



AUSTRALIAN INDUSTRY
GROUP

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Dear Sir

The Australian Industry Group welcomes the chance to make submissions on the Clean Technology Program (CTP). This program and its components constitute the only assistance likely to be available to most manufacturers, and it is essential that they be rolled out swiftly and effectively. Ai Group has had positive discussions with the Department of Innovation, Industry, Science and Research (DIISR) and with AusIndustry so far, and much of this discussion has been reflected in the consultation paper. However, issues remain that have not yet been satisfactorily addressed. The detailed submission overleaf makes four key points, in addition to a host of responses to specific consultation questions:

1. The CTP must be highly accessible, transparent and accompanied by useful tools and information if it is to be of use to manufacturers. The discussion paper includes relevant elements, but we emphasise again that accessibility is crucial – particularly for smaller and medium-size operations without the resources of larger businesses;
2. The merit criteria need adjustment to ensure that all impacted manufacturers receive appropriate consideration and to make the CTP more coherent with the carbon price mechanism. In particular, emissions reduction is best considered at the eligibility stage, with financial impact a more appropriate criterion at the merit stage;
3. The CTP needs to be flexible enough to capture the great variety of business circumstances and opportunities, while maintaining simplicity and speedy rollout. This can be achieved through less reliance on proscriptive rules (such as for co-contribution ratios) and more on the value-for-money merit criterion; and
4. A further short round of consultation is needed to get the CTP up and running as soon as possible. This will require draft guidelines, application forms and terms to react to, preferably released in November/December 2011 to allow quick reactions.

We look forward to further work to ensure the success of these important programs.

Yours sincerely,

Heather Ridout
Chief Executive

Ai Group input on Clean Technology Program

Key issue: merit criteria – role of financial savings

The paper proposes assessment of carbon or energy savings resulting from a project as the basic merit criterion, with other factors brought to bear as well for medium and large grant applications. A clear value-for-money assessment is absolutely fundamental to putting all applications on an even footing and providing clarity to applicants and assessors alike. However, there is a strong argument that the key metric to assess is not emissions reduction per unit of grant, but financial saving to the applicants per unit of grant.

There are several reasons for this. One is that, in Ai Group's view, the primary purpose of the Clean Technology Program is not to reduce emissions, but to increase the competitiveness and resilience of Australian manufacturing in a carbon-constrained world. In practical terms the two goals overlap to a very great extent: under carbon pricing, cost-effective emissions reductions will improve competitiveness, or at least limit its erosion. However, there are circumstances where the distinction is very important: where an emissions reduction does not lead to a commensurate financial saving (such as reduction of emissions that are not covered by the Clean Energy Act), or where a project can make a substantial difference to business competitiveness, but only partly through emissions or energy reduction.

Using business impact as the key criterion has another advantage: it is an approach more coherent with and complementary to carbon pricing. The carbon pricing mechanism carries the burden of emissions reduction for covered sectors, by internalising (into the prices businesses and consumers face for goods and services) the carbon costs that are currently an externality not borne by those making consumption and investment decisions. Once this key market failure has been addressed, the proper role of any further emissions reduction policy is to address other market failures (that inhibit efficient functioning of the carbon price signal) or other emissions (not covered by the carbon price). A Clean Technology Program whose sole focus is providing funding for efficient emissions reductions in covered sectors is conceptually redundant, although much of what it would do would be valuable in practice on industry competitiveness grounds. By contrast, a program that primarily considers financial savings takes emissions reduction into appropriate account, since those costs have been internalised.

This conceptual difference is of great importance for some businesses who are relatively energy intensive, but fall below the Jobs and Competitiveness Program assistance thresholds. With energy such a large cost, they have already taken all or most of the plausible efficiency opportunities available. Some have opportunities to reduce other impacts, such as waste or water, in ways that provide commercial benefit and underpin continued viability under carbon pricing. Such projects are appropriately considered under the proposed eligibility criteria, but would be disadvantaged at the merit phase if considered solely on an emissions impact basis.

Ideally, the first merit criterion should be replaced by an assessment of financial impact. This can be assessed by asking for evidence of the net impact on the business from energy and other costs avoided, and any costs incurred, along with any demonstrable revenue impacts. These questions are no harder than those involved in assessing emissions impacts (and some of the same questions are involved). A standard approach to assessing future carbon and energy costs should be adopted, building on Treasury's recent modelling and the consultant reports underpinning it.

If the replacement of the first merit criterion is not accepted, there are two further alternatives.

One is to build on the third proposed merit criterion, which includes an element of recognition of business impacts. This is only proposed to apply to applications for grants of \$1.5 million or more. However, applicants proposing smaller projects should be able to elect to have their proposal assessed against the third criterion as well. This will not burden most smaller applicants, but will ensure that important matters can be taken into account where there is a need.

Another option is to apply the financial impact criterion specifically to the foundry sector, where there are several high-volume manufacturers who are significantly impacted by carbon pricing but have limited remaining energy efficiency opportunities. If none of these options is taken, there is a risk that the foundry funds in particular will either not be put to use, or will not go where the need to support competitiveness is greatest.

Illustration and specifics

Table 1 overleaf sets out three project proposals against an emissions metric and a financial metric. It also demonstrates the effect of the approach to alternative co-contribution ratios set out below. As can be seen, a project that scores low on a pure emissions metric (Foundry X) can have much higher merit on a financial basis that incorporates emissions savings.

