclear power stations. At a time when energy markets remain volatile due to instability in the MENA region, it will be interesting to see whether this additional demand will create the conditions for a period of sustained global inflation and what sort of socio-economic implications this might have.



Image 2

What will be the costs to businesses and how can they account for this? How will aviation and shipping adapt to long term fuel hikes? How will this inflation effect the sovereign debt crisis in an already fragile Europe? What effect will it have on living standards and the possibilities for growth? It might also be worth considering whether the renewable energy infrastructure industry is ready for a surge of demand?

Are fears over nuclear energy well founded or can a reliable model be found for the safe(r) construction, operation and protection of nuclear facilities?

Will a departure from Nuclear energy generation lead to greater or lesser global emissions in the short, medium and longer term? Is this an ideal opportunity for global policy makers to take the leap and invest heavily in renewable energy?

EUROPE'S NUCLEAR SUNSET? by David Saer

How long can we expect to wait until renewable energy sources fill the demand vacuum left by Nuclear and other environmentally damaging energy generation approaches?

The news that Germany is planning to phase out nuclear power by 2022 has reverberated around the continent and the entire nuclear industry. The decision comes as an abrupt change of course for Angela Merkel's centre-right coalition, which had originally reversed the previous government's decision to phase out nuclear power by 2021. However the nuclear crisis at Fukushima in Japan following the wake of the tsunami caused an already controversial issue in Germany to spiral into mass anti-nuclear protests, forcing the Merkel government into a review.[10]

This decision now presents several serious questions for Germany with regard to how it aims to satisfy its future demand for energy as nuclear power is phased out over the next decade. Chancellor Merkel has said that the end of nuclear power in Germany will help make the country a trailblazer in renewable energy, with an expected expansion of North Sea wind farms. However, can renewable energy alone really cover the 23% of the country's energy that nuclear power provided? How rapid will the investment need to be in order to meet such an ambitious target? If it fails, will Germany have to look for energy abroad, either through the nuclear power of France or by importing coal from the Czech Republic? Furthermore, could another reversal of policy follow in several years if Germany cannot satisfy its energy needs, in response to a particularly harsh winter for example? These are serious questions which need to be addressed to maintain the German economy, which will be of greater concern to the broader European economy.



Images 3&4

In terms of broader regional impact could this spark a wider trend across Europe? While Germany and Italy are turning their back on nuclear power and Switzerland is hesitating, France still champions its use and Britain is pressing ahead with plans to build several next-generation reactors.[11] If Germany's transition from nuclear power proves successful could there be an emboldening of green movements across the continent, encouraging or forcing other countries to follow suit? Will the move finally lead to sustained investment in and development of green technologies and businesses? Will this also force an effective behavioural change in industry and consumers toward greater energy efficiency, which could then provide a model for these other countries to follow? Will this help Europe reclaim some of its status as a world leader on the environment, and will this help or hinder promises to cut carbon emissions? Furthermore what will be the unintended fallout from this move? How could the demise of the nuclear industry affect both European science and the broader economy?

Overall, Europe and the world will be watching to see if Germany's decision to phase out nuclear power proves a permanent change in course, and the wider implications that will flow from this.

Will this move by Germany and similar plans by Italy kick off a domino effect in other national nuclear energy strategies?

EMISSIONS REPORT

by Tom Lane

How can developed economies help developing economies to avoid repeating the mistakes of previous eras of industrialisation and pursue lower emission paths to industrial, social and economic development?

Is it fair or reasonable to expect the developing economies to adopt potentially more expensive and slower routes to development given that Western and Japanese development and wealth was built through more than a century of uncapped emissions?

Findings to be published in the International Energy Agency's (IEA) flagship series 'World Energy Outlook' will indicate that energy related carbon dioxide emissions in 2010 were the highest in history. Having fallen slightly due to the financial crisis, emissions are estimated to have jumped to 30.6 Gigatonnes (Gt), up 5% on 2008 when they reached 29.3 Gt [12]. These figures undermine the goals set-out by global leaders during climate talks in Cancun 2010 where negotiations resulted in targets to limit a temperature increase to 2°C.

The IEA claims that emissions need to be capped at 32Gt by 2020 if the world is to mitigate the most damaging effects of global warming and the 2°C limit is to be achieved. However, if current projections continue then the world will exceed the 32Gt limit nine years ahead of schedule [13].

