

# AJASN Newsletter

February 2017

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## Public service (& related)

The University of Notre Dame released a list of emerging ethical dilemmas and [policy issues](#) in science and technology (for 2017).

This think tank report [Governing with Collective Intelligence](#) discusses how governments could engage citizens and others outside government to improve planning and policymaking.

Australia has two think tanks on a *global* ranking of international [think tanks](#) by the University of Pennsylvania.

After a literature review identifying methods of monitoring [emergency management teams](#), two methods of team monitoring were chosen for further evaluation – this paper discusses the results. Increasingly dangerous fire weather is forecast as the global footprint of extreme fires expands, according to this [research](#).

This re-blogged think tank [press release](#) questions a one in two out approach to regulation in government.

This [study](#) looked at how senior environment ministers and bureaucrats in Canada and Australia use scientific knowledge. It highlights the importance of social factors such as communication, trust and collaboration in providing for the successful of adoption science in policy decisions.

The Canadian Advisory Council on Economic Growth [released a second set of recommendations](#) about Canada's economic potential and innovation to drive growth. Australia released a 2016 [Performance Review](#) of the Australian Innovation, Science and Research System.

Community Council for Australia (CCA) is mounting a campaign to name and shame ministers and senior bureaucrats that block the harmonisation of [fundraising regulations](#) in Australia.

This UK [report](#) estimated that about a quarter of public-sector workers are employed in administrative and operative roles which have a high probability of automation. The Australian Senate is to conduct an inquiry into the possibility of moving more Commonwealth Agencies out of major population centres and into country areas.

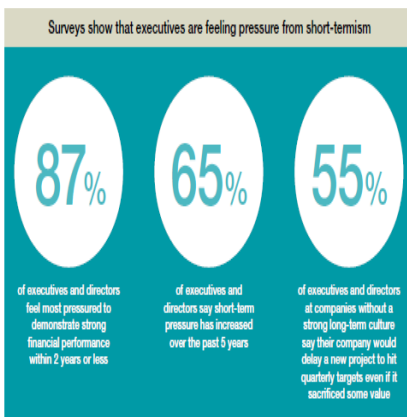
The Province of Ontario (in Canada) is making [college and university free](#) for more than 210,000 students starting this September.

## Mega-trends

Over 20 other countries, notably Japan and Argentina, have systems that [favour rural voters](#), sometimes with serious policy consequences.

BP identified six mega-trends that could shape the [future of energy](#) (and [here](#).) An Independent Review into the Future Security of the [National Electricity Market](#) will be chaired by Australia's Chief Scientist Dr Alan Finkel ([here](#).)

Singapore's Professor Chan Heng Chee outlined [five megatrends](#) that young scientists (and the city) will have to contend with to 2030. See a *Committee on the Future Economy* [report](#) (from Singapore.)



SOURCE: Rising to the challenge of short-termism. FOLT Global, September 2016.

[Source](#) for infographic

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## Policy-making

A body of research ([here](#) and [here](#)) says the complexity of a country's exports – not just their diversity but the expertise and technological infrastructure required to produce them – is a better predictor of future economic growth than factors economists have historically focused on, such as capital and education. So What? The effectiveness of redistributive policy is limited because inequality is also determined by your underlying industrial structure.

This [briefing paper](#) unpacks policy debates on manufacturing (why jobs were lost; why jobs went offshore; what's the right amount of manufacturing for America; and whether manufacturing can return) and presents 10 strategic principles that should guide efforts to restore U.S. manufacturing. This [Ted Talk](#) discusses the next manufacturing revolution.

This article discusses how to [combine](#) predictive analytics (data) and behavioural economics ('nudges') together. This [study](#) suggests policymakers must be careful to not threaten autonomy (choice / nudge), even if it is for the public good. This [summary](#) presents ideas (notes from a NZ conference) on 'people-centred policy: through behavioural insights, design thinking and better use of data.' This article describes how to use big data to determine if there is [tacit price collusion](#) (e.g. they found it in Perth petrol prices) – a new challenge for competition policy (and policy-makers).

The '[growth mindset](#)' idea that has heavily influenced teaching practices in many countries is being questioned. Children with graduate nursery teachers achieve only slightly more by the end of Reception than children with unqualified teachers (UK [research](#)).

This article suggests there is little evidence to support '[predictive policing](#)' approaches.

## Changing workplace

This [analysis](#) looks at where machines could replace humans – and where they can't (yet.)

