# Chapter 2

# Demand-side innovation policies in Australia

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*This chapter presents four Australian programmes with significant demand-side components. They address R&D and commercialisation for green passenger motor vehicles, pre-commercial procurement of R&D to drive technology development and commercialisation in SMEs, development of green technologies by SMEs through R&D and/or proof of concept, and/or early stage commercialisation, and improved access to public sector information.*

## Green Car Innovation Fund

### *Programme description*

In the World Environment Day Ministerial Statement of 5 June 2008, the Australian prime minister confirmed the government's commitment to help Australian families and businesses make the transition to a low-carbon economy. One demand-side component of the government response to climate change involves the development of more fuel-efficient transport, through a car industry that uses frontier technologies to increase fuel efficiency and reduce greenhouse emissions. Australia wants to have a smart car industry to make motoring affordable to working families with less negative impact on the planet. Public consultation on the proposed structure and implementation of the Fund occurred between December 2008 and February 2009. In finalising the structure of the fund, the government carefully considered the feedback provided by stakeholders.

The Green Car Innovation Fund provides AUD 1.3 billion over ten years (from 2009-10) to encourage research and development and commercialisation of Australian technologies to reduce fuel consumption and/or greenhouse gas emissions of passenger motor vehicles significantly. The fund operates as a competitive grants programme. Applications must rate highly against the programme merit criteria. Innovation Australia, an independent statutory body, does the technical assessment and merit ranking of applications. Grants are provided at a ratio of one dollar of government funding for every three dollars of eligible expenditure contributed by the grantee, unless otherwise agreed on an exceptions basis.

Applications under the Green Car Innovation Fund are also required to address a project's commercialisation potential. This may be demonstrated in part by providing a realistic estimate of market demand, a sound commercialisation plan, and personnel with appropriate expertise.

### *How does the programme support innovation?*

The Green Car Innovation Fund supports the following eligible activities undertaken in Australia: research and development, proof of concept, early-stage commercialisation and pre-production development. The fund also aims to enhance co-operation between businesses and/or researchers by supporting collaborative projects.

The fund is a key part of the Australian government's AUD 6.2 billion programme, A New Car Plan for a Greener Future. Under the plan, the government will assist the Australian automotive industry to be ready for a low-carbon future and to make the industry sustainably competitive with,

and better integrated with, global markets and supply chains. The Fund is consistent with Australia's international trade obligations.

Through the development and provision of cleaner and greener products in the sector the programme will lead to the use of cleaner technologies, resulting in an innovation demand pull.

### *Implementation*

The Green Car Innovation Fund opened on 24 April 2009. It is implemented under guidelines approved by the Minister for Innovation, Industry, Science and Research. It is not restricted to particular technologies but aims to stimulate innovative thinking and novel concepts. Applications for assistance under the Green Car Innovation Fund are assessed against five merit criteria: the extent of the reduction in passenger motor vehicle fuel consumption and/or greenhouse gas emissions; the technical merit and extent and calibre of innovation generated; the capacity and capability of the applicant to undertake the project; the commercialisation potential of the proposed project; and the contribution of the proposed project to a sustainable and internationally competitive Australian automotive industry, and the benefits to the broader Australian economy. Rather, the programme Payments to grantees are subject to progress made against contractual milestones.

The Green Car Innovation Fund is not a procurement programme, although future government procurement may be influenced by competitively priced green transport options.

### *Evaluation*

A committee under Innovation Australia provides oversight of the programme, and recently met to consider a number of relevant policy and administrative issues. The committee considered that the programme was appropriately targeted in terms of directing investment in innovation within the industry, and felt that the industry had a relatively clear vision of its future. The Committee firmly believed that the programme should remain technology-neutral (*i.e.* all types of technology relevant to the programme's objectives should continue to be eligible) to help foster innovation in the broadest sense. In addition, the programme structure is conducive to supporting the industry in seeking to invest in more fuel-efficient internal combustion engines, alternative fuels, electrification and light weighting to keep pace with technology development and in order to remain competitive. At this point it is too early to undertake an evaluation given the recent implementation of the Fund.