In an article in the Guardian newspaper Dr Faith Birol, Chief Economist at the IEA, is quoted as saying that preventing the 2°C rise currently looks like "a nice utopia. The prospect is getting bleaker. That's what the numbers say." [14] Meanwhile Lord Stern of the LSE who wrote the 2006 Stern Report for the UK Treasury on the economics of climate change is also quoted as saying that the results were a wake up call as "such warming would disrupt the lives and livelihoods of hundreds of millions of people across the planet, leading to widespread mass migration and conflict." [15]



Image 5

The preliminary release of the IEA's figures coincides with the latest bout of UN climate talks as national representatives from 187 countries descend on Bonn, Germany, for

another round of negotiations to try and forge a successor to Kyoto. Whilst individual nations have set their own targets in addition to those agreed, the 'carbon-accounting' techniques used to tally up the release of green house gases remain in dispute. In the UK the Conservative-led coalition government has promised to cut domestic green house gas emissions by 50% by 2027. Critics have raised questions about the methodology employed to calculate these targets [16]. One area of contention is the distinction between emissions produced through the manufacturing of goods for export and those released in the production of goods that are imported. It has been argued that failing to account for this difference ignores the role that domestic consumption plays in generating emissions abroad and thus simply relocates the problem without tackling it.

These problems raise serious questions about the compatibility of economic growth with environmental and humanitarian sustainability. Perhaps one of the most pressing questions surrounds how to cap and enforce limits on green house gas emissions to avoid the 2°C rise.

If these targets are to be achieved:

- *How can reluctant businesses and nations be persuaded to measure their true emissions footprint?*
- *What incentives or regulatory interventions are required to be successful?*
- *Which industries are most capable of adapting and which seem likely to fall?*
- *How will consumer habits have to change?*
- *How might international trade be affected?*
- *What would an economy with capped industrial production look like?*

If we fail to achieve these goals:

- *What contingency plans should be put in place to cope with mass migration?*
- *What can be done to mitigate possible conflicts in the event of a decisive shift in cultural demographics or resource-wars?*
- *With whom does this strategic responsibility lie?*

REINVENTING FIFA - RESCUING A BEAUTIFUL GAME CORRUPTED

How can FIFA overcome its increasingly negative image and turn the soccer World Cup into a genuine engine for social and economic development?

If there's a common thread running through the Fast Future team, it's our love of soccer as it should be played - think [Gianfranco Zola](#), [Lionel Messi](#), beach football and 'jumpers for goalposts'. So we make no apology for giving over our final article in this issue to the need for a radical rethink of how world football is run. At the end of this article we outline a proposal to transform the World Cup into a genuine engine of global social and economic development rather a way to generate additional profits for an increasingly rich FIFA.

The last few weeks in particular have seen further tarnishing of the image of the game's administrators specifically and the game of football generally. Jack Warner - FIFA's Vice President - has resigned in the face of a corruption enquiry, while a similar investigation

continues against Mohamed Bin Hammam, the former head of the Asian Football Federation and a key figure in Qatar's 2022 bid. The allegation of senior FIFA officials handing out bundles of cash to secure votes raises the question of whether this is a one off or common practice in the decision making processes of football's ruling body?

Continued speculation and innuendo have also cast massive doubt over the transparency and integrity of the process by which the host country for the football World Cup is selected. In response to allegations of widespread malfeasance from other bidders for the 2018 and 2022 World Cups, the England Team bid was shown to have hired private investigators to keep an eye on rival nations [17].



Image 6. For the good of the game?

While the problems at the top of world football dominate the headlines, the latest story to rock professional football has been the emergence of a new match fixing scandal. A British national newspaper recently revealed that FIFA would be working with Interpol on a major inquiry into match fixing. The latest cases in Finland and Germany suggest that such activities may be widespread and not confined to small time fixtures. Investigators have been given reason to suspect that friendly internationals also have been affected [18].

The concern is that continued scandal, the dominance of profit considerations and an erosion of trust could alienate the global fan base. Under such circumstances, is it too farfetched to imagine a future in which football has become so corrupted through match fixing and official connivance that fans leave the sport in droves and are drawn toward more transparent and 'real' sporting competitions?