The table chooses particular implementations of value metrics for emissions and financial savings. The simple emissions metric used is total expected emissions savings over the life of the project/asset, divided by the grant sought to produce a per-dollar metric. An alternative would be to multiply emissions savings by future carbon prices and judge the net present value of emissions savings (appropriately discounted) per dollar of grant. Either way, a proponent must estimate the impact of the project on annual use of electricity, gas, coal, liquid fuels, fugitive emissions, or any other relevant variable, and translate that into an emissions saving using assumptions about emissions intensity of the relevant inputs and outputs and the operating life of the assets involved.

A financial metric would provide financial impacts based on the same energy information as above, multiplied by currently contracted prices and expected future prices. It would also include any direct impacts on other inputs and outputs (such as consumption of water and other resources and production of wastes) at current and expected prices. Finally, it would incorporate any additional revenue streams or productivity improvements that are directly and demonstrably attributable to the project. This would require assumptions about future prices for carbon, energy, water and waste. Common default assumptions should be used, except where an applicant wishes to use an alternative and can justify it. These assumptions can be sourced from the recent Treasury modelling, the existing published work under the forthcoming Energy White Paper, and other credible sources. The net impact of the project on revenue in each year of operation should be converted to a net present value with an appropriate discount rate, and the total NPV can then be divided by the value of the grant sought.

The latter metric provides a straightforward basis for choosing those projects that can make the most valuable contribution to business viability. It builds in the relative impacts on energy, carbon and other matters and translates them into an easily comparable single figure.

Project	Description	Grant (\$k)	Emissions effects	Financial effects (for manufacturer)	tCO2-e abated / \$grant	\$NPV per \$grant
Foundry X	Install equipment to detoxify used foundry sands, diverting from hazardous waste containment to sale to cement industry; \$750k project, 3:1 grant sought	188	Small increase in onsite energy use (to operate toxics processor); reduction in volumes transported to waste disposal; reduction in virgin sand inputs to cement processors and associated energy use in extraction, transport and processing. 300 tCO2-e net annual save	Small increase in electricity costs; large reduction in waste disposal charges; additional revenue stream from sale of detoxified used foundry sands. Assume \$100k per annum running/staff costs, \$300k revenue/cost save, so \$200k per annum net benefit	32	11.30
Chemicals Y	Replace chiller with more efficient model - \$5m project, 3:1 grant sought	1,250	20% improvement in chiller efficiency = roughly 10% reduction in onsite energy use; around 6000 tCO2-e per annum	Reduce electricity spend & load by around 6,000MWh per annum. With reasonable assumptions about future electricity prices, savings start at \$800k per annum initially, reaching \$1.3m by 2020	96	9.75
Chemicals Z	Replace chiller with more efficient model - \$5m project, 1:1 grant sought	2,500	20% improvement in chiller efficiency = roughly 10% reduction in onsite energy use; around 6000 tCO2-e per annum	Reduce electricity spend & load by around 6,000MWh per annum. With reasonable assumptions about future electricity prices, savings start at \$800k per annum initially, reaching \$1.3m by 2020	48	4.88

Table 1 - implications of alternative merit criteria

Assumes a 20 year asset life for projects and applies a 7% discount rate when assessing Net Present Value.

Key issue: flexibility and simplicity

In responding to the specific questions asked in the consultation paper, a recurring theme has been the need for both flexibility and simplicity if the programs are to be useful and accessible. Those two needs can easily conflict, if simplicity means a straightjacket or flexibility means ballooning options and complexity. However, there is a way to advance both goals: by placing less reliance on complex rules to address issues like co-contribution ratios and allowable expenses, and more reliance on high-level merit criteria that can automatically reflect these matters.

That means relying on the value-for-money criteria – whether abatement per dollar of grant, as proposed in the paper, or financial savings per dollar of grant, as proposed above – and giving applicants more leeway to depart from default settings if they see it as necessary to make a project viable. Rather than prescribing a grant ceiling or forbidding building and construction expenses, allow them to be included; allow applicants to request co-contribution ratios other than 3:1 if they wish. A project proposal's position in the merit order will change depending on the size of grant sought and the value offered (see the difference between the two chemicals projects in **Table 1** above). This will discipline applicant choices, whether they are assessed purely against each other or against objective merit thresholds. It limits the hoops that straightforward projects must jump through. At the same time it allows the flexibility for good projects with special circumstances to go ahead.

Key issue: timing

The discussion paper proposes that there would be no retrospective funding – at most, expenses incurred between submission of a project and its approval might be eligible. This is a sensible rule once the program is well established. However, special circumstances suggest that a different rule should apply at the start of the program.

The Clean Technology Program is part of the Clean Energy Future package. The core of that package is the carbon price, which would commence from 1 July 2012. The Program exists principally to help manufacturers adapt to life under carbon pricing, but it does not appear that the Program will be in a position to accept grant applications any earlier than March 2012. Ai Group understands the practical barriers to an earlier start, and the importance of solid preparation for a program of this scale. However, projects take time to complete, and a major upgrade can entail such disruption to production that a manufacturer must coordinate key steps with extended periods of low demand, such as December to January. Some projects will be ready to go in the near future.

The result may be that good projects are delayed, and that businesses incur higher carbon costs than necessary. It would be particularly perverse if the prospect of grant funding induced manufacturers to defer sound projects until late 2012 or 2013 when they could commence much sooner.

The best approach would be to allow expenses incurred between 1 December 2011 and the date a final application is submitted to be eligible for funding under the Investment and Food and Foundries programs, if the application is made within three months of program commencement. The standard approval process would apply, and the inclusion of early costs would impact an application's ranking under the merit criteria.

