

Top 10 Q and As

1. If you are concerned about climate change, should you support tidal lagoons, which are badged as 'green' because they harness alternative energy?
 - Tidal lagoons are classed as 'Nationally Significant Infrastructure Projects (NSIPs)' due to their size. It is because they are such large structures that they will have significant negative environmental impacts on, eg coastal changes, fish, birds, sub tidal habitats, protected sites. Some of these impacts can be predicted but since tidal lagoons are an untested technology, there could also be consequences that we can't predict. Mitigation of impacts has been assumed to be practical but the methods are untested and uncertain. For protected sites, offsetting should be in place and working before damage is caused by the lagoon. For some species, offsetting seems impossible.
2. A tidal lagoon in the Severn isn't a barrage, therefore is it ok?
 - A DECC feasibility study looked at lagoons as well as barrages. Although Cardiff-Weston barrage was 'worst', tidal lagoons could be just as damaging in some ways eg habitat loss, and disruption of natural coastal processes.
3. If the cost will be spread over 90/120 years, will they be good value?
 - That financing mechanism has never before been used & is passing on a burden to future generations. Also, there is no guarantee that a tidal lagoon will last that long - predictions over sedimentation/ hydrodynamic changes to the coast line may mean the operational lifetime is a lot shorter. There has not been a true cost benefit analysis, including natural capital accounting and the inclusion of decommissioning costs so the true value has not been assessed.
4. Can lagoons provide 8% of UK electricity?
 - This is a claim based on TLP plans to build 6 tidal lagoons, on the assumption that they are all built full scale and work at predicted high capacity. No guarantee all will be built or will provide level of power predicted. The Hendry Review considers a range of scenarios that suggest a lower contribution overall.
5. Tides are predictable and come and go every day - are lagoons more reliable than wind or solar and will they be able to provide base load capacity?
 - There is no guarantee that the predicted capacity will actually be reached as lagoons are untested. Also, because lagoons spread up the coast, not all will be providing power at the same time. Although this increases reliability, it means capacity although predictable will alter hugely during the day, and from day to day. At times there may be no power generation at all. At some times, lagoons will be using power to pump water.
6. Can tidal lagoons provide flood defences?
 - The lagoon will reduce the tidal range behind the lagoon wall, so there may be localised benefits. However, changes in hydrodynamics could mean greater flood risks for other areas, potentially up to 10 miles away.
7. Are tidal lagoons the best technology for exploiting our tidal resource?
 - Not necessarily. Other potential tidal range and tidal stream technologies could be more viable and less environmentally damaging. There has been an unfair focus on tidal lagoons, that could remove funding opportunities for these technologies.

8. Will the Swansea tidal lagoon be good news for job creation in the local area?

- Over 1000 people may be employed over the three to four-year construction phase (any infrastructure project will employ a lot of people during construction). These won't necessarily be local jobs - it depends which companies have the contracts to supply the materials and undertake the construction. Once the tidal lagoon is operational, TLP estimate that 28 full-time posts will be needed.

9. Will this kick-start a new global industry with significant export potential ?

- In terms of export potential, the key issue is the tidal resource available elsewhere in the world. There are very few places where there is sufficient tidal range to exploit this type of technology. The 50 sites with the highest tidal ranges in the world are in just 5 regions, with the Bristol Channel being the second highest. At the top of the list is Bay of Fundy, Canada, where they are already testing a type of tidal lagoon and in third place is Normandy, France. France is likely to look to its own tidal lagoon experiences in La Rance, Brittany.

10. Will Swansea be a good test?

- There is no doubt that lessons would be learned. However, practical techniques for monitoring and mitigating the impacts of Swansea have not yet been demonstrated. Even if these can be developed, it will take at least a decade to assess the environmental impacts and how to mitigate them. Even then, it is not clear that the lessons will be transferable from site to site. Each site is different, with its own unique environment. In the same way, there are limited lessons we can learn from La Rance or Bay of Fundy.