So how does FIFA change course? It's probably too much to ask that Sepp Blatter and the entire governing body resign and make room for fresh blood - but that would be a start. However a more realistic but ambitious step would be to change the 'operating model' for the World Cup itself. FIFA says it would like to spread the game to every corner of the world to drive social and economic development. Here's a way of doing it for the 2022 World cup which has been awarded to Qatar - population 848,016. [19]

Instead of playing the 2022 finals in a single country, they should be hosted by a consortium of developing nations with Qatar as the lead bidder. So for example, the group

stages, round of 16 and quarter finals could each be held in seven developing nations alongside Qatar. All of the games for a particular qualifying group would be held in a single country. Qatar would also host games at each stage, plus one of the semi-finals and the finals. This would spread the economic benefit of infrastructure development, tourism revenues and global exposure to countries that need it far more than Qatar. It would also enable a far larger audience to see the games live than are likely to do so in Qatar.

Qatar has already committed to dismantling many of the new stadiums it will build and transferring them to developing nations after the 2022 World Cup. In our view it would be better to build those stadiums and the supporting infrastructure in developing economies right now so they can start to contribute to local development long before 2022.

Could such a bold move help transform the image of FIFA - what would be the impediments?

What sorts of future can you envisage for world football if corruption and match fixing are not tackled effectively - will fans remain faithful to a sport so undermined?

FUTURE MEDICINE

Fast Future has long been fascinated by the future of medicine and the implications for society. This video from Daniel Kraft at TED Maastricht examines medical innovations, explores what future medicine might look like and discusses how technologies will be leveraged to help improve our health. Highlights for us are the spectacular images from the latest MRI scanners and the examination of the paradigm shift from 'conventional' to digital medicine. Enjoy the video [here](#)



[Images 7&8] The Tri-corder - not so far fetched. Ask the folks at the [X-Prize](#)

How will these and other technology enabled advances in healthcare affect our expectations of and attitudes towards healthcare? What are the funding implications?

Rohit on the Road

The last few weeks have seen me talking on a variety of topics on my travels. In Abu Dhabi I presented to a range of global and local media businesses on future trends and opportunities in the technology, media and telecoms sectors. In Slovenia I keynoted to 250+ entrepreneurs, investors and advisors on fostering entrepreneurship in developing economies across Europe. In the Lakelands of Finland I presented to a combined live and virtual audience on how to drive sustainable tourism development. Finally I was in Brussels to talk to a sector of the shipping sector on how to drive innovation and reverse an inexorable decline in industry fortunes.

In the next two weeks I'll be running an executive briefing for the tourism industry in Toronto, keynoting at the annual [Airline Retail conference](#) in London, presenting on future drivers and scenarios for global logistics and discussing future strategy and innovation with a global energy firm.

In the coming months I'll be delivering client speeches, workshops and stakeholder briefings on the world in 2015-2030, business complexity, strategic innovation, city development, the future of meetings, the future of aviation and airports, tourism futures, developing entrepreneurship, and the future for sectors such as media, packaging, retail, logistics, energy, insurance and infrastructure.

Please let me know, if you'd like to arrange a meeting, presentation or workshop on one of my forthcoming trips. I'll be speaking in London, Bristol, Copenhagen, Brussels, Toronto, Estonia, the Czech Republic, Slovakia, Lithuania, Leipzig, Florida and Las Vegas.

About Fast Future

Fast Future is a research and consulting firm that works with clients around the world to help them understand, anticipate and respond to the trends, forces and ideas that could shape the competitive landscape over the next 5-20 years. We draw on a range of proven foresight, strategy and creative processes to help clients develop deep insight into a changing world. These insights are used to help clients define innovative strategies and practical actions to implement them.

Contributor Profiles

Tom Lane mot.lane@gmail.com

Tom is a recent Masters Graduate in International relations with a background in political theory and economics. At undergraduate level Tom studied the History of Art where he earned the prize of having his dissertation published. Tom Has a strong interest in futures research, particularly with respect to monetary policy and geographical, cultural and political dynamics within the EU and UK.

David Saer davidjmsaer@googlemail.com

David is a recent MA graduate from the University of Sheffield where he was awarded a distinction in International Studies. Before that David studied History and Politics at undergraduate level. David has particular interests in cybersecurity and future developments in China, India and the Middle East. David is also a published writer from his time at the Royal United Services Institute (RUSI) where he remains a contributing author.

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