



AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

The Irish Agriculture and Food Development Authority

Teagasc Technology Foresight

**Presentation to the Second Stakeholders' Workshop
12th January, 2016**

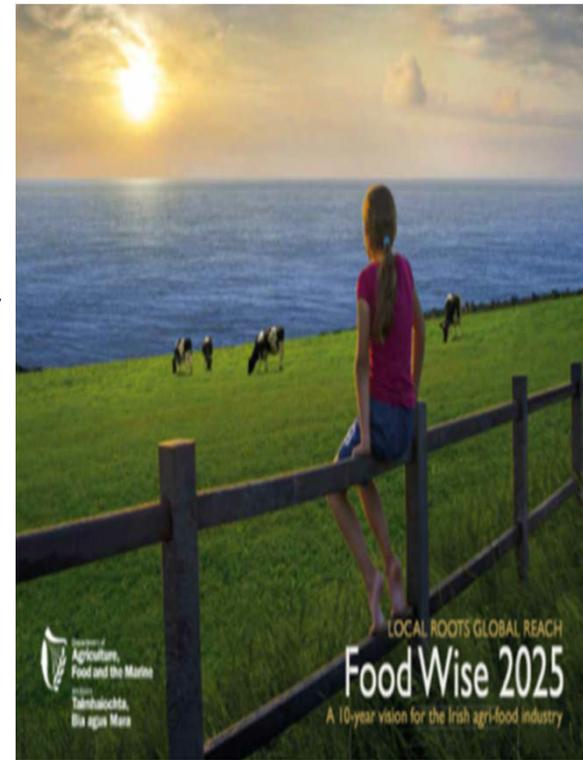
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Project Manager**



The Irish Agriculture and Food Development Authority

Why a Foresight Project?

- Food Wise 2025 identified significant growth opportunities across all sectors of the agri-food industry
- Challenges of profitability, productivity, climate change, natural resource management, waste reduction and healthier diets
- 'Business as usual' approach no longer acceptable
- New knowledge and enhanced movement of knowledge into use are needed to bring about a transformation



Disruptive Technologies

- Spate of disruptive innovation from rapidly accelerating scientific discoveries and new technologies creating major economic shifts and introducing new opportunities and risks
 - Big Data, 3D Printing, Artificial Intelligence, Robotics, Synthetic Biology, Nanotechnology, Biotechnology
- Cycles of technology-induced change have accelerated in the past decade-evidence of exponential rather than linear growth for some technological progress as new technologies converge
- We cannot even begin to conceive of the wider social and economic impacts of these technologies in the long term
- Who foresaw second-order effects of the Internet (Facebook and Twitter) or third-order effects like the use of these innovations for social movements/upheavals (Arab Awakening)?
- Eventually they could conceivably impact all sectors of the economy
- Government, business and society will need to collaborate to introduce policies and institutions to make best use of these new technologies
- We need to prepare in the agri-food sector

Teagasc Response

- Teagasc is committed to the development and application of cutting-edge sustainable processes and technologies
- These are key to achieving improved international competitiveness, responding to the changing needs of the market and the consumer, enhancing the sector's environmental sustainability and developing value-added foods on the home and international markets
- Through Foresight, we will identify the breakthrough technologies which over the long term will enable the Irish agri-food sector and bioeconomy realise its full potential for sustainable growth
- These new technologies will be described later

Project Overview



The identification of the key technologies that have the potential over the next 20 years or so to underpin competitiveness, sustainability and growth in the Irish agri-food and bioeconomy sector

FORESIGHT is ...

“A change management tool that helps leaders and those responsible for change to...

- Clarify the challenges they face
- Elaborate a hopeful vision of what can be achieved
- Prioritize the actions required and
- Understand the kind of collaboration needed to succeed.”

Characteristics of the Foresight Approach ...

