Karen Andrews will continue as Australia's Minister for Industry, Science and Technology, sworn in today with other cabinet members in Scott Morrison's refreshed Coalition government .

As one of the shepherds of the Australian innovation system, Andrews finds herself between a rock and a hard place.

À lire aussi : ***Infographic: who's who in the new Morrison ministry***

The "rock" is the consistent evidence that successful, developed country economies – such as the US, Germany and the UK – all commit large amounts of public funds to the development of business capabilities. These countries have large programs to translate and commercialise research and diffuse new methods of production from leading to lagging businesses.

The "hard place" is the Australian reality that businesses do not always voice strong support for public strategies to improve their long-term performance. Instead, on the whole they tend to preference tax cuts – although some prefer programs to build capabilities .

It is against this context that, under a Coalition government, our public innovation policy bodies have to walk a tight rope. They must be seen to be doing something effective, but with minimal budget and some semblance of a traditional pro-business stance.

National Innovation and Science Agenda

The overarching need for innovation is clear. Innovation means change – for the better – and without these changes we will not experience improvement in productivity and a rise in standard of living.

With that in mind, in December 2015 the Coalition government established the National Innovation and Science Agenda (NISA)
.

NISA is coming to the end of its natural life span and it's worth reflecting on how well its recommendations have been travelling.

A key part of the agenda was the establishment of a strategic advice body, Innovation and Science Australia .
As anyone involved in producing independent policy documents will attest, recommendations are usually vetted, at some level, by the relevant Ministers' offices. Nothing too pointed gets said if the Ministers will not back it.

From the recommendations of this body came a policy document Australia 2030: Prosperity through Innovation , which contains a mixture of general aspirations – such as "business productivity in all sectors can be facilitated by healthy levels of competition" – and concrete suggestions.

Keeping teachers and kids in STEM

The first set of concrete recommendations aimed to reverse declines in both the quality of science, technology, engineering and maths (STEM) school teachers and the low enrolment of pupils in STEM subjects.

This policy is tricky for the Commonwealth government to enact, as school education is in the jurisdiction of the states and territories. Nonetheless, the Commonwealth has all the money and it can do much to address both these issues.

The 2030 Strategy recommends raising entry grades and prerequisites for teacher training, and increasing ongoing teacher professional development.

The difficulty here is that we already know it is the low pay of teachers, compared with alternative careers, that causes STEM teacher shortages. So raising entry requirements and requiring more in-service training is likely to have no impact on teacher quality, and may reduce STEM teacher quantity.

Australia should look to Finland if it wants to see how it's done. Primary and secondary school teacher salaries are some of the highest among OECD countries and student outcomes are about the strongest.

Research and development focus

Strategy 2030 is quite sceptical about the ability of research and development (R&D) tax credit schemes to encourage business to do more R&D.

Many international empirical studies have looked at this question. The most recent of these are more positive about the effect of R&D subsidies than the strategy document.

For example, a comprehensive Australian study estimates that A$1 of subsidy will lead to about A$1.90 R&D (so a net increment of 90c).

Nonetheless, the 2030 Strategy recommended capping the subsidy (which the government did) and targeting the subsidy at mission-oriented, impact-focused programs and collaborations (which the government did not do). It's too early to analyse the effects of this policy change.

À lire aussi : ***It's the only way to save Australia from a deep hole, but innovation policy is missing in action***

Missions and direct research programs

The 2030 Strategy also recommended the government adopt a missions approach to public innovation strategy. To date, two missions have been established: genomics and precision medicine , and the Great Barrier Reef
.

These missions need to be complemented with an evaluation process – which appears to be underway, although it is too early for results.

To complement the capping of the R&D subsidy, Strategy 2030 recommended increasing the funding for direct programs such as Cooperative Research Centres (CRC), the Entrepreneurs' Programme and Industry Growth Centres.

The 2019 budget indicated a 10% rise in CRC funding for 2019-20 but a decline in real terms for the subsequent three years.

However, there was no increase in the Entrepreneurs' Programme or Growth Centres. Nor does there appear to be any evaluation process for these programs to assess whether they represent value for the Australian tax payer. We don't know if these should be scaled up or scrapped.

Working with the rest of the world

A key to transforming any economy is engaging with global value chains. These allow specialist producers of R&D, design, parts and components to achieve economies of scale – even if they are located in a small local market such as Australia.

The 2030 Strategy report notes there is evidence that export market development grants and trade missions increase business exports (compared with exports in the absence of these programs). It recommends increasing funding for these programs – which the Government did for the export market scheme in April 2019, with a A$60 million boost . But there has been no announcement for Austrade's trade mission or tailored services programs.

Following a productivity commission review in 2017, Strategy 2030 also recommended exploiting the latent value present in government data through registrations and regulations.

Opening these data to the public may create financial value for companies and better service for governments. The strategy recommended the creation of a new national data custodian and a National Data Commission is currently being established.

We need to be more ambitious

If we're giving our country a mark on innovation, Australia's score is not a ten, but neither is it zero. Genuine attempts have been made to implement many of the concrete recommendations from the 2030 Strategy.

Really though, it's most pertinent to look at what's missing from our current government's approach.

The overall level of funding for innovation system programs in Australia still remains low. Most programs are so small they essentially constitute pilots.

The implementation of some of the big ideas – such as using government procurement to de-risk innovation – have been left untraceable. Though looking closely at procurement and NISA in general does appear to be on Andrew’s agenda in the coming weeks.

The government has not announced any clear intentions to evaluate current programs to assess (and publish) whether they return value for the Australian public.

It is time for Australia to become more ambitious. As the world transforms away from thermal coal to renewable sources of energy, we may be in for the biggest terms of trade shock in a long time. We need to start transforming our economy and now is not the time to be timid.

Beth Webster receives funding from the ARC and has been a research partner with the Victorian and Commonwealth industry departments. She is on the CEDA economic council.

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Read more http://theconversation.com/enough-with-the-pilot-programs-we-need-to-kickstart-innovation-in-australia-117826