

Development of an ‘Innovation Index’ to drive sustainability in the food system

Terms of Reference

29th January 2020

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SUMMARY

The aim of this work is to identify a long list of late-stage, market-ready innovations relevant to the food industry (the ‘Innovation Index’) that have the potential to drive sustainability impact at scale. The innovations should have very significant environmental benefits against a key set of criteria and should be ready to be applied in a real-world supply chain context. Each innovation should be described and evaluated to help prioritise the most promising, including suggestions on how the innovations might be scaled and what environmental impact this could lead to.

A key purpose of the Innovation Index is to support WWF, Tesco and other supporting third parties to make decisions around the use of funding via the WWF-Tesco partnership into potentially game-changing innovations. However, the intention is also to make a version of the Index publicly available in order to maximise its impact.

BACKGROUND

In November 2018 Tesco and WWF entered into a partnership with the long-term aim of halving the environmental impact of the average UK shopping basket and restoring nature in food production. In order to achieve this, both Tesco and WWF recognised that some of the environmental issues facing the food system would need new thinking and innovation to unblock barriers and drive transformative progress. This is why the partnership includes a specific workstream and budget line (the **Innovation Fund**) to drive innovation in Tesco’s own operations and/or supply chain. In addition to the funding available, we can also offer the most promising innovations the support of our joint brands as well as access to WWF’s global network and Tesco’s supply chain.

At the start of our work on the Innovation Fund we agreed a set of principles that we wanted to follow – see Annex. One of the principles is to focus on scaling up **late-stage innovation**. We define this as “*an established innovation with proven benefits (e.g. through scientific research and pilot testing), but not yet widely adopted*”. It must have already gone through pilot testing and proven to be practically applicable, but may be facing regulatory delays or limited uptake, for example due to initial costs. Examples of late-stage technological innovations include DSM’s methane-reducing cattle feed additive (3-NOP) and Veramaris’ algal oil for use in aquaculture feed. WWF and Tesco have already compiled a list of some promising innovations

through their work on programmes such as agricultural R&D and Feed-X: these can be made available for further reference and analysis upon appointment.

RESEARCH OBJECTIVES

1. Identify innovations (ca. 25) that can help transform the sustainability of the food system and that are ready to be taken to scale. This should draw on, but not be limited to, existing publicly available research as well as initial research conducted by Tesco and WWF.
2. Conduct an evaluation for the identified innovations to summarise environmental benefits and trade-offs, plus other risks and barriers (e.g. legal), and indicate which innovations have the most potential (e.g. based on cost projections). In addition to publicly available information (e.g. academic journals, industry publications), this phase of the project may be supplemented by primary research (e.g. interviews with notable experts, those involved with the identified innovations, and reviews of independent LCAs).
3. Provide insights and recommendations regarding how the most promising (ca. 5-10) innovations can be scaled, both financially (e.g. government subsidy, private sector investment) and non-financially (e.g. incremental amendments to retailer sourcing standards).

PROJECT SCOPE

We recognise that ‘innovation’ can have a wide array of meanings. Our definition is something that is transformative or that provides an environmental step-change, rather than something which may have a very positive impact, but which is ultimately an incremental improvement.

The innovations can apply to any of the environmental issues in scope of the partnership, specifically:

- **Climate change**, including factories, supermarkets, transportation and agriculture
- **Deforestation-free commodities**, in particular palm oil, soy and wood/paper
- **Agriculture**, including greenhouse gas emissions, diffuse and/or acute farming pollution, soil health, pollinator health, on-farm food waste, and impacts from animal feed
- **Marine**, including wild-capture fisheries, farms and the wider marine environment
- **Packaging** (*not priority for this phase of the research as innovation for this area is covered elsewhere*)

The identified innovations can be one of the following:

- **Product** (e.g. new technological products like low-impact fertiliser, cutting-edge precision farming equipment, lower impact animal feed ingredients), or
- **Process** (e.g. new financial models to incentivise farmers not to deforest land which is their legal right, such as the Cerrado Conservation Mechanism, or to incentivise a retailer’s suppliers to invest in sustainability over the long term, such as performance payments).
- **Business model** (e.g. optimised capabilities of processes to drive efficiencies or new ways of conducting business, such as closed-loop, rematerialization).

