

## **Introduction to Research Acceleration**

The Carbon Trust was established to work with business and the public sector to accelerate the transition to a low-carbon economy. In our Research and Development activities, as well as in the rest of our business, we aim to utilise commercially-focussed mechanisms to address the market failures which inhibit this transition.

The Research Acceleration initiative follows this principle and aims to deploy public funds in an efficient manner to reduce the risks in the commercial development of important technologies by the private sector.

Research Accelerator funding is not conventional grant funding (which, for instance, we provide under our Applied Research open call); it is a commercially-structured investment that is designed to generate rapid progress towards research and development goals of value to the private sector and package results in a form that can attract substantial private sector follow-on investment, accelerating the commercialisation of the technology. The amounts we are able to commit under Research Acceleration programmes are significantly larger than for Applied Research grants – and the expectations on the research outcomes are correspondingly higher.

## **The commercial structure of the PFCC**

The PFCC structure has been designed with the flexibility to allow the Carbon Trust to form commercial partnerships with a wide variety of organisation types. It is also intended to accommodate the potential for more than one credible solution to the Challenge being proposed. Finally, and given the chequered history of polymer fuel cell commercialisation, the material involvement of a customer for the technology has been made an essential feature.

Given the need for flexibility in this case, the investment structure is expected to vary in each case, as such it has not been appropriate to publish default terms and conditions or model contracts. We are also not expecting teams to have developed comprehensive commercial models at this early Expression of Interest stage. However, for the assistance of applicants preparing their proposals and discussing partnerships, the following principles may be used as a guide:

1. The Carbon Trust is looking to form commercial partnerships with fuel cell innovators in which our financial interests are aligned. The Carbon Trust is a private company with a mission solely for public good: any profits from this financial interest will be re-invested in our technology development work - thereby maximising the efficiency of our public funding
2. We intend to commit significant funding to both Phase 1 and Phase 2 of the Polymer Fuel Cell Challenge
3. Due to the existence of several potentially-viable technology solutions to the Challenge, which cannot be distinguished without further work, the Carbon Trust is planning to make multiple investments in Phase 1, with the expectation that only one of these will make a case for follow-on (Phase 2) funding
4. Projects which are not selected for Phase 2 funding should not be adversely affected by residual financial liabilities to the Carbon Trust, and this is one of the reasons for the proposed use of grant contracts at the start of Phase 1
5. For the successful project, the Carbon Trust's investment in Phase 1 will be carried forward into Phase 2, where it will be converted into a direct participation in the success of the technology
6. Within the framework laid out by the present principles, we do not have a preferred commercial model for Phase 2 and have planned to spend significant time and effort with shortlisted bidders to develop mutually acceptable terms which meet these principles (this is the purpose of phase 0.3)

7. The Carbon Trust's private company status gives it a great deal of flexibility in the types of legal agreements into which it can enter – both in terms of the commercial structure and the form of participation taken by partners. By way of illustration only, we have set out below a range of examples of potentially viable options for a Phase 2 arrangement:

Corporate vehicle	Type of participation	Equity	Options/warrants on equity	Shadow equity / options	Convertible debt/quasi-equity	Joint Development Agreement	Royalty / licence
SPV	SPV established by the Carbon Trust	x	x	x			
	Joint Venture established as a limited company	x	x	x	x		
Spin out company		x	x	x	x		
New ltd. company est. by CT		x	x	x	x		
Existing SME		x	x	[x]	x	x	x
Existing large company					x	x	x

As stated in §6 above, any commercial model for Phase 2 would be subject to significant discussion of specific implementation on a case by case basis.

8. Although Phase 1 and Phase 2 are distinct, project proposals should plan for both
9. Project proposals should further have a clear path to commercialisation: there needs to be a clear "Phase 3" beyond the end of the PFCC in which the private sector takes the technology to market
10. The Phase 2 structure must be an attractive investment opportunity for project partners and the Carbon Trust but also for 3<sup>rd</sup>-party investors. Therefore, this structure would for instance hold exclusive access rights to project (foreground) IP, and secure access to relevant background IP; and it would include a profit-sharing structure between project partners, the Carbon Trust and a strategic investor.

Finally, the table below summarises our approach and guiding principles:

	What we want to achieve		What we have no interest in
✓	Incentivise and accelerate commercialisation of low-carbon technologies	✗	See promising technologies stunted because of lack of funding
✓	Bridge the gap between grant funding and private capital	✗	Spend public money where private capital is ready to be invested
✓	Leverage private investment and encourage entrepreneurship	✗	Nationalise your company
✓	Make the most of every public pound we spend and capture a return on our investment	✗	Risk large amounts of public money to pick single technology winners
✓	Ensure valuable IP is exploited	✗	Steal your IP