[Telecommuting](#) provides employees flexibility, but this research suggests it add hours to the workweek with little to no extra pay.

A [study](#) suggests that Uber hasn't reduced the number of traditional taxi driver jobs, but, the average hourly earnings of traditional taxi drivers have fallen by around 10 percent in cities.

This [article](#) discusses collaborations between neuroscientists and architects (e.g. light in the built environment's impact on people.)

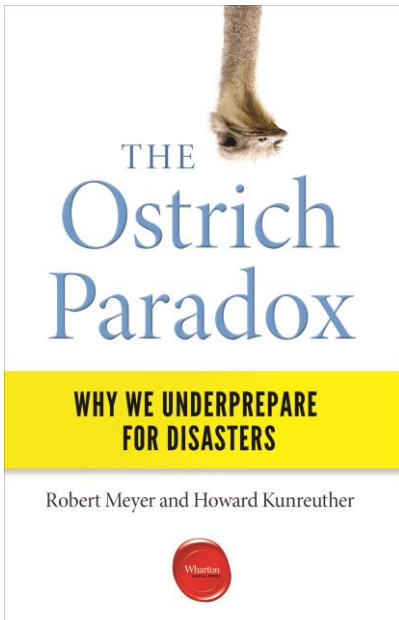
## Assumption busting

Countries which choose renewable energy sources over fossil fuels energy (wind and solar power) fail to enhance or promote economic growth (as measured by GDP), it actually causes economies to flat-line - from an in-depth [study](#) of more than 100 countries over 40 years.

A [PEW research](#) piece (cross national survey) on national identity indicates that only 13% of Australians, 21% of Canadians, 32% of Americans and a median of 33% of Europeans believe that it is very important for a person to be born in their country in order to be considered a true national.

The United States actually suffers from a problem of [too little creation](#) – not too much destruction – economic and job creation are rapidly slowing down. China's [economic policy choices](#) are narrowing (and another [article](#).)

The establishment of [university-affiliated incubators](#) is often followed by a reduction in the quality of university innovations, according to a new study.



A new [book](#) tackles the reasons why we consistently under-prepare for disasters. ([Video here](#))



This [report](#) describes a New Zealand experience of building policy capability in a government department ...

## The Internet & beyond

The US National Telecommunications and Information Administration released [The National Broadband Research Agenda](#) detailing key priorities for broadband research and data.

In a [new report](#), Gartner's industry analysts say: 'Sustained success in social marketing now requires paid advertising.'

Apple has released its first research paper. It's about how to train an AI algorithm to be [better at facial recognition](#).

This [article](#) discusses targeting political ads based on people's personality profile (derived from online data) and its use in election / referendum campaigns (e.g. BREXIT and the American 2016 election.)

The Journal of Infectious Diseases released a [special issue](#) on recent advances of big data in strengthening disease surveillance, monitoring medical adverse events, informing transmission models, and tracking patient sentiments and mobility.

## Science & technology

In 2016, Amazon received a patent for aerial fulfillment centers – i.e. [blimp warehouses](#) that would float 45,000 feet in the sky and deliver products with precision-guided UAVs.

An [opinion piece](#) discusses how scientific cartels 'game the system,' i.e. band together to cite each other's work (and how difficult it is to prove.)

This company has devised a program to execute [quick stock trades](#) to take advantage of President Donald Trump's Twitter habits (speaking about individual companies. Profits go to an animal welfare company.

Despite the potential of additive manufacturing, this [research](#) suggests that near-term expectations for it are overblown.

## Urban

This article looks at how a city's shortage of affordable housing has been made worse by [home-sharing sites](#); tenants are hiring private investigators to fight back. Britain's government announced [plans to build 17 new towns](#) and villages across the English countryside in a bid to ease a chronic housing shortage. Portable, [affordable houses](#) will be built and located on vacant government land (Vic Roads); the units can be moved if the government needs the land to build roads. This [opinion piece](#) says housing policy needs to target tax breaks towards affordable rental housing, not supply. This article discusses [architectural education](#) including institutions that are providing it fee free in some instances.

This [research](#) examines the link between density and the costs of providing infrastructure in New Zealand. Higher-density areas incur lower infrastructure costs for roading and water supply than areas of lower density. The relationship is stronger for these forms of infrastructure than it is for storm water, the costs of which increase comparatively slowly as density increases (waste water costs appear unrelated to density). This [study](#) looks at urban density, building efficiency and energy use.