- A willingness to change
- A focus on thinking about the “far” future ...
- A diversity of views from different stakeholders

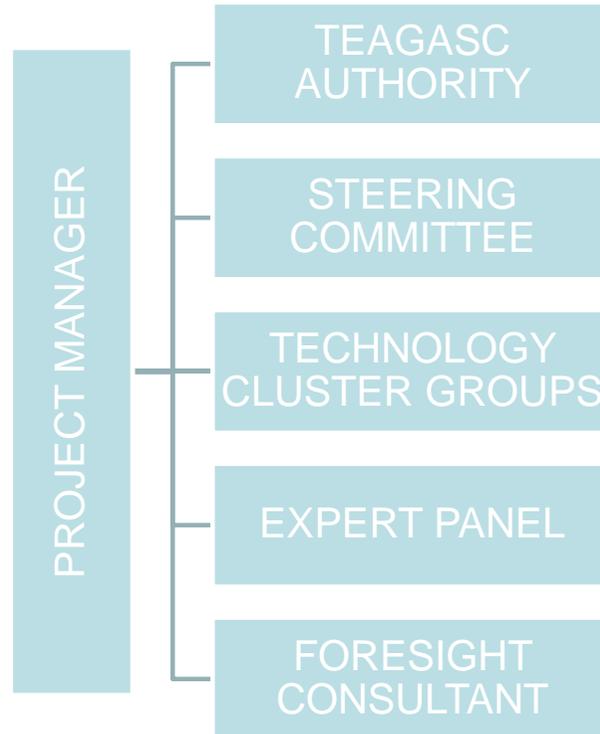
- Understand Broader **Contextual** Barriers to or Factors for Success
- Clarify **Systemic** Issues
- Escalate ‘what now?’ questions of **how to act** in immediate future

This requires both a structured approach based on **PROCESS** and **CONTENT**...

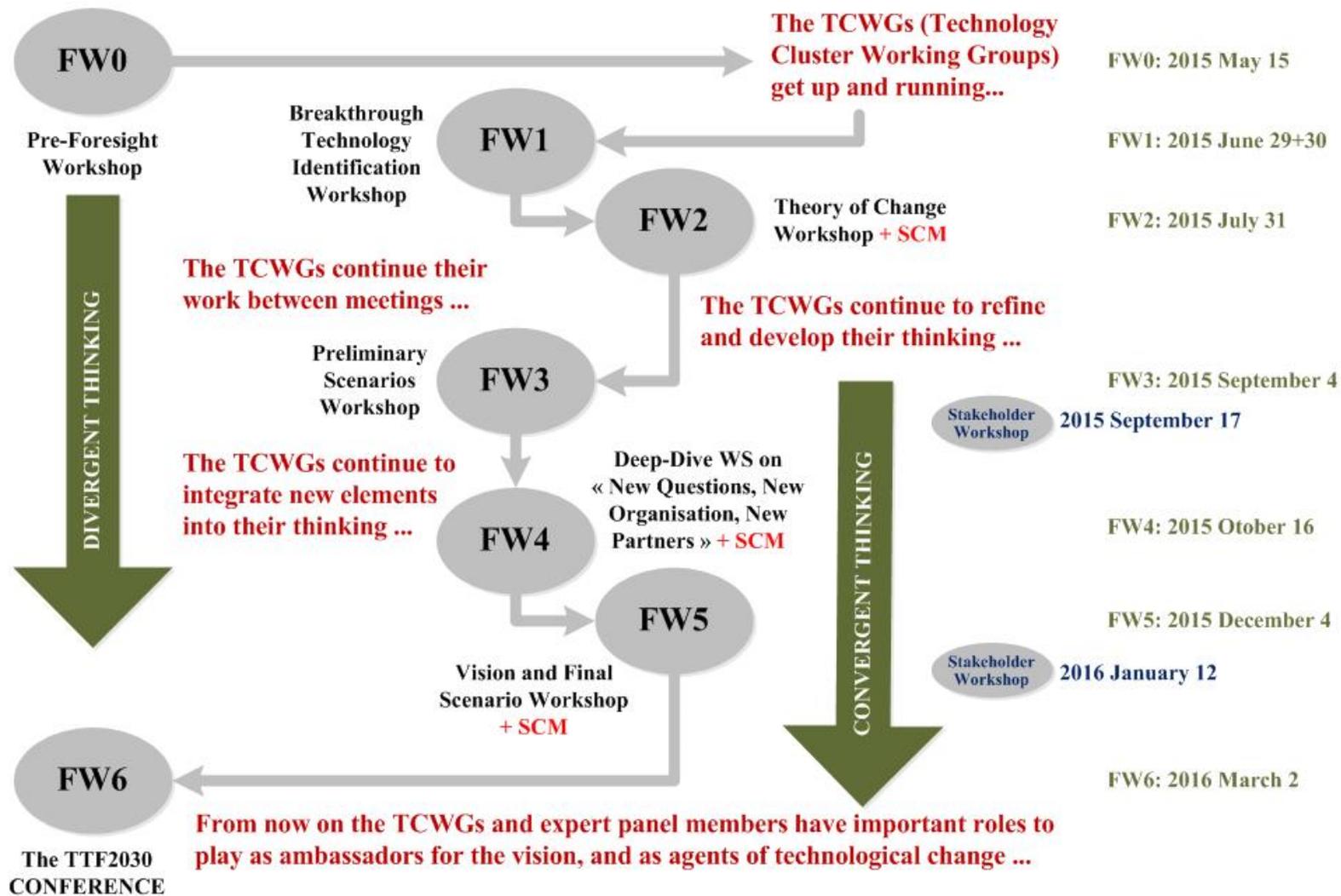
Typically this means working with two different modes:

- **DIVERGENT MODE** where every effort is made to move away from usual paradigms, to focus on what is new and prepare the mind for new thinking. This is where new goals and ambitions are created.
- **CONVERGENT MODE** where the group starts to focus on priorities, making choices about what to do next, how to do it and with whom.

The Project Structures



The Over-all Foresight Process



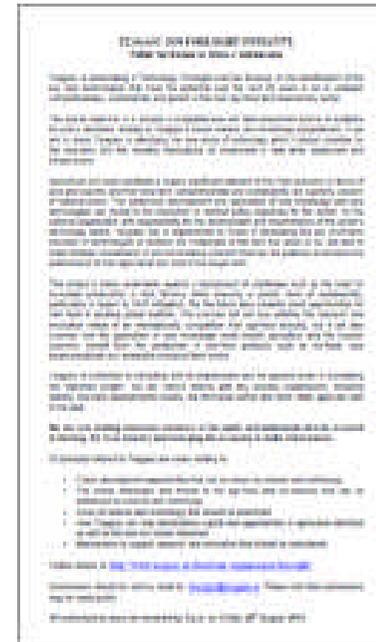
Beyond FH 2025: Further Opportunities?

- **New opportunities in Non-food Markets**
 - OECD estimates that the bioeconomy could contribute over \$ 1 trillion of Gross Value Added in OECD countries by 2030, of which 36% will come from primary agricultural production
 - Bioeconomy and Circular Economy
- **The Technology Revolution**
 - Ireland can become a global leader in areas of agricultural technology innovation and benefit from growing global agri-tech markets
 - Ireland can lead in building sustainable agricultural production systems and more sustainable consumption patterns associated with reduced waste, and market this expertise globally
 - Ireland's research strengths in food for health enables it to exploit new opportunities for novel high-value nutrition and wellness products and functional ingredients
- **Research and Development Services**
 - Opportunities for researchers to link with counterparts around the world and make Ireland a centre for internationally mobile R&D undertaken by public and private sectors

Keep in Touch with Foresight

Invitation to make a Submission to Teagasc Foresight Project

- <http://www.teagasc.ie/about/our-organisation/foresight>



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