

NERC Droughts & Water Scarcity Programme

KE Challenges & Opportunities

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Programme Objective, Aim & Goals

- OBJECTIVE: to support improved decision-making and new improved solutions to enable users to identify, predict and respond to drought events, and understand the interrelationships between their multiple drivers and impacts
- AIM: to meet these knowledge needs through investment in collaborative, interdisciplinary research and stakeholder engagement (in co-design, production and delivery)
- GOALS:
 - Characterise the drivers and nature of droughts and water scarcity, including the environmental, social and cultural factors that influence their occurrence, severity and impact.
 - Examine the multiple and inter-linked impacts of UK droughts and water scarcity on the environment, agriculture, infrastructure, society and culture, and the trade-offs between them.
 - Develop methods to support decision-making for drought and water scarcity planning and management, and to assess opportunities (including community and public responses) to reduce their occurrence and severity.

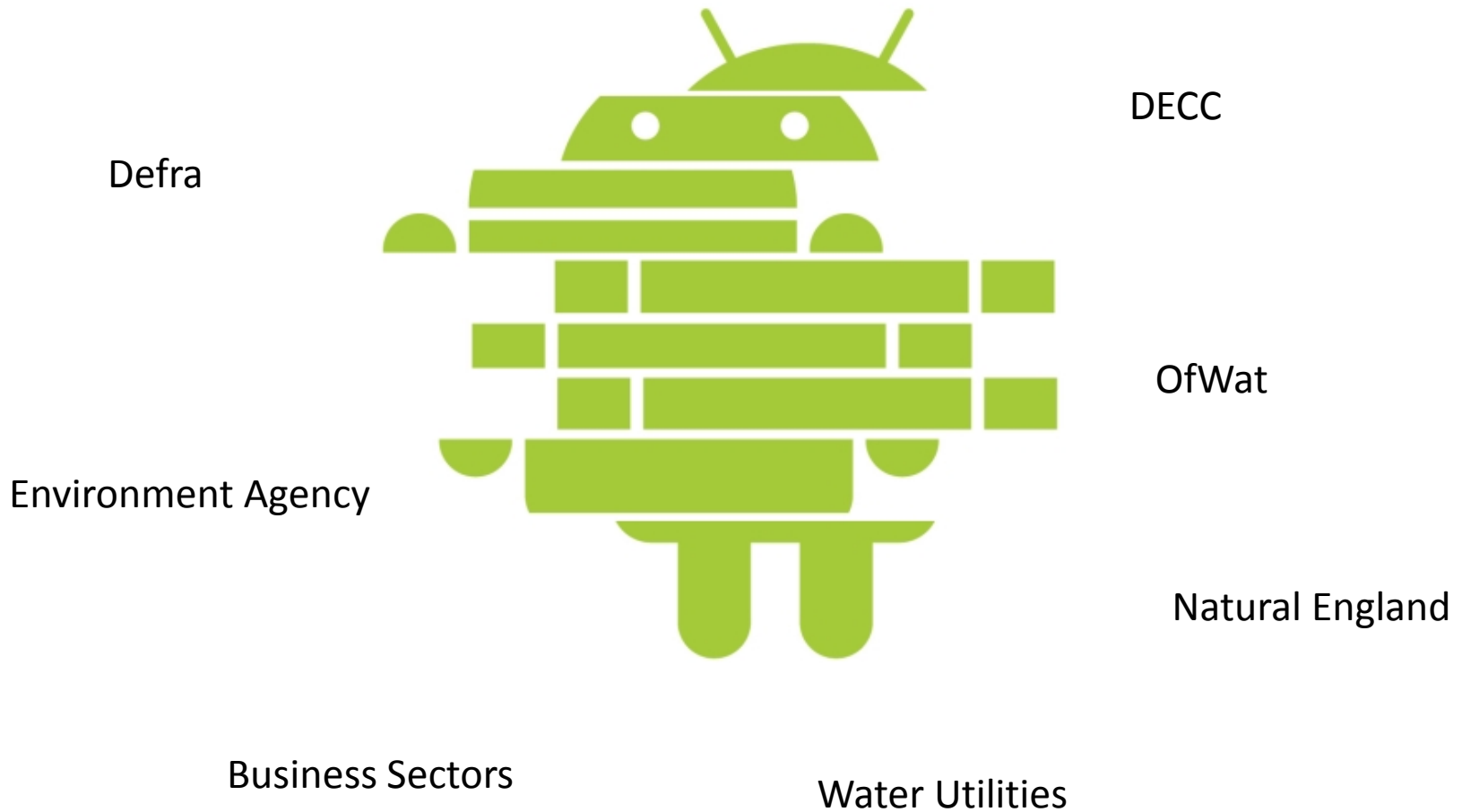
KE Challenges

- Big Picture
- Governance Fragmentation
- Research Landscape
- Push v Pull

Big Picture?

- No central water research/innovation strategy
- Water Resource and Flood policy/planning separated
- Lack of system/holistic thinking

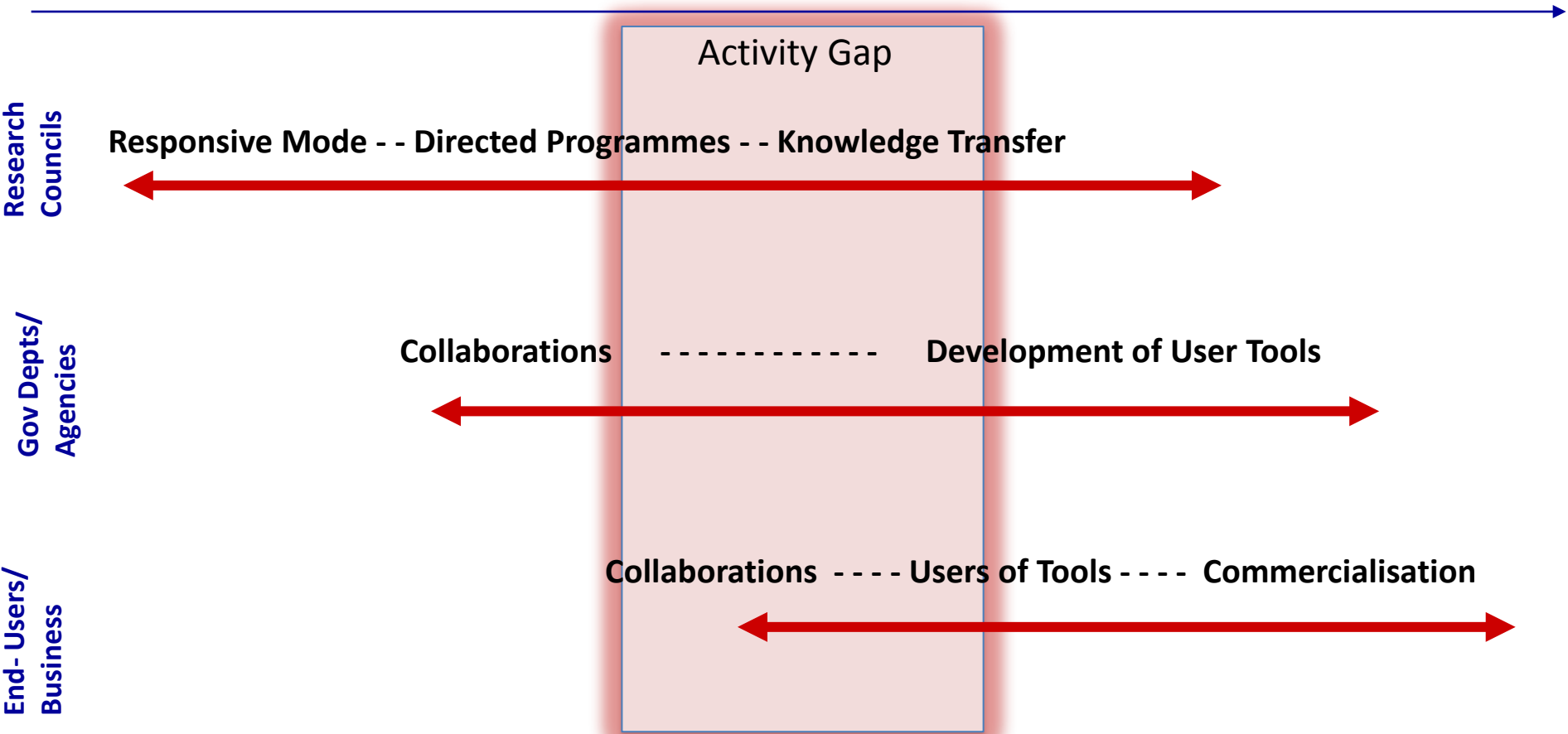
Fragmented water governance



RESEARCH LANDSCAPE



Basic Research - Applied Res - Development/Demo - Dissemination/Training - Implementation - Exploitation