With clear communication that the success of an application cannot be guaranteed, early-acting businesses would be able to take an informed risk that they may receive assistance with a project which might have a slower payback or higher uncertainties than they would usually accept. This should allow a running start for the Clean Technology Program.

Next steps required

The relatively high-level issues addressed in the discussion paper are a very important starting point, but to ensure a smooth and effective start to the program there are a range of more detailed matters that must be settled. These include the program guidelines, application forms, and terms and conditions for grant recipients. It will be important for stakeholders to have the chance to provide feedback on drafts before they are finalised. This need not involve a process as elaborate as the current consultation: simply circulate the draft documents, flag them well with key stakeholders, and hold a small, focussed meeting with highly engaged stakeholders from among industry groups, major consultancies and relevant peak bodies. Circulation of drafts by the start of December, followed by a fortnight for input, should be feasible and would make it practical to open the programs in the first quarter of 2012.

Once the program guidelines are settled, Innovation Australia will need to come to a view as quickly as possible on its interpretation of the guidelines and its expectations for successful applications. This view should be made clear to potential applicants, and any changes to expectations should be communicated swiftly.

Specific responses to discussion paper questions

A1. It is conceivable that there may be applications for very large projects of value in excess of \$400 million. Should there be a maximum total of funding provided to any one business under this program? If so, what amount? Please provide justification.

While Ai Group would like to see as many manufacturers as possible assisted in the transition to carbon pricing, we do not support an arbitrary cap on project funding as it may potentially close off proposals that could have significant benefits across the sector. A more appropriate approach would be to simply see how any very large proposals stack up on the merit criteria, including the proposed third criterion relating to broader sectoral, regional and economic benefits. It should not take long for the relative numbers and quality of small, medium and large grant applications to become clear, and this will help indicate the weight of funding that should go to very large projects.

A2. It was announced that there would be an average of 3:1 funding contribution for the program which implies that some grant rates could be higher and some lower. What mechanisms can be used to achieve this average?

Given the capital constraints faced by many small and medium sized businesses, a lower ratio of co-contribution may make the grants much more useful in getting worthwhile projects off the ground. On the other hand, we recognise that with a fixed pot of funding available, lower ratios mean fewer businesses can benefit.

With respect to balancing such concessions with less generous ratios elsewhere, there are two serious problems. Firstly it is questionable whether a grant at a higher ratio than 3:1 will make much difference to investment decisions. Secondly, allowing scope for higher ratios could over-complicate the application process if it effectively obliged all applicants to demonstrate that such ratios would be inappropriate for their own project.

However, if a key merit criterion for all proposals is impact per dollar of grant funds requested – and if that metric is transparent to proponents – that will tend to discipline requests for higher or lower ratios, since requesting a smaller grant for a given project will increase the likelihood of success. Therefore the best approach would be to maintain an expectation of 3:1 funding by default, with capacity for applicants to request higher or lower ratios, and no requirement to justify the ratio sought: applications should be judged against the merit criteria on a value-per-dollar-of-grant basis.

B1. Are there any gaps in the above definition of a manufacturing business that should be included as well?

Some member companies have businesses involving the assembly of components manufactured overseas. It appears to us that they would be eligible, but some clarity would be appreciated.

There are also issues around companies who participate in manufacturing supply chains, but do not themselves manufacture. These are addressed in responses to questions B6, D1 and D2.

B2. Are there any energy sources, other than electricity and gas, which could be considered for threshold consumption?

It may be worth including a threshold for use of coal, coke or briquettes, which are significant parts of the energy mix for some manufacturers. However, we expect that most companies using these fuels would meet the other thresholds anyway. Treating the 5TJ gas threshold as a general energy consumption threshold covering all fuels would probably work, given the relative ease of using the NGER calculator or other tools to provide the relevant data.

B3. Should the energy consumption threshold include distribution activities? Please provide justification.

The threshold is sufficiently forgiving that it will not be a big issue for many companies. The benefits of broadening eligibility further are likely to be outweighed by the costs to applicants of an overcomplicated threshold. Separating trade-exposed and non-trade-exposed distribution activities would be complex, and only the former are properly relevant in our view.

B4. Are applicants with a mixed business model able to report on energy consumption associated only with manufacturing activities?

As a rule businesses will be able to provide facility-level data on electricity and gas consumption with relative ease. Breaking down data between different functions at one facility would generally require multiple metering points, which many businesses lack. Facility-level data for facilities whose dominant purpose is manufacturing should be sufficient.

B5. What evidence of energy consumption can be provided by applicants who generate their own energy?

Inputs to most forms of on-site generation, such as solid or liquid fuels and biomass, should be easily demonstrated. Renewable generation can very likely be demonstrated through data matching with the Renewable Energy Certificate Registry. Any electricity exports can be taken into account through electricity billing data. However, for most businesses this level of detail should not be necessary to demonstrate eligibility, given the low thresholds. Data provision on self-generation should be optional to avoid overcomplicating the process.

B6. What type of supply chain and other collaborative activities should be eligible for funding? Please provide examples and justification.

Any supply chain activity should be potentially eligible for funding *if* the cost impact on that activity of carbon pricing is likely to be passed on to manufacturers. One example that has been brought to our attention is cold storage – a significant part of the supply chain for some

food processors and other manufacturers of temperature-sensitive products. Cold storage is employed by exporters, importers and import-competing producers. Costs incurred by cold storage companies will be passed through to their customers. It is the impact on exporters that makes assistance potentially appropriate, at least as part of a collaborative application (see D1).

C1. It is conceivable that there may be applications for very large projects. Should there be a maximum total of funding provided to any one business under this program? If so, what amount? Please provide justification.

The issues raised are the same as under A1 above. We do not support a cap on funding.

C2. It was announced that there would be an average of 3:1 funding contribution for the program which implies that some grant rates could be higher and some lower. What mechanisms can be used to ensure this average?

See A2 above.

D1. Although this program is directed at food manufacturers, should supply chain and other collaborative activities be eligible for funding (e.g. projects involving a manufacturer in combination with transport and/or cold storage providers)? Please provide justification.

As argued at B6 above, supply chain activities should be potentially eligible.

D2. What constraints, if any, should be applied to supply chain and collaborative activities (e.g. can the supply chain/collaborative component be the major focus of the project proposal)?

What is important is not where the project takes place, but whether the benefits are felt by a more competitive manufacturing sector. Thus there is no problem with a project focussing mostly or exclusively on supply chain improvements; however, to ensure a close nexus with manufacturing, any project with a supply chain element should be a joint application with a manufacturer as the lead applicant. Where a single applicant has both manufacturing and supply chain operations and their project relates to the latter, they should demonstrate the connection between the two.

E1. Are there any gaps in the above definition of an eligible foundry and metal forging business that should be included as well?

No gaps have been identified by foundry members.

E2. Are applicants with a mixed business model able to report on energy consumption associated only with the foundry and/or metal forging activities?

Member companies with mixed casting, fabrication and machining operations have indicated that they could separate out the bulk of the energy consumption for the casting activity, though some would need to add new sub-metering equipment to do so. Achieving a high level of precision would be complicated and difficult, however. In our view, keeping transaction costs low dictates that a reasonable level of accuracy in the split should be all that is necessary for eligibility purposes.

E3. What type of supply chain and other collaborative activities should be eligible for funding? Please provide examples and justification.

Some foundries have suggested working with customers to develop redesigned products with a lower weight; this should have efficiency advantages in manufacturing, transport, and use.

F1. What other activities, beyond what is identified above, could be undertaken to achieve a reduction in energy consumption or improvement in carbon efficiency?

One activity that logically ought to be eligible, but appears to fall between the cracks of the specific text on product reengineering and retooling production facilities, is reengineering electrical switchgear designs to reduce or eliminate use of sulphur hexafluoride (SF6). The final text could be amended to make it clear this sort of activity is potentially eligible.

There are also two issues with activities that the discussion paper indicates are ineligible.

1. Activities that would be eligible for assistance through the CTIP, CEFC and ARENA. The problem here is that none of these has yet finalised its eligibility criteria, and CEFC and ARENA may not do so for some time. Furthermore, the criteria of the CEFC could potentially be broad enough to rule out a lot of projects that would sit easily within the Clean Technology Program. Thus the eligibility restriction creates uncertainty and may discourage applications. It may be better to limit ineligibility to projects that are actually successful in seeking funds through those other programs.
2. Establishing a new production facility, green-field production site, or a facility for a new product which does not replace an existing site. Rather than declaring these activities ineligible, however, it would be better to apply a similar concept of additionality to that reflected elsewhere in the discussion paper. Projects involving wholly new facilities should be potentially eligible if proponents can demonstrate that a grant would deliver a more energy- or carbon- efficient outcome than a business-as-usual investment would. Their merit should be assessed on the basis of that difference. There is no reason why such beyond-best-practice proposals should not be considered.
3. The paper states that other activities or specific expenditure may be ineligible where the Program Delegate so decides. Any such decisions should be publicised immediately and applied consistently.

F2. What collaborative projects including supply chain activities could be undertaken to achieve a reduction in energy consumption or improvements in carbon efficiency?

Ai Group conducted a pilot project on supply chain approaches to carbon abatement in 2010-11, in collaboration with Sustainability Victoria, SPC Ardmona and Bulla Dairy Foods. The public report of the project identifies a range of opportunities for emissions reduction in the supply chain for two iconic food products, a tin of peaches and a tub of vanilla ice cream.¹ These include working with fruit growers to manage variety growth to reduce seasonal peaks in fruit supply and enable more efficient factory operations, working with can manufacturers to adjust can coating, weight and composition; improving efficiencies of transport of fresh milk to the processor; working with water suppliers to optimise energy recovery from biogas; working with waste sector to increase recycling rates for polypropylene tubs and lids; improving energy efficiency of the cold storage supply chain; and more.

This pilot demonstrated both that significant opportunities exist across supply chains, which may not be effectively addressed without the impetus and resources that a supply chain can

¹ Australian Industry Group and Sustainability Victoria, *A supply chain based approach to carbon abatement: pilot study* (April 2011) <http://pdf.aigroup.asn.au/environment/Public_report_web.pdf>.

bring to bear; and that the process of identifying and investigating these opportunities is neither simple nor cheap. Some of the options identified in the pilot would reduce emissions not covered by the Clean Energy Act, such as those from the German steel manufacturers who supply Australian canners. Such reductions would not of themselves necessarily provide any flow-on financial benefit to Australian manufacturers.

F3. Are there additional activities that should be ineligible activities?

One consideration to take into account is what kind of emissions an activity may reduce:

1. Emissions covered by the Clean Energy Act;
2. Emissions not covered by the Clean Energy Act, but for which Australia is liable under international carbon accounting rules;
3. Emissions for which Australia is not liable under international carbon accounting rules.

Since we view the primary purpose of these programs as building industry competitiveness and resilience under carbon pricing, rather than simple emissions reduction, it is activities that reduce the first kind of emissions that are properly eligible. Activities relating to other emissions are better supported through other measures, including the Carbon Farming Initiative.

G1. Should changes to, including the construction of buildings directly associated with, facilities used solely or predominantly for eligible manufacturing be eligible?

Yes, building construction should be potentially eligible. The only reason to exclude it is the worry that, given the substantial costs involved in construction, program funds may be expended quickly to less overall benefit. However, there is no need to rule out building construction at the eligibility stage, as the merit assessment provides a strong discipline. Including building costs inflates the size of a grant sought. This will dilute the emissions reduction or financial savings that each dollar of grant money is expected to bring, reducing the merit of the application and making it more likely to be rejected. As long as this is made clear to applicants, they are then in the best position to calibrate their grant request.

G2. Should funding from other State/Territory/Local government programs be allowed as part of the matching contribution if directed at new activity?

The discussion paper is unclear on what is meant by “new activity”. However, Ai Group’s view is that funding from other levels of government should be allowed as part of the matching contribution if it is directed at the activity for which the application is made. The Commonwealth, States and Territories and local governments should coordinate their support programs to ensure consistency, efficiency and complementarity. However, neither is in a good position to second-guess the other’s decisions. The Commonwealth’s decision should be based on the value offered per dollar of Commonwealth grant money sought. State, local and private decision makers should be allowed to make their own judgments on their own contributions.

G3. What other expenditure should be considered as eligible?

While it is likely implicit in the listed eligible expenditure, it should be clarified that the following are eligible:

- detailed project design work, where incurred after acceptance of the application for assessment. This is particularly important for small applications from smaller businesses, who may have limited resources and wish to defer some of the consultant work until it is clear a project will go ahead;
- labour costs for existing employees who spend time on approved projects;
- installation of additional metering equipment for validation of benefits, as well as other validation costs.

G4. Should costs related to exiting contracts using black/brown energy be included? If so on what basis?

Again, inclusion of such costs should be allowed where they are a consequence of the project proposed, with the proviso that including such costs will tend to dilute the merit of a given project. The eligible costs should be those associated with exit itself, and not costs under a new contract or gaps between costs under old and new contracts.

G5. Should there be a threshold for overseas expenditure (e.g. purchase of foreign made capital equipment)? Could this be sourced locally?

A threshold for overseas expenditure is a very blunt instrument and would overcomplicate applications. Instead, as previously argued by Ai Group, applicants for grants of less than \$10 million should simply be encouraged to consider options for local supply, and provided with details of relevant Industry Capability Network contacts. Applicants for larger grants should be required to prepare a local participation plan in line with the principles for such plans previously outlined by Ai Group.

H1. What is a reasonable period in which to achieve predicted improvements in energy and/or carbon intensity?

Achieving improvements in energy or carbon efficiency will require detailed design, procurement, construction, installation, re-skilling and running-in. Some projects may require planning and environmental approvals and licensing. Projects that are part of a broader development may be tied to a larger schedule. And confirming the gains of a project may take longer again.

Taking all this into account, two years is not an unreasonable period for small and medium-size projects, though flexibility will be needed in setting the date from which the project is deemed to start. For larger projects above the \$10 million grant threshold, funding should be guaranteed to successful proposals subject to all necessary regulatory approvals being obtained. Until they are obtained, funding should not flow, nor should the two year period be deemed to commence.

H2. Can applicants accurately predict the changes in energy consumption to be generated by the project?

In many cases energy savings can be predicted fairly easily, as when replacing equipment with newer, more efficient, but well-understood models. Employing technologies that are less well-understood, or putting them into new applications, will reduce the certainty of projections. Exogenous changes in business conditions can also significantly affect outcomes – for instance, a drop in production due to currency impacts can reduce the efficiency of a plant's remaining operations, potentially wiping out the effect of an efficiency project.

These uncertainties underline the importance of taking a constructive approach to review of project outcomes. During the consultation process, the Department indicated that proponents whose projects fell short of agreed goals would not be required to repay grants except in cases of fraud. This is an appropriate approach.

H3. For projects related to improvements in carbon intensity of products, can applicants accurately predict levels of improvements in carbon intensity of the product (compared to current product)?

Some product efficiency improvements can be predicted with great confidence: for instance, design and manufacture of electrical switchgear that does not use sulphur hexafluoride will ensure no SF6 leakage during or after the operational life of the product. However, many product projects will have a larger element of uncertainty than process or facility projects because lifecycle emissions can depend on how a product is used. The so-called 'rebound effect' can reduce energy savings resulting from use of a more efficient product, as a product that costs less to run can be run more often. The level of this effect is controversial, differs between products and contexts, is affected by changes in energy prices, and is unlikely to fully offset savings. Nonetheless, allowance must be made for this greater level of uncertainty. Full lifecycle assessments could reduce the uncertainty, but they are expensive and time-consuming to prepare and should not be mandatory; their ability to bolster the case for a grant should be sufficient to encourage proponents to conduct such assessments where appropriate.

H4. What evidence can applicants provide to support their claimed reduction in energy and/or carbon intensity?