As part of the ambition to halve the environmental impact of the average UK shopping basket, we set out to define what food items are included in the average basket, and more can be seen here:

<https://www.wwf.org.uk/updates/Tesco-WWF-map-environmental-impact-food-production>. The innovations do not necessarily need to relate directly to any of these 20 products included in the ‘average basket’ although this is welcome. They should, however, address at least one of the environmental issues covered by the ‘basket metrics’, for example:

- Greenhouse gas emissions from stores, distribution centres and logistics
- Greenhouse gas emissions from food manufacturing / processing

- Greenhouse gas emissions from cattle
- Greenhouse gas emissions associated with fertiliser (e.g. manufacture or in-field application)
- Carbon sequestration (e.g. soil management, tree planting)
- Soil health
- Farm-level biodiversity, especially pollinator health
- Sustainable water management at a regional level (e.g. irrigation equipment, stopping run-off or catchment-level water monitoring)
- Zero deforestation soy and palm oil, plus sustainable alternatives to both
- Sustainable fishery management (e.g. reducing by-catch, overfishing and impacts of ghost gear)
- More sustainable aquaculture feed (e.g. algal oil or insect protein)
- On-farm food waste reduction
- Lower impact proteins (e.g. meat alternatives)

The innovations can be identified from anywhere across the globe, provided the solution they offer is scalable or potentially applicable to Tesco's own operations or one of its supply chains.

OUTPUTS AND TIMELINE

The focal output of this study should be an 'Innovation Index', including a summary about each innovation with the following sub-headings (this can be adapted and agreed with Tesco and WWF at the outset of the project):

- Name (e.g. name, company, origin)
- Innovation summary, including headline environmental and other benefits
- Status of market readiness: scientific, technological, regulatory and economic
- Risks: severity, mitigations
- How to scale: financial (e.g. philanthropic grants, investments, social impact bonds) and non-financial

Experts from Tesco and WWF, as well as contacts in our respective networks, including some Tesco suppliers, will be available to support the research and overall delivery of the project. We expect a bi-weekly call to update on progress.

The final report and Index should be delivered by **Friday 1st May 2020**.

PROJECT GOVERNANCE AND RESPONSE INSTRUCTIONS

This project is being initiated by WWF-UK and Tesco, with input from expert advisors. We invite proposals from interested parties. Proposals should be maximum 6 pages in length and include:

- Your approach and proposed method to address the Research Objectives, Scope and Outputs.
- Consideration of available data required new data and collection methods.
- A project plan detailing proposed scope and timeframes.
- Details of relevant experience.
- A fee proposal including total days and day rates for each member of staff who will work on the project, and any non-staff/travel/ancillary costs.
- Names and CVs of all staff who will work on the project, and proposed roles (*can be beyond the 6 pages*).

Assessment of Proposals

WWF will consider proposals and appoint the successful third party through a mix of qualitative and quantitative assessment, to include:

- Quality of the submission and adherence to the brief.
- Relevant organisational experience, expertise and skills of staff.
- Cost and overall resource inputs.
- Quality and effectiveness of the proposed methodology and ability to deliver the brief.

Deadline for submission: Monday 2nd March 2020.

Decision to be made/consultant appointed by: Friday 6th March 2020.

Contract Particulars

WWF would prefer to contract this activity using the WWF Standard Terms and Conditions (attached and available on request). Should you wish to propose alternative terms then please include this information in your response.

ANNEX

Tesco and WWF Innovation Fund principles:

- Focus on scaling up late-stage innovation (e.g. trials in commercial farms/sites, advocacy); only contribute to early innovation (e.g. initial research and experiments).
- Consider innovation relevant to all types of environmental sustainability challenges (e.g. marine, forests, agriculture, water, climate, waste); however an initial focus on just one may be sensible given limited resources.
- Connect the supply chain (suppliers) to innovators.
- 'Search and rescue' i.e. actively seek contact with promising innovation (e.g. runners up of hackathons).
- Build unlikely / unexpected partnerships to drive innovation (e.g. a philanthropic foundation, WWF and Tesco).
- Identify what policies could block / enable innovation roll-out; flag these with appropriate organisations (e.g. DEFRA).
- Aim to make findings and work open source as quickly as possible (bearing in mind in-kind investment by all parties).
- Consider appropriateness of communication for each opportunity (e.g. media, customer, and in some cases no comms at all); desire to secure comms coverage should not drive selection.
- Ensure potential impact is clearly articulated (e.g. reduction in water, land, GHG emissions) before investment.