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Push v Pull



Early engagement is essential

KE Opportunities

- UKWRIP
- Big Picture - Droughts & Floods Action
- Push v Pull activities - Sector needs
- KE - what works well?

Big Picture - UK WRIP Offer

A **strategic water partnership** (private, public, third sectors) providing cross-cutting leadership to optimise UK economic growth

It provides a **foresight on water security issues to 2030 & beyond** and stimulates holistic approaches to water resource management for the UK and overseas

It **brings together industry, policymakers and research funders** to provide direction & stimulate activities that require greater co-ordination of water research and innovation to **improve UK and global water security and increase UK share of the global water market.**

It does this by **increasing the uptake of UK research by business and other users** by reducing barriers to innovation and ensuring user needs influence future research and funding opportunities.

Actions are targeted in key strategic areas, agreed by the partnership, which would not otherwise be delivered by funders alone, and/or in existing mechanisms

Droughts & Floods Action

Vision

By 2030, the risks & impacts of flooding & droughts in the UK will be significantly reduced through implementing a whole (eco)systems approach to water management

What this action is about

There is a **large RCUK investment in water (c £120Mpa) requiring effective translation to have impact & deliver economic, societal & environmental benefit.** This will only be achieved if the RCUK family can link up with government & the private sector & with a regulatory regime that encourages innovation

Deliverable

First phase analysis will include: an overview of current & planned research on droughts & floods; an assessment of current partnership arrangements considering the degree of integration & a holistic, whole systems approach; & recommendations to enhance the delivery, uptake, & translation of research outputs & improve exploitation for market potential

Drivers for a Systems Approach

- The World Economic Forum (2013) identifies **water as a significant threat to the global economy in terms of both impact and likelihood**
- **Recent events have demonstrated the UK's exposure to environmental extremes.** One of the most severe droughts of the past century between 2010-2012 was immediately followed by the wettest period in England and Wales for almost 250 years
- The UK National Ecosystem Assessment (2011) and the subsequent Follow-On Phase (2014) show that some of **our Natural Assets are in decline putting at risk the goods and services** on which we all rely
- The Natural Capital Committee in reports published in 2013 and 2014, highlight particular **concern with regard to the ongoing loss of biodiversity, the degradation of ecosystems and the likely future impacts of demographic and climate change pressures**

Systems Approach

- Interventions to improve land and water management requiring difficult decisions and trade-offs to ensure water security require systems understanding
- Opportunity to engage other skills sets and networks and build capacity (droughts, floods, ecosystem services)
- Opportunity to exploit capacity through new research and innovation initiatives

OPPORTUNITIES FOR UK BUSINESS THAT VALUE AND/OR PROTECT NATURE'S SERVICES

Scoping study commissioned by VNN for the EMTF

Proposals for potential business opportunities

- (1) Product markets
- (2) Offsetting
- (3) Payment for ecosystem services (PES)
- (4) Environmental technologies
- (5) Markets for cultural services
- (6) Financial and legal services
- (7) Ecosystem knowledge economy
- (8) Corporate ecosystem initiatives

Push v Pull

- Need to identify key stakeholders and understand the end-user needs (policy, regulators, business)
- Early engagement
- Many research outputs have potential but we need to be sure they can transfer (monitoring capability, data & modeling, decision support tools, advice and expertise)

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What works well from an end user perspective?

- Early engagement & co-design and delivery - face to face engagement
- Transfer support for tools, demonstration & learning
- Bridging initiatives – KE Fellows
- Workshops with strong stakeholder representation – but should not be seen as an end product – needs follow through
- Networks (EKN, VNN, FCERM) & well designed web pages (WSKEP Portal)

THANK YOU