Smaller businesses may only be able to provide evidence of current energy use, data from suppliers of the equipment they wish to install, and possibly an energy consultant's report on efficiency opportunities. Larger businesses may be in a position to provide more detailed project reports and designs.

H5. What are the most appropriate business measurements to apply in calculation of energy or carbon intensity indicators (e.g. electricity bill)?

Electricity bills are the easiest source of measurement for many businesses. However, in converting these to an emissions basis it is very important to take account of the likely carbon price pass-through, rather than the actual emissions intensity of regional electricity generation. This could be done through adoption of an assumption similar to the national Electricity Allocation Factor of 1 tonne CO₂-e per MWh that underlies the Jobs and Competitiveness Program. Alternately, different pass-throughs in the National Electricity Market and South West Interconnected System can be estimated based on Treasury modelling, and updated based on experience. This is strongly preferable to using the sort of individual generator or statewide intensities that underlie emissions figures currently reported on electricity bills, as market passthroughs will be different and the purpose of the program is to help manufacturers adapt to carbon pricing. In any case, applicants must be informed of the basis for estimating the relationship between electricity use and emissions.

H6. What tools can be used to calculate applicant's benchmark data and predicted improvements in energy and carbon intensity?

See H7.

H7. Could the National Greenhouse and Energy Reporting System (NGERS) Calculator be used? -

<https://www.oscar.gov.au/Deh.Oscar.Extension.Web/Content/NgerThresholdCalculator/Default.aspx>

The NGERs Calculator is useful for estimating the emissions associated with different levels and varieties of energy use, but it needs to be supplemented by other tools for determining how energy use could be changed and translating energy and carbon results into financial impacts. The Calculator would also need to be updated to address the regional intensity versus market pass-through issue identified at H5 above.

H8. Should payback periods be considered in assessing the merit of projects?

Paybacks are highly relevant to determining which projects are sound investments: in general, the shorter the payback, the greater the difference the project will make to business competitiveness.

There may be a view that very short payback projects are so attractive that businesses may be expected to undertake them without support. This is not necessarily correct in all cases, since many businesses face capital constraints due to difficulty accessing external financing or convincing internal decision makers to prioritise Australian opportunities. If a minimum payback floor is chosen, it should be able to be waived where an applicant can demonstrate that the project would not be practical to undertake in the absence of a grant.

Whether or not a payback floor is adopted, shorter paybacks should be preferred over longer ones to ensure value for money. The financial impact merit criterion suggested above would perform this function effectively.

H9. Can minimum target benchmarks be set for relative improvements in energy and carbon intensity?

If the Clean Technology Program were administered through more standard funding rounds there would clearly be no place for benchmarks: proposals would be assessed against each other and as many of the highest ranked would be funded as possible within the funding allocated to the round. While sensible and necessary, the continuous assessment proposed under the CTP complicates the competitive assessment and raises some need for a more objective reference point.

However, the establishment of minimum target benchmarks is not a simple undertaking and Ai Group urges a cautious approach. Benchmarks set too laxly would not appreciably aid the choice between projects, but a more serious risk is that benchmarks set are inappropriately stringent and effectively rule out many worthwhile projects. This is particularly likely as industries and businesses differ greatly in their energy intensity and prior uptake of efficiency opportunities; indeed, the most intensive are more likely to have done the most to find efficiencies so far. A 10% improvement in energy efficiency may be a reasonable expectation for a smaller energy user, for example, whereas a very large user might be extremely pleased by a 2% saving.

Working out appropriate benchmarks across industries, product categories, equipment varieties and so on would be time-consuming, and could substantially delay rollout of the CTP. A better approach would be to commence the program with an initial benchmark that is simple, process-oriented and rebuttable. A simple initial benchmark would be an expectation of an improvement in carbon or energy efficiency of at least 10% over business as usual. The benchmark should be assessed with reference to the specific processes the project relates to, not the facility or business as a whole. And there should be scope to waive the benchmark where an applicant can demonstrate to the satisfaction of the decision-makers that an improvement of less than 10% is nonetheless significant in the relevant context.

More detailed benchmarks could subsequently be developed based on the efficiencies involved in early applications, broken down by appropriate categories. These benchmarks should be made public and updated over time. This would work especially well in combination with the recommendation below that projects failing on merit could be retained for future reconsideration; if benchmarks were found to have been set unrealistically high for a given activity and were subsequently lowered, these projects could receive a further chance to succeed.

It should be noted that benchmarks could be set more usefully, and easily, for the financial impact of a project per dollar of grant sought.

H10. What would be the basis for selecting a target benchmark?

Benchmarks should be set based on the information in initial waves of applications about existing energy use and available efficiencies in different industrial contexts.

H11. Would target benchmarks vary across different manufacturing industries?

To be most accurate, benchmarks would likely need to vary for different elements and technologies *within* industries, as well as across them. This reinforces the need to develop these benchmarks gradually rather than before program commencement, since otherwise the latter might be significantly delayed.

I1. Should prior investment in reducing the carbon footprint of a business be used as evidence of capability to undertake the project?

Such investments are one relevant way to establish that a proponent has access to the funding and the skills necessary for projects of this sort. Other major capital investments can serve as equally relevant demonstrations of funding and project management skills, however. To be relevant, any investment should be reasonably recent – completion within the last three years would be appropriate. Other means of demonstrating capacity to undertake should of course be accepted also.

J1. What activities could be undertaken by the applicant to demonstrate project outcomes?

For most businesses, the easiest and most appropriate way to demonstrate outcomes would be to provide energy bills and production data for the two years following project completion. This would enable calculation of energy and emissions intensity and much or all of the financial saving involved. Where this information can be foreseen to be insufficient, such as for product-based projects, the cost of a modest follow-up analysis by an independent party should be factored into project costs covered by the grant.

J2. Should the impact of investment from a project on the local community, including the possible multiplier effect of program monies being spent in the local community, be included in the merit criteria for this program?

Local impact is important but difficult to assess consistently, and can potentially overcomplicate the application process and fair consideration for all applicants. If local impact is to be taken into account at all, it should be a) optional to address; b) only used to differentiate proposals otherwise evenly matched on the merit criteria; and c) incorporate consistent multipliers recommended by Treasury.

J3. How would the impact of the project on the business – and regional community – be demonstrated by the applicant?

The basic impact to be demonstrated under Criterion Three is the financial impact of a project on the manufacturing business(es) proposing it. It is from this that most benefits to local communities and the wider industry and economy will flow. That financial impact should be assessed under Criterion One, as we argue above, but it is certainly appropriate to make it the cornerstone of Criterion Three as well.

Financial impact can be judged by assessing the net savings on energy and carbon bills (using current and projected future prices), net savings from other project consequences (such as water or waste impacts), the proponent's share of upfront project costs and the ongoing costs of operation, maintenance and any extra staff required. The net result could then be considered on the basis of the net present value of dollars saved per dollar invested.

J4. Are the proposed eligibility and merit criteria suitable for the scope of projects anticipated?

As argued above, the eligibility criteria are appropriately broad but the merit criteria currently fail to give sufficient weight to financial impacts. With eligibility criteria requiring an energy, emissions or other environmental benefit from the project, the most appropriate metric with which to distinguish projects is financial impact.

J5. Are there any other issues that should be considered?

As suggested above, financial savings are an appropriate substitute for abatement as a key merit criterion.

K1. Is allowing two years for completion of projects appropriate?

As argued under H1, two years is reasonable for smaller and medium sized projects, but flexibility will be needed for very large projects, particularly in the context of other regulatory approvals that may be required.

L3. Are you likely to apply for a grant? If so, from which program, what amount of funding and when would you be seeking it (e.g. approximately \$1 million in 2013-15 from the Clean Technology Investment Program)?

Ai Group does not currently plan to be a lead applicant for any Clean Technology Program grants.

M1. The Department welcomes comments on other issues that should be considered in the design of the Clean Technology Investment Program and the Clean Technology Food and Foundries Investment Program.

Ai Group has several further issues to raise:

Additionality: The discussion paper raises additionality when it states that "Applicants [under the Clean Technology Investment Program] will be required to demonstrate that the investment is beyond routine maintenance or replacement of capital items." This is reasonable, but raises the issue that additionality is potentially a very difficult and woolly concept. It must be implemented in as simple and transparent a way as possible so that applicants know where they stand.

Benchmark carbon/energy intensity data: The paper states that the benchmark against which claimed improvements will be assessed is the data for the relevant site in the 12 months prior to application. However, emissions intensity can vary greatly due to transient circumstances affecting an individual business or the broader economy. It would be better to make this simply a default option, with applicants able to submit data for a different period from 2007-08 onward if they can provide justification that the default period is less representative of future business as usual than another recent period.

Diversified businesses including food processing operations: the discussion paper states that diversified businesses with foundry and/or metal forging operations can apply for funding under the Foundries program with respect to the relevant operations. A similar provision should logically apply to the food processing program as well.

Information on successful projects: Feedback to failed applicants is very important, but the publication of useful information on successful applications will also help foster better proposals. Data that should be made available include the industry context, technology used, technology/service providers involved, and any figures accepted on the degree of energy/carbon efficiency achieved. This should only be published where the successful applicant agrees, and commercial confidentiality concerns must be addressed.

Rejected applications: The current proposal is that applications be continuously assessed, with batches sent for decision every 6-8 weeks. Failed applicants would be notified immediately, with some feedback on why their application did not succeed.

This approach is sensible, given the need to mobilise funds as early as possible and to give guidance to help shape better applications. However, there is a risk that applicants may be advantaged or disadvantaged by the time they happen to apply, since any particular two-month period may see more or fewer applications of high or low quality. It is also unclear whether the merit required to receive funding will be purely relative to other applications under immediate consideration, or relative to the whole of applications received, or have an absolute component.

It may therefore be helpful to retain some failed applications for future consideration, as follows:

1. If an application fails on eligibility grounds, it should be rejected immediately. The applicant should be informed of the reason and invited to resubmit if and when they can address the problem.
2. Applicants whose projects have been passed over on merit grounds should be immediately informed of the outcome and given reasons, along with the opportunity to withdraw the application and resubmit an improved version at a later date.
3. However, unless withdrawn these projects should be retained in a pool of applications for future consideration (for instance, where the latest batch of applications is of lower quality than previously rejected projects).

N1. *Should there be a restriction on the size or type of business that can access the program? If yes, on what basis (i.e. financial earnings, or energy consumption, or sector)?*

In order both to encourage collaboration and ensure a nexus with manufacturing, eligibility should be restricted to businesses that conduct manufacturing activities in Australia, or collaborations including such a business. This will ensure the relevance both of the technologies and the companies involved.

Companies and activities that are eligible for free permit allocation under the Jobs and Competitiveness Program, or for the Steel Transformation Plan, should not by that fact be ineligible under the Innovation Program.

N2. Are there any other issues that should be considered when determining whether a business should be eligible for support?