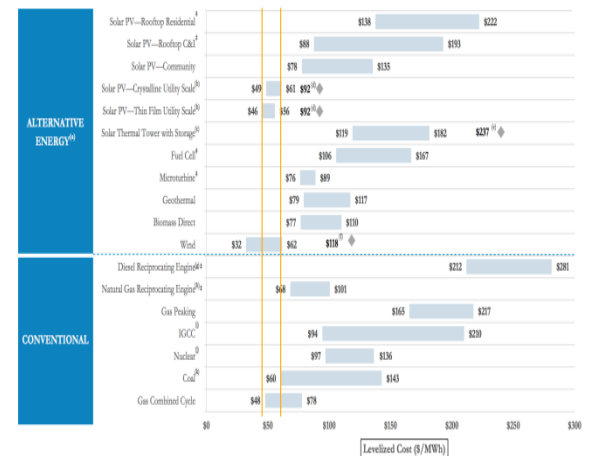
The world's first [printed footbridge](#) has been put up in Madrid.

This Deloitte [article](#) discusses the use of behavioural economics in city design / urban planning. There is a series of articles on behavioural economics and management [here](#). Researchers made [simple changes to road signs](#) to get drivers to turn off their idling engines (for environment and public health ends.)

LAZARD'S LEVELIZED COST OF ENERGY ANALYSIS—VERSION 18.0

### Unsubsidized Levelized Cost of Energy Comparison

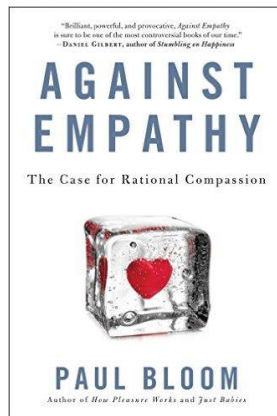
Certain Alternative Energy generation technologies are cost-competitive with conventional generation technologies under some scenarios; such observation does not take into account potential social and environmental externalities (e.g., social costs of distributed generation, environmental consequences of certain conventional generation technologies, etc.), reliability or intermittency-related considerations (e.g., transmission and back-up generation costs associated with certain Alternative Energy technologies)



A larger image of the comparative costs of energy (conventional vs alternative) is [here](#). Solar is now the cheapest form of energy in  $\approx 60$  countries.

The inability to predict how someone will interpret empirical evidence is the giant wrench stuck in the gears of the [science literacy](#) machine.

## Society



This [book](#) argues that empathy is a victim to two thinking errors – innumeracy and the spotlight effect – that affect both major policy decisions and individual choices we make daily.

An Edelman survey finds a '[global implosion](#)' in people's trust for business, government, the media, and NGOs. This [think tank report](#) discusses the culture and politics of fear, and populism in the United Kingdom, Germany, France, Spain, Poland and Sweden. This [article](#) looks at why people vote for the more incompetent candidate. People become more hard-headed in their political beliefs when provided with contradictory evidence ([study](#)).

This PhD looks at a concept called '[extractive violence](#)' in Indigenous communities in Sweden and Australia.

In a [study](#) American research found that, among middle and high schoolers, having a friend commit a violent act dramatically increased the likelihood that you would, too. Nonverbal signals, such as disapproving looks and tones of voice, were enough to teach social biases to children ([study](#).) The [results of a recent study](#) suggest choosing more effective textbooks can boost student achievement just as much as hiring better teachers and at virtually no cost to schools. [A Century of Grading Research: Meaning and Value in the Most Common Educational Measure](#) is the lead article in a centennial issue of Review of Educational Research. Here is research on the benefits of [early childhood education](#) in the U.S. Police-style [body cameras](#) are being worn by teachers in England to stop pupil disruption.

## Frames / framing

This [article](#) and this [research paper](#) look at what happens when we consider abnormal behavior as 'bad' behavior rather than 'abnormal.' (We look at options that include bad behavior and dismiss options that are based on abnormal behavior.)

The more scientific curiosity a respondent exhibited, the less likely they were to fall into the trap of politicised scientific thinking (according to [one research study](#).) A [study](#) found people who have experienced significant adversity in their lives are more likely to gravitate toward an extreme spot on the ideological spectrum.

This [article](#) reported on a study that found that describing universal health care as a way of preventing 'unclean, infected and diseased Americans' was much more persuasive with conservatives than pitching it as a matter of fairness.

This [report](#) recommends approaches for scientists to adopt when doing any evidence-based communication with decision-makers.

## What if thinking

This 'what if' [article](#) considers how driverless cars might affect organ donations (which already run behind need) – at least until we can print organs (i.e. 3D printing.)

Researchers have developed a new type of 'early warning system' that will provide more accurate predictions of [sovereign debt crises](#) and how long they are likely to last.

This ARUP publication [An Introduction to Corporate Foresight](#) provides an introduction to foresight and examples in the built environment. Here is an [article](#) on the benefits of long term thinking in a corporate setting and a Corporate Horizon Index – from McKinsey.

## Health

Scientists [report](#) that clinical trials of an Ebola vaccine prevented infection in 100 percent of cases. The vaccine has not been approved by regulators.

Physical inactivity is more a consequence than a cause of weight gain ([study](#)).

This study looked at the [mood-enhancing effect of revenge](#).

A Stanford [study](#) found caffeine might help fight inflammation and affect longevity.

When epidemiological data is scarce, social media and Internet reports can be reliable tools for forecasting infectious disease outbreaks ([here](#).)

## News

The US has been downgraded from a full democracy to a [flawed democracy](#) because of a further erosion of trust in government and elected officials there (by the Economist Intelligence Unit.) New Zealand and Australia still rank as full democracies ([2016 Index](#)). Chatham House (UK think tank) released a view about America's international role under President Trump – [here](#). Here is a Jeffrey Sachs [interview](#) on the same topic.

This [analysis](#) looked at tweets' credibility. Despite the high volume of fake news stories on social media, this [study](#) suggests they did not influence the outcome of the 2016 American election – the impact on voters was negligible fix address. This [paper](#) looks at why we are all capable of believing strange stuff. This [research](#) suggests it isn't always enough to say it isn't true, sometimes you need to show them why and how it isn't true (i.e. requires more time, and sustained attention.) Will [Twitter](#) survive as a business?

Volkswagen bought PayByPhone a mobile payment company – this might indicate thinking about what new [services](#) could be built into vehicles.

The World Economic Forum [Global Risks Report](#) identified rising nationalist sentiment, economic inequality, technological disruption (i.e., jobs becoming obsolete), and climate change as the biggest risks in 2017.

## Web sites

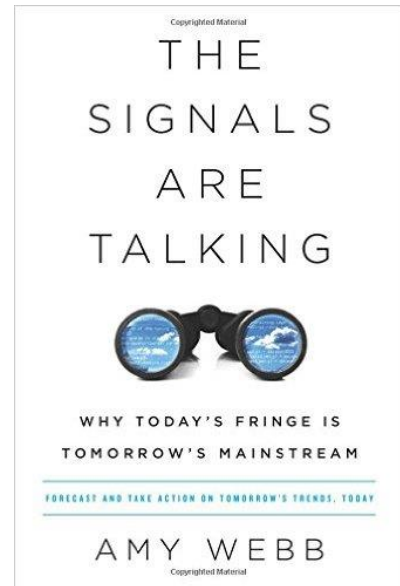
The [Open Science Framework](#) website is worth a look. (Set up by the Center for Open Science to foster openness, integrity, and reproducibility of scientific research. [Sciblogs](#) is the biggest blog network of scientists in New Zealand, an online forum for discussion of everything from clinical health to climate change. *Science* journals have reached an agreement to publish papers funded by the Gates Foundation ([open-access](#) publishing.)

The U.S. Department of Energy recently released the first [State of the Department of Energy National Laboratories Report](#) covering what the labs are, what they are trying to achieve, and how they work with other institutions. The Intelligence Advanced Research Projects Activity ([IARPA](#)) invests in high-risk/high-payoff research programs that have the potential to provide intelligence advantage over future adversaries.

Another type of business model? This [website](#) offers an alternative to a more traditional MBA.

Here is a [curated guide](#) to the best tools, resources and technologies for data visualisation. E. Bertini who teaches information visualisation at New York University put up [class materials for open use](#) – there are lecture slides, exercises, and a course diary of his own teaching experiences. Swedish academic Hans Rosling died (see [Gapminder](#).)

This website looks at [existential risks](#) (from technology, natural).



A [book](#) on foresight by a technologist.

## Upcoming meetings

**Next meeting** 23 March 2017