

Consultation Questions:

Q1: What are the main barriers to innovation in the sector and why?

SME's can be very innovative, but often they have little or no funding for developing new products using their own resources. It can also be very difficult to demonstrate their new technology to the industry and get enough operational data from full scale models to give the water companies the evidence required to allow testing of new products in the field. Due to the often-high costs of hiring large test facilities to undertake product development testing.

Therefore, public funding and having large scale test facilities available to SME's would greatly increase the ease of getting new products from initial concept ideas to full scale fully tested products.

Q2: Do you think that the financial support cited in Section Three is required to stimulate innovation in the sector? If so what do you believe is the appropriate amount of funding and why?

Any financial support that can be given to SME's will help drive innovation. I spent 10 years working in a small oil and gas product development company and in most cases the only way that new products were developed, was with the aid of public funding. SME's are often extremely good at developing new innovative ideas, and often good at testing small prototype models to help develop new technology. What can often be the largest barrier is to move from prototype scale testing to full scale testing and the costs associated with testing on large facilities can often be too much for a SME to bear. Therefore, the use of public funding comes in extremely useful when having to test at larger scales, to develop the operational data to convince the water companies of any new technology.

From previous experience, it may be useful to consider a range of funding levels to cover the overall product development range:

Initial Feasibility study: **Approximate Funding Level ~ £10K**

Looking at testing an idea to see if it is possible to develop the idea into a feasible product?

Prototype Testing: **Approximate Funding Level ~ £30 -50K**

To take that initial idea and develop a prototype model to test on a small-scale test facility to demonstrate the product.

Product Development; **Approximate Funding Level ~ > £50K <£150K**

To take the small-scale prototype and build a full-scale model to test on a large test facility to obtain operational data on the new device to give the water companies evidence of its validity before it can go in the field.

Field Testing: **Approximate Funding Level ~ > £150K**

To help fund field trials of new technology, having funding available at this level will also encourage the water companies to allow testing of new products in the field.

Q3: Do you agree that our proposed draft principles for additional financial support will effectively safeguard the interests of customers?

Yes, I agree.

Product development for SME's can be a very difficult process to undertake, particularly in the current financial climate. Therefore, anything that encourages SME's to develop new products will only help the water industry improve efficiencies which is obviously to the benefit of the customers.

Q4: What are your views on the end of period innovation roll-out reward we describe in Section three? What other key considerations not highlighted should we take into account in designing/implementing the competition?

It is likely that different companies will have differing requirements when it comes to levels of funding. Therefore it is important to offer a number of different levels of funding covering the whole product development cycle, as described in Question 3.

Full project monitoring and reporting should also be considered, with anybody being awarded funding having to provide quarterly reporting to explain progress/finances etc. this is important to ensure that the water industry and its customers get the most benefit from any money given to help SME's.

Q5: What are your views on the end of period innovation roll out reward we describe in Section three? What other key considerations not highlighted should we take into account in designing/implementing this award?

I prefer the funding arrangements described in Section 3 as I feel that giving an award on roll out is less likely to encourage innovation, as one of the main blockers to innovation is often having the funds available to undertake the work in the first place.

Q6: What other potential alternative mechanisms for funding/rewarding innovation not discussed do you think we should be considering?

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Q7: Do you think the potential industry activities discussed in Section four could help drive innovation? Are there other activities not identified which you think the industry should be considering?

I think the development of a Water Industry centre of Excellence would be an excellent idea, the centre could be used by any interesting parties in developing new designs/products and should have test facilities capable of allowing users to undertake testing to cover the gamut of flows required in the product development cycle. (i.e. covering small scale prototype testing up to full scale industry sized flows for full scale testing). Together with the test facility availability the centre of excellence should also have the technical capability to help user with all their product development needs, this includes possessing the capability of undertaking CFD analysis and combining this with flow testing to help speed up the product development process.

Collaboration between the water companies should also be examined, currently if a SME develops a new product it is likely that that new product will have to be tested with multiple Water Companies, before the new products become field proven across the industry. By making use of a centre of excellence and taking a leaf out of the oil and gas industry it should be possible to develop a Technology Readiness Level Scheme (TRL), that would allow SME's to follow a set of procedures that all the water companies agree to, so that new products can be demonstrated once. In the oil and gas industry a TRL scheme is currently operated by most of the Majors, the scheme operates at 7 levels with each level determining a set of goals that the technology must pass through in order to be field proven. If the Centre of excellence could operate such a scheme with the water industry backing this, it would help SME's plan their product development and ensure that they only need to prove the technology once, thus making the whole process cheaper and quicker.