## Victoria's Smart SMEs Market Validation Programme

### *The programme*

The Boosting Highly Innovative SMEs (BHIS) programme was announced in August 2008 as part of a series of innovation initiatives contained in the Victorian government's Innovation Statement. The programme commits AUD 40 million over four years and is administered by the Victoria Department of Innovation, Industry and Regional Development (DIIRD).

Within the overall BHIS programme are two sub-programmes, the Smart SMEs Market Validation Programme (MVP) (AUD 28 million) and the complementary Technology Commercialisation Program (AUD 12 million). The aim of the MVP is to assist SMEs to create and commercialise new intellectual property (IP) and develop globally competitive technology and products and services for the marketplace. The MVP is designed as a pre-commercialisation procurement model whereby SMEs undertake R&D focused on providing solutions to public sector entities' (agencies') prioritised technology requirements. It aims to embed a more innovative procurement culture in Victorian government agencies to stimulate and support local companies to develop innovative solutions. It also aims at more efficient and responsive delivery of government services.

The MVP engages government and business to promote innovation through R&D and tests the premise that R&D contracts (or grants) placed in a market situation can drive the commercial and client-based application of new and innovative solutions. Structurally, it is a demand-driven programme using a three-stage approach, engaging two stakeholder groups: public sector entities and SMEs. It differs from a traditional supply-side grant programme in that the MVP invites public-sector entities to identify their priority technology requirements (thereby becoming the client of the programme) and SMEs are given the opportunity to undertake R&D in an environment in which they are able to prove their new technology in a real-world customer context.

The MVP is broadly modelled on the long-running US Small Business Innovative Research (SBIR) programme and shares some of the same policy components. It is based on challenges or solicitations arising from a description of the problem rather than pre-determined solution specifications. It is a tendering and contractual scheme, not a grant scheme, pursued with the aim of "pulling" commercially viable solutions to real problems in public sector delivery. In addition, it establishes an anchor for customer relationships and credentials for successful SMEs. It is this that is regarded as a major factor in establishing new ventures as "investor ready".

The design of the MVP differs from that of the SBIR in significant ways. Unlike SBIR, which mandates that participating agencies use a percentage (2.5%) of their external R&D budgets for contracts with small firms to develop new technological products and services, the MVP aims to encourage voluntary participation by public-sector entities by providing programme funding through a central and independent agency (DIIRD). DIIRD not only provides funding to support MVP initiatives, it also manages the administrative work to support participating agencies and SMEs, so that, unlike SBIR, participating agencies are not required to use exclusively their own human resources to manage the programme.

While SBIR is currently delivered and operated through 11 participating agencies in the United States, the MVP is open to over 300 public-sector agencies and organisations in Victoria. The eligibility requirements for SME supplier participants also differ in that the MVP is open to SMEs with fewer than 200 employers whereas SBIR is available for companies with fewer than 500.

The MVP represents a "demand-side policy mix", in that it uses a number of demand-side policy instruments that work together. First, it seeks to rectify a problem in the public sector (over-reliance on cost considerations and a risk-averse culture) by embedding an alternative procurement model that stimulates demand for innovative products and solutions from within public-sector entities. It achieves this through the creation of a market for innovative ideas and the use of prizes (in this case, funding) and risk-mitigating incentives to encourage participation. Second, it encourages the private sector to find ways to address this demand through the creation of a market for innovative products and services and the procurement mechanism. Third, promotion is a key component of the programme, which is actively marketed to public-sector entities and SMEs to generate their interest, support and participation. As the programme revolves around a "technology-pull" mechanism (an entity's demand for particular types of R&D for innovation pulls the need for these technologies onto the market), considerable effort is made to engage government in the process and its confidence in the programme is vital.

### *Programme application process*

The application process has three stages: technology requirement specifications (TRS); feasibility study and proof of concept.

Victorian public sector entities must first identify a specific technology need which addresses a priority agency requirement for which a solution is not commercialised on the market. During the selection process, apart from the innovativeness of the specified technology requirement, applications are

also assessed for evidence of project management experience and the requisite resourcing and commitment. Approved applications are then released to the market through a call for proposals inviting SMEs to apply to the programme by proposing an R&D solution.

In the next stage, SME applications need to demonstrate that their proposed solution is innovative and will potentially lead to new intellectual property (IP). SME applications are assessed by the host public-sector entities and DIIRD. The successful SME (which may include collaborative partners) receives a grant of up to AUD 100 000 (funded through DIIRD) to undertake a feasibility study on the proposed solution. The SME is required to deliver a report to the host entity at the end of three months. The programme may offer scope to fund more than one SME for the same TRS.

The feasibility study report is then assessed by the host entity in conjunction with industry experts and DIIRD. The report addresses issues such as the scope of the R&D project, the principal place of conduct of the R&D project, the resources required to undertake the project, key milestones, key personnel, cost and financing of the project in the form of a detailed budget, risk management strategy, and commercialisation plan. The MVP pays only on the successful completion of agreed milestones; this helps to reduce the risk involved in attributing public money to R&D projects. If the proposed R&D projects are found to be innovative, feasible and offer value for money, the SME may be approved for proof of concept funding. The SME retains all IP rights in relation to the feasibility study, with the host entity generally retaining a licence to use the IP.

In the proof of concept stage, the SME is supported with programme funding of up to AUD 1.5 million over two years to undertake the R&D project to proof of concept which involves working up the new idea through design and testing. Successful completion of the proof of concept stage will lead to a working demonstration of the technology solution in the host entity. The solution is expected to meet the specifications and capabilities required by the host entity. Once the host entity has accepted the developed technology solution, the R&D obligations under the programme are complete. However, reporting and audit requirements may continue past the delivery date for the technology solution – for example, final programme audit and evaluation reports.

Importantly, the SME will own the IP developed under the programme and will be free to commercialise the technology as it sees fit, including any R&D and reporting information through the feasibility study and proof of concept stages. The Victoria government (not just the host agency) may retain a licence to use the new solution.

### *Progress to date*

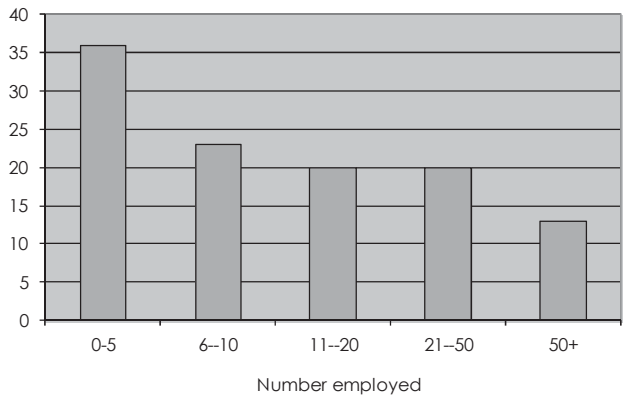
The MVP is expected to operate for four years and include two funding rounds. The programme is currently at the end of Stage 2 of the first funding round, with feasibility study projects being considered for proof of concept stage. Round 1 of the programme was actively marketed to public sector entities in April 2009 and a series of information sessions for SMEs and universities was also conducted.

For Stage 1, 74 TRS were submitted by 27 public-sector entities. A selection panel of industry experts and academics shortlisted 19 TRS from 11 agencies for Stage 2. For the feasibility study, *a* total of 124 applications were submitted by SMEs. These were sent to the host agencies for assessment and selection. The agencies invited shortlisted SMEs to make presentations to the host agencies to support their proposals and allow feedback and questions. Eighty-five (69%) SMEs indicated an intention to collaborate with another enterprise, a university or publicly funded research facility in the development of a solution. For Stage 3 (proof of concept), the host entity and the SME then negotiate the steps to be taken. The SME maintains the IP, and the Victoria government may retain a licence to use the developed technology solution. This is similar to the SBIR programme.

### *Demand-side participation*

DIIRD has collected information on participating SMEs and characteristics from the programme to date (firm size, annual turnover, collaboration efforts, sectors and location). Notable trends in these figures are the high levels of intended collaboration for the proposals (69%) and the high representation of SMEs with fewer than seven employees (micro-SMEs) (Figure 2.1).

**Figure 2.1. MVP SME employee numbers**



The data also show a relatively high number of proposals (70) received from SMEs with no prior R&D funding history. This is potentially significant, as it is important to draw new companies into the innovation system. It is therefore worth exploring to what extent this programme has supported the entry of new players.

There also appears to be a noticeable trend in participating public-sector agencies, with larger entities with formal innovation plans and strategies "ahead of the pack". These agencies are better placed to recognise and describe their needs and so develop successful TRS. They also tend to be more open to the idea of procuring outside the traditional (and lengthy) tender process. There is a risk that the programme will assist agencies that are already innovative, thereby achieving little in terms of driving cultural change or building innovative capacity in less innovative agencies. However, these could serve as case studies for agencies new to the innovation space.

The MVP currently has no strategy to assist low or non-participating agencies to develop or improve their capacity to participate successfully in the programme.

### *Promotion and administration*

DIIRD undertook a targeted marketing campaign and information strategy for SMEs, universities and government agencies, as raising awareness of the programme is important to its success. The MVP was marketed as attractive to agencies because selected projects are fully funded, which substantially mitigates their risks. In addition, the MVP team in DIIRD does most of the administrative and support work, including providing standard contracts and legal advice, thus minimising the administrative burdens of participating agencies. The programme also aligns with the current public-sector regulations for sole (direct) sourcing and IP management.

For SMEs, the programme is attractive because: funding is provided so that SMEs do not need to seek outside funding to develop the solution (but are encouraged to collaborate with a research facility or university); it enhances the future ability of a successful company to attract venture capital; and all IP developed during the programme is retained by the SME.

### *Collaboration*

Two-thirds of the SMEs who responded to the call for proposal stage indicated an intention to collaborate with another SME, a university or other research facility. Of the 20 SMEs that undertook feasibility studies, twelve formed collaborative partnerships solely for the purpose of the study.

While information sessions emphasised collaboration in the development of successful solutions, collaboration was not included as a weighted criterion in the selection process. This is also the case for the US SBIR programme, which does not require collaboration. The MVP also encourages collaboration through an online forum with a match-up facility on its website. This is a message-board style online system on which SMEs, universities and research institutes can look for collaboration partners. The online registration system has collected information on over 700 SMEs for the MVP database. A customer relationship management system is used by the MVP team to access contact information, identify capabilities and generate a range of relevant reports.

In Round 1 of the MVP, the online forum was well subscribed by messages and requests from SMEs, research institutes and others who may provide assistance to the programme's participants (*e.g.* IP legal advice, business planning and consultancy) and lead to the creation of collaborative networks in the industry.

### *Impact on government agency budgets*

Anecdotal evidence suggests that some agencies participating in the programme also regularly sought grant funding through other sources; they see the MVP as an additional source of funding. While clear conclusions about this behaviour are difficult to make, policy makers seeking to integrate this type of programme with others need to emphasise the importance of additionality and ensure public monies are spent judiciously.

Pending the completion of a final evaluation of the MVP, the question of sustained additionality and impact and whether agencies would have chosen to invest in these projects anyway is difficult to establish. However, given agencies' high response rates overall, it is clear that the intent of the MVP to manage risk barriers to innovation has struck a chord with the target agencies.

### *Evaluation*

It is important to establish clear outcomes for policy initiatives relating to demand that recognise the inherent difficulty of striking a balance between a risk-averse public sector (which must ensure that public monies are spent correctly) and innovative procurement. The MVP's success will depend on the ability of SMEs to develop solutions for their government clients successfully, and on the overall level of government agency commitment to engage in the MVP and consider innovative procurement methods.

A weakness of the SBIR programme, which the MVP will need to avoid, is the lack of systematic collection of SBIR project data. Although a small number of private companies undertake data collection and analysis, often for individual departments, the federal agency overseeing the SBIR programme relies on individual departments to provide data for annual reports to Congress. However, a number of studies may provide guidance for the development of future MVP metrics. These include Joshua Lerner's (Harvard Business School) analysis indicating that:

- SBIR SMEs created five times as many jobs as non-SBIR SMEs over the period (26 jobs per firm as compared with five or six per firm).
- A wide variety of impacts on companies, with some examples (such as Genentech) showing that one or two awards received while a business is still an SME can be quickly followed by rapid growth, financed by venture capital and an IPO.
- A stream of awards helps stimulate the slow and steady growth of niche players employing a few hundred people each. In other cases, successful companies become absorbed by larger public corporations (thus making it difficult to measure the ultimate economic impact).
- Even SBIR-funded companies that never get beyond R&D can provide a training ground from which more ambitious and commercially aware managers can emerge to start their own firms.

Additionally, a review of 50 National Science Foundation award winners showed that additional sales of USD 2.2 billion were directly attributable to technology developed under SBIR-funded projects. Their employment had grown from 527 to 11 500.

In light of its current work around demand-side policy development and evaluation, the federal Department of Innovation, Industry, Science and Research has indicated its interest in working with DIIRD in the development of a metrics framework.

### *Evaluation of the MVP*

An evaluation benchmarking report has been completed. It identifies ways in which the key features of the MVP can be measured and reported on in subsequent evaluations and reviews. DIIRD engaged a consultant to develop the MVP evaluation framework. The main objectives for the project were to liaise with MVP stakeholders and conduct research to develop an evaluation framework that helps articulate what success looks like for the

MVP and can be practically applied to track MVP outcomes and achievements over time.

But while the objectives of the MVP are clear, evaluating its impact and achievements is relatively complex. For example, the evaluation needs to consider the sometimes competing outcomes sought by a range of stakeholders – *e.g.* outcomes sought by participating businesses and government agencies as well as achievement of broader policy objectives relating to innovation and industry development. Traditional measures of project and programme success do not suffice for the MVP. There is also the problem of how to measure outcomes when data is difficult to source and sometimes may not be evident until years after project inception.

The MVP requires an evaluation framework that can be applied over the life of the programme to gauge its impact and achievements. Evaluation results can be assessed to confirm whether this innovative programme has delivered to its objectives and warrants continued support. The development of a clear evaluation framework will also help to safeguard against a number of risks: that the programme's success or failure will change over time; that the programme will be unfairly evaluated (by one or more stakeholders) or that history may be "rewritten"; that necessary benchmarking data will not be collected at the outset; and that not all parties are aware of what overall programme success looks like.

The three-month project involved conducting more than 12 interviews with stakeholders representing DIIRD, host departments, SMEs and US SBIR programme participants and an online survey of SMEs participating in the feasibility study stage (18 responses out of a possible 20). Relevant background and reference documents from DIIRD as well as national and international sources were also collated and reviewed. The findings can be summarised as follows:

- Host agency and SME experience with the MVP process:
  - Working with DIIRD has been a positive experience.
  - MVP is enabling projects and collaborations that would not have occurred otherwise.
  - MVP presents a new and more attractive way for SMEs to partner with government.
- Benefits anticipated by host agencies and SMEs from their participation in MVP:
  - MVP is an effective platform for collaboration/innovation.
  - MVP participation will generate commercial returns.

  - MVP has enabled host agencies to tackle pressing needs.

- Challenges to be addressed in implementing the MVP beyond the current feasibility studies:
  - Understanding and managing expectations and commitment.
  - Dealing with the tensions associated with innovation projects.
  - Inconsistent executive engagement in host agencies.
  - Changes needed in engagement conditions to support innovation projects.

The evaluation framework provided by the report will help to inform future evaluations of the MVP through to its completion in 2012.

### *Outcomes*

The MVP is designed to encourage the development of new technology-based solutions for broad-based application. Through its selection processes, the programme encourages cross-agency solutions, and it is expected that over the medium to long term, the MVP will encourage a more innovative procurement culture in public-sector agencies.

The public-sector entity TRS and the strong response from SMEs reflect the awareness of, and willingness to produce, innovative solutions. Round one of the MVP contains a number of examples of multidisciplinary approaches including:

- Postural biofeedback device for lower back pain (host agency, Melbourne Health): a device that requires complementary software or technology back-end system to feed information back to the host entity and an ongoing monitoring and process improvement system.
- Electronic monitoring of high risk offenders (host agency, Department of Justice): to develop a technology solution to meet the demand for constant monitoring of high-risk offenders to ensure compliance with their release. Technology solutions may include biometrics, facial recognition, handwriting identification, DNA matching, GPS and behaviour recognition software.
- Automated biophony sensor station (host agency, Department of Primary Industries): to develop low-cost automated biophony sensor stations to monitor for pests and biodiversity in forests, crops or orchards.

- Railway crossing warning system (host agency, VicRoads): to develop and demonstrate an innovative road railway level crossing safety system that can be cost-effective and potentially deployed across the State of Victoria. This seeks a radio break-in solution that will transmit to the vehicle's radio system and potentially any other audio device (*e.g.* CD, MP3, etc.) to deliver a warning that a train is approaching as the vehicle nears the railway crossing.

As final assessments of the feasibility studies are still being conducted, it is difficult to predict how many will progress to the proof of concept stage. As an indication, the SBIR programme progresses about 40% of feasibility studies to a proof of concept stage.

### *Concluding remarks*

The MVP has been deployed to complement the Victorian Technology Commercialisation Programme, a traditional supply-side grants programme that seeks, in part, to solutions developed by SMEs for the MVP and commercialise them in the marketplace.

The public procurement aspect of demand-side policy is one of the least understood areas of innovation support. The evaluation of the MVP will feed into future demand-side policy initiatives in Australia.

This pilot programme is funded for four years, at the conclusion of which an extensive evaluation will be conducted. A key outcome of the recent demand-side conference is that for policy to work, it must be consistent and operate over long time frames. As such, it is important that the evaluation of the MVP (and other programmes) recognise that some effects of the programme may not have been felt at the time of evaluation.

## Climate Ready

### *Programme overview*

The Australian Climate Ready programme provides small and medium-sized enterprises (SMEs) with support to undertake research and development (R&D), proof of concept and early stage commercialisation activities to develop innovative clean, green products, processes and services and thereby address the effects of climate change. The programme is targeted at SMEs and companies controlled by universities (spin-outs).

Part of the Climate Ready policy intent is to raise awareness of the impact of climate change and demand for innovative solutions. At the strategic policy level the programme stimulates a market for technological and other innovative solutions to the challenge of climate change. It is not a

"traditional" supply-side grants programme because the key policy intent is to generate demand for the development and procurement of innovative new solutions to tackle climate change. It is expected that the programme will generate market demand for climate-friendly technologies, products, processes and services in the longer term.

The Climate Ready programme stimulates action by firms to generate new ways to mitigate and adapt to the effects of climate change drives innovation. To ensure that support goes to highly innovative projects that would not have proceeded without assistance the technical/innovative solution presented in applications is assessed against five equally weighted criteria: management capability, commercial potential, technical strength, national benefits and impact of funding on project outcomes. Because the programme recognises that innovation is risky it seeks to reduce technical and commercial risks by providing matching funding. The programme is designed to give SMEs every opportunity to commercialise. Finally, it signals to the market that new, innovative products and services in the climate change space are being produced.

Successful applicants enter into an agreement with the Australian government to receive grant funding. Compliance requirements are set out in the grant agreement. Innovation Australia, an independent statutory body, undertakes the technical assessment and merit ranking of applications through one of its committees.

A broad range of Climate Ready projects have already been supported (Figure 2.2). Funding has been provided for projects on wind turbine production, native tree plantations to reduce carbon pollution, water saving solutions and technology for saving power in standby mode. Table 2.1 lists supported projects according to the stage of innovative activity, Table 2.2 by type of innovation, and Table 2.3 by type of focus (mitigation and/or adaptation). Table 2.4 gives the breakdown of successful Climate Ready applicants by ANZSIC classification, not a breakdown of project outcomes. For example, an applicant classified as a manufacturing SME may undertake a project of which the outcome (such as a monitoring system for emissions) is a service rather than a manufacturing output.

**Figure 2.2. Content areas of supported projects**

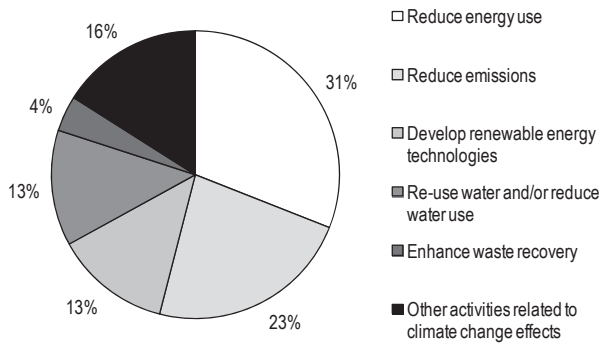



**Table 2.1. Distribution of the innovation activity of successful applications**

| Activity | Number of supported projects | Value (approximate) |
|---|---|---|
| R&D | 6 | AUD 7.3 million |
| Proof of concept | 4 | AUD 1.4 million |
| Early-stage commercialisation | 2 | AUD 3.5 million |
| R&D and proof of concept | 30 | AUD 22.4 million |
| R&D and early-stage commercialisation | 2 | AUD 1 million |
| R&D, proof of concept and early-stage commercialisation | 53 | AUD 35.9 million |
| Proof of concept and early-stage commercialisation | 5 | AUD 4.6 million |
| **Total** | **102** | **AUD 76 million** |

**Table 2.2. Successful applications by innovation type**

| Type of innovation | Number of supported projects | Value of supported projects |
|---|---|---|
| Product | 60 | AUD 35.3 million |
| Process | 8 | AUD 9.7 million |
| Service | 1 | AUD 0.4 million |
| Product and process | 18 | AUD 17.6 million |
| Product and service | 4 | AUD 2.6 million |
| Process and service | 2 | AUD 4.1 million |
| Product, process and service | 9 | AUD 6.2 million |
| **Total** | **102** | **AUD 76 million** |

**Table 2.3. Climate Ready projects targeted at both mitigation of and adaptation to the effects of climate change**

| Mitigation and/or adaptation | Number of projects | Value (approximate) |
|---|---|---|
| Projects focused on mitigation | 62 | AUD 51.2 million |
| Projects focused on adaptation | 16 | AUD 6.4 million |
| Projects focused on both mitigation and adaptation | 24 | AUD 18.2 million |
| **Total** | **102** | **AUD 76 million** |

**Table 2.4. Climate Ready applicants according to Australian and New Zealand Standard Industrial Classification (ANZSIC) sectors**

| ANZSIC Division | ANZSIC description | Number of supported projects |
|---|---|---|
| C | Manufacturing | 55 |
| M | Professional, scientific and technical services | 13 |
| A | Agriculture, forestry and fishing | 9 |
| B | Mining | 7 |
| D | Electricity, gas, water and waste services | 6 |
| E | Construction | 4 |
| F | Wholesale trade | 4 |
| I | Transport, postal and warehousing | 1 |
| J | Information media and telecommunications | 1 |
| L | Rental, hiring and real estate services | 1 |
| S | Other services | 1 |

### *Evaluation*

Programme evaluation is essential to know whether the programme is achieving its policy objective. Evaluation will focus on the impact on firms participating in the programme (*e.g.* growth and changes in skills, turnover, exports, etc.) to find out how firms are benefiting from involvement. In their pre-project reporting, successful applicants had to identify a measurable target for how the project outcome would address the effects of climate change. Applicants are required to report on progress towards these targets in contractual reporting obligations. Given the long payback period and the uncertainty surrounding climate change effects, measuring the mid-term and long-term

environmental, economic and social outcomes of the programme is problematic, but it is desirable as a way to indicate the impact of the programme.

The programme has identified key performance indicators (KPIs) for assessing the performance of the programme against its policy objective, which is to support SMEs in the development and commercialisation of innovative products, processes and services that address the effects of climate change. Relevant data on the KPIs are collected from the firms through contractual reporting requirements in application, pre-project, annual, end of project and post-project reports. The programme's KPIs are:

- Projects meet their contract milestones.
- Company growth and building of innovative capacity (by increasing employee skills, number of jobs and R&D expenditure).
- SMEs undertake activity that is targeted at climate change effects.
- Innovations on track to contribute to adaptation to and mitigation of climate change effects.

At this time, the number of completed projects is too small to identify trends and draw conclusions about programme effectiveness. All projects are scheduled for completion by 2011-12, after which a more thorough evaluation will be made.

## Creative Commons (Victorian public sector)

Information is a valuable resource and underpins innovation activity. Access to information can influence the availability of, and the demand for, innovation at the industry and individual level. Barriers to information can hinder the innovation process, reduce efficiencies and diminish social outcomes. Governments can assist innovation by reducing or removing barriers to accessing information, including information developed through the operation of government.

Public sector information (PSI) – information generated by governments – is a valuable resource and where appropriate should be available to the public unless there is a good reason for confidentiality. The 2009 Inquiry into Improving Access to Victorian Public Sector Information and Data[1] undertaken by the Economic Development and Infrastructure Committee of the Victorian State Government found that Creative Commons licences could be applied to up to 85% of PSI. This illustrates the possible scale and significance of the contribution that governments can make to creativity and innovation.

The 2008 *Review of Australia's National Innovation System*[2] recommended that Australian governments adopt international standards of open publishing as far as possible, and that material released for public information by Australian governments should be released under a Creative Commons licence. The review saw benefits to making such content available and noted that there are many ways in which others could use the information. It also recommended that Australia should maximise availability of government-funded information as it would benefit both Australia and other countries.

This view was supported in the Australian Government 2.0 Taskforce's December 2009 report, *Engage: Getting on with Government 2.0.*[3] It highlighted the need for the Australian government to make public-sector information open, accessible and freely reusable, with the administrative burden reduced through the use of the Creative Commons BY standard. The report recommended approach for all levels of government: federal, state, territory and local.

Improved access for those outside government to public-sector information may involve reforms that may pose challenges to some government agencies. This is because Australia does not have a tradition of government disclosure of fundamental data, and making such data freely available to the wider citizenry will require changes to the way they are managed by government agencies.

Materials are available to assist in making public-sector information more available. For example, *Open Access Policies, Practices and Licensing: A Review of the Literature in Australia and Selected Jurisdictions*[4] presents useful findings from an extensive review of published materials dealing with policies, practices and legal issues relating to information access and reuse, with a particular focus on materials generated, held or funded by public-sector bodies.

Victoria's state government has committed to open access as the default position for the management of PSI and will commence development of an Information Management Framework in 2010. It will support the release of PSI for re-use with the objective of increased commercial activity, access of primary data to researchers in all disciplines, and increased transparency of government. The Australian government has already released some documents under a Creative Commons licence.

A Government 2.0 report, *Engage: Getting on with Government 2.0,*[5] found that by embracing the tools and approaches of Web 2.0, Australia can achieve its vision for social inclusion and democratic participation, improve the quality and efficiency of Australian services delivery and increase the accessibility and flow of information.

# *Notes*

1. *www.parliament.vic.gov.au/edic/inquiries/access_to_PSI/final_report.html*.
2. *www.innovation.gov.au/innovationreview/Documents/NIS_review_Web3.pdf*.
3. *www.finance.gov.au/publications/gov20taskforcereport/doc/Government20 TaskforceReport.pdf*.
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