To streamline this program, eligibility should not incorporate any more variables than are absolutely necessary.

N3. How can collaboration be promoted and stimulated through the program?

See N1.

O1. How should 'R&D', 'proof of concept' and 'early stage commercialisation' activity be defined? What activities should be supported? Is there a need to be more specific about the eligibility of projects?

Ai Group has expressed concern in the context of recent reforms to the R&D Tax Incentive that the proposed definition of research and development was overly restrictive, with insufficient focus on development. The incorporation of proof of concept and early stage commercialisation into the Innovation Program addresses this shortcoming and the definitions proposed are broadly appropriate.

However, there is a particular activity that needs to be encouraged and should be positively recognised in the guidelines and supporting materials: the adaptation of an existing technology that is relatively well understood in one context to use in a new industrial context. We understand that the Energy Efficiency Council is arguing that the establishment of existing technologies in new manufacturing contexts should either be eligible under the Innovation Program, or given a similarly generous treatment in the Investment Program with a 1:1 co-contribution (without a corresponding decrease in merit). Ai Group fully supports this recommendation. Stopping or reworking production in order to upgrade major capital equipment is disruptive enough; adding the risk of a technology untried in the highly particular context of a given industry will make businesses more cautious. A more even co-contribution rate will mitigate these risks and make adaptation of technologies to new contexts more attractive.

Once a project along these lines has been approved and completed, and the findings made available, further projects involving the same technology and context should be dealt with under the Investment Program at the standard co-contribution rate. If multiple businesses in the same sector wish propose adaptation of the same technology, collaboration should be encouraged.

O2. The program will complement existing support for clean technologies. What programs across governments do industry currently access for these activities?

Ai Group member businesses make use of the R&D Tax Incentive and participate in Cooperative Research Centre activities. Members have previously engaged with the Green Car Innovation Fund and the Re-tooling For Climate Change program.

O3. *Should the program have an aspirational target for energy/carbon saving projects? What would be an appropriate impact (e.g. a 25 per cent saving)?*

A single numerical benchmark is unlikely to be relevant across the breadth of technologies. A qualitative goal would be more appropriate: that projects should represent a significant improvement in carbon or energy efficiency over current commercial options. What is significant depends on the particular context, and this requires justification by proponents and judgment by the decision-makers.

P1. *Should the eligibility of expenditure be more specific? How could this be done?*

A flexible, inclusive approach to eligibility is appropriate, but it would also be useful to provide guidance to applicants by publishing the kinds of expenditure that have been covered by successful grant applications.

P2. *Should funding from other State/Territory/Local government programs be allowed as part of the matching contribution, if directed at new activity?*

Yes. See G2 above.

Q1. *Could, for example, the National Greenhouse and Energy Reporting System (NGERS) Calculator*

(<https://www.oscar.gov.au/Deh.Oscar.Extension.Web/Content/NgerThresholdCalculator/Default.aspx>) be used to calculate applicant's benchmark data and predicted improvements in energy and carbon intensity? Are multiple tools comparable or should one tool be the standard? Is use of such a tool, or calculator, too difficult to apply to innovation projects on clean energy solutions?

The NGER Calculator can be a helpful tool, as argued above at H7. However, even more so than for the innovation program, it can provide only partial help. The calculator could indicate the emissions consequences of a particular reduction in energy use, but can shed no light on the how or whether a technology change would achieve that reduction.

Q2. *What other measures of 'impact', or success, could be used?*

Two additional and related measures of the worth of an innovation proposal would be estimates of the size of the future market for that product (including the market for existing substitutable alternatives), and the future cost-effectiveness of the technology in question compared to existing and foreseeable substitutable alternatives. These are not simple to determine, although much existing work has been done on both by market analysts and governments (such as work done for the forthcoming Energy White Paper).

It should be noted that many businesses may be primarily interested in in-house innovation that contributes to their own core activities, rather than marketing and licensing innovations for wider dispersion. Most companies innovate to derive a competitive advantage, even if the innovation is ultimately adopted industry-wide. Too great a focus on near-term technology transfer will exclude a great deal of potential innovation.

R1. *Is the proposed funding period of 2 years appropriate/sufficient?*

As long as there is appropriate flexibility in defining project outcomes in manageable and realistic increments, 2 years is a reasonable period.

S1. *Could the application and timing of assessments be flexible in line with the size of the grant requested and the needs of the company – if yes, how?*

Continuous assessment as proposed is appropriate, though as previously noted the nature of a continuous competitive assessment does raise challenges with consistent application of the merit criteria over time.

S2. *Do applicants prefer an online application (e.g. use a smart form)?*

Online processes are generally preferable, as long as the supporting infrastructure is robust.

S3. *How long after completion of the project should applicants provide post project reporting? In addition to written reports, are there other means by which data can be collected to monitor the impact of the grant funding on innovation, growth and productivity activities of the firm?*

Two levels of post-project followup are appropriate. The first is a mandatory assessment shortly after the project is deemed complete (perhaps within six months), with the costs of such assessment to be among eligible project costs, measuring achievement against the specific outcomes agreed for the project. The second is a longer-term program of voluntary followup with participants, assessing the further progress, performance and takeup of the innovation. Putting a defined endpoint to the grant arrangement and associated mandatory obligations is necessary to prevent the prospect of indefinite obligations and process costs from dissuading applicants.

T1. *The Department welcomes comments on other issues that should be considered in the design of the Clean Technology Innovation Program.*