15 dots

• What is required?

Demonstration of true value. In one case – (one at a time/each small/sector). End to end. With well qualified strengths, robustness and weaknesses.

• What would this achieve if successful?

Demand for climate services (via evidence as opposed to claims). Identification of weaknesses. *Identify space and lead-time at which current into is not originally robust.*

• What might get in the way?

Reputational risk. Current oversell of our insight. Government targets.

• Who should be involved?

Independent sceptical evaluation of case. Best qualified providers to construct case. User(s) to verify relevance of case.

• What are the next steps?

Do it.

• When do they need to happen?

Before April 5 2012.

12 dots

• What is required?

2017 CCRA is fundamentally different to 2012 CCRA in that:

- (i) It is a set of tools for risk and decision analysis by a range of users
- (ii) It is dynamic so it can be adapted to a change policy/economic environment.
- What would this achieve if successful?

Major gaps in user needs for risk and decision analysis e.g. for ARP, DAP, NAP are filled

- What might get in the way?
 - (i) Time is short to achieve this by 2017 (particularly if a NERC programme won't start until 2013!)
 - (ii) User needs are diverse and demanding.
- Who should be involved?

LWEC partners (Defra, EA, NERC, EPSRC, ESRC), ARP reporting authorities, Research community, intermediary organisations (UKCIP, multidisciplinary consultants)

• What are the next steps?

Decide to do it. Design the outcome. Make a plan.

• When do they need to happen?

Before 2017.

10 dots

• What is required?

Large, well-funded interdisciplinary research programme on UK climate services

• What would this achieve if successful?

Enable society to make informed climate related decision-making

• What might get in the way?

Lack of research council coordination

• Who should be involved?

Users and producers of climate information

- What are the next steps?
- Planning and focussing the research programme
- When do they need to happen?

ASAP

9 dots Clare Goodess

• What is required?

As a short-term goal – a simple information 'hub' including a mapping of current networks (projects and groups) -> including information about involvement of users/stakeholders. Links to resources/web sites etc.

• What would this achieve if successful?

An indication of the breadth of work/activity being done. A starting point for identifying gaps, building networks, synthesizing/evaluating activities and building a knowledