

Towards 'Horizon 2020'

The EU Framework Programme for Research and Innovation, where are the opportunities for chemical engineers?

Dr. David Brown, CEO, IChemE



RESEARCH & INNOVATION

Horizon 2020

[European Commission](#) > [Research & Innovation](#) > [Horizon 2020](#) > Home

[Home](#) | [What is Horizon 2020?](#) | [What's in Horizon 2020 for me?](#) | [Why Horizon 2020?](#) | [What's next?](#) | [What's your view?](#) | [Press corner](#)



Before Horizon
2020 launch

HORIZON 2020

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

What is Horizon 2020?

- The EU Framework Programme for Research and Innovation
- Official documents
- Questions & Answers

What's in Horizon 2020 for me?

- Excellent Science
- Competitive Industries
- Better Society

Why Horizon 2020?

- Europe 2020
- Public consultation
- Successful EU research

What's next?

- A time line for Horizon 2020

What's your view?

- Video testimonials



Ph D Sudhanshu Bai

Press corner

- Press materials
- Country profiles and featured

Horizon 2020

- Umbrella for EU research and innovation funding
- Framework programme
- Competitiveness & innovation
- European Institute of Innovation & Technology

Horizon 2020

- Major simplification
- Stronger link between research & innovation, with greater stress on activities close to market
- Responding to major areas of concern
- Greater opportunities for promising, young scientists
- Measures to promote SMR participation

Three priorities

- Excellent science

Ideas; talent; infrastructure

- Industrial leadership

Support for key enabling technologies

- Societal challenges

Multidisciplinary challenge-based approach

Industrial leadership

Key enabling technologies

- photonics
- micro and nano electronics
- nanotechnologies
- advanced materials
- biotechnology
- advanced manufacturing and processing

Industrial leadership

Key enabling technologies

- advanced materials
- biotechnology
- advanced manufacturing and processing

Plus dedicated support for cross cutting activities

Societal challenges

- Health, demographic change and wellbeing
- Food security, sustainable agriculture, marine and maritime research and the bio-economy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, resource efficiency and raw materials
- Inclusive, innovative and secure societies

Societal challenges

- Food security, sustainable agriculture, and the bio-economy
- Secure, clean and efficient energy
- Smart, green transport
- Climate action, resource efficiency and raw materials

Chemical engineering matters

IChemE's technical strategy roadmap review

Quality of life

essential issues and concerns

sustainability

process safety

education, training & research

chemical engineering
fundamentals: systems

multidisciplinarity & collaboration

the 'bio' dimension

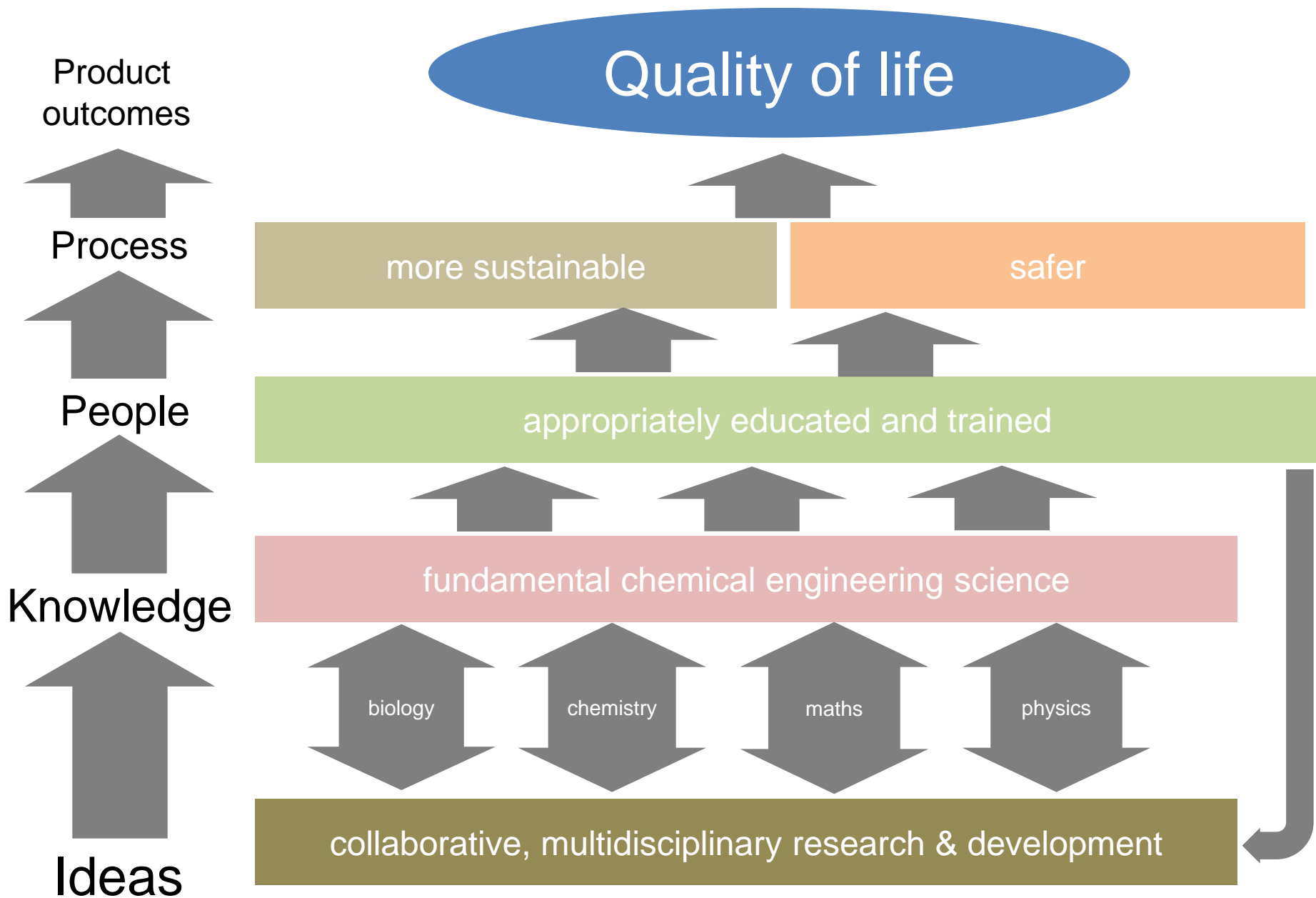
energy

food & nutrition

health & wellbeing

water

key challenges



Quality of life

Solutions based on
chemical process
technology

Policy
Framework

Economic
Drivers

Public
Attitudes

Environment
Safety
Health
Skills
Planning
Migration

ROI
CAPEX
Operating costs
Subsidies
Liabilities
Markets

Wants
Needs
Lifestyle
Risk Perception
Technology Friendly

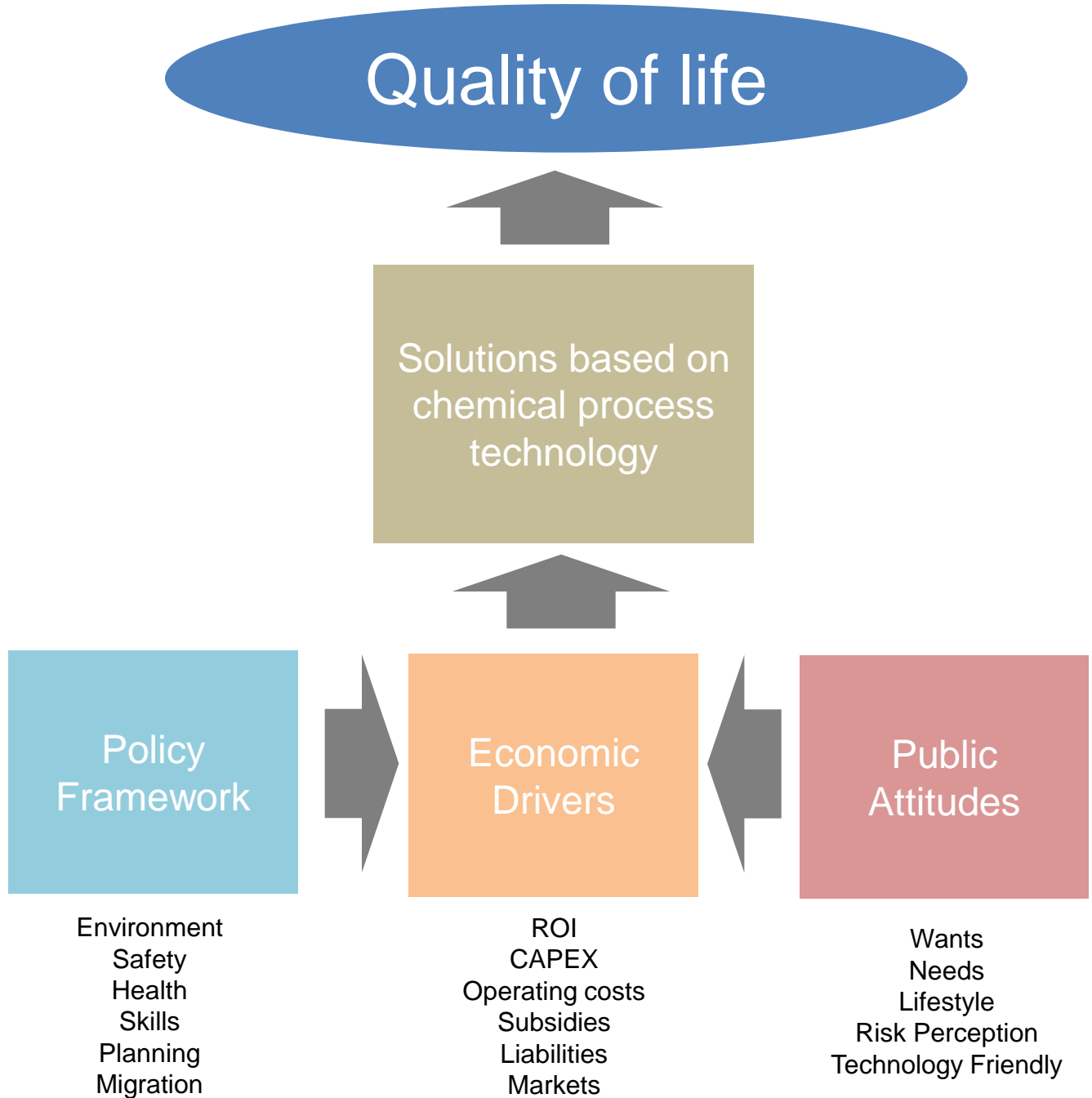
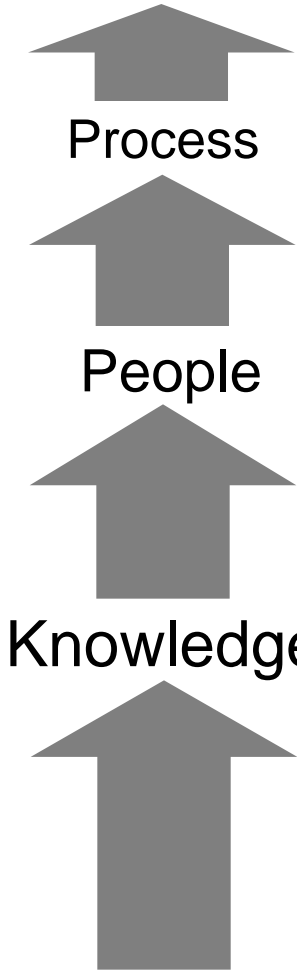
Product
outcomes

Process

People

Knowledge

Ideas



Follow the money?

- Sustainable development will be an overarching objective of Horizon 2020...
- At least 60% of the total budget will be related to sustainable development...
- Around 35% of the Horizon 2020 budget will be climate related expenditure...

Too big to ignore?

- Circa €80 billion spend 2014-20 , increasingly central to research and innovation as national budgets fall
- Chemical, biochemical & process engineering is central to much of the Horizon 2020 agenda
- Big opportunities for the chemical engineering community... BUT?

Some challenges

- Need to raise the profile and visibility of chemical engineering at European level
- Need to overcome the fragmentation of our profession
- Need to get a lot better at communicating what we do, why we do it, and the outcomes...
To policymakers; industries, young people; the media

Engagement



Questions

What tangible actions can we take, as individual professional organisations or as EFCE, to...

- Raise visibility and influence at European level
- Ensure we speak with one voice where possible
- Make our communications more consistent, compelling, and clearly relevant to European priorities?
- If we succeed, how will the chemical engineering community be different in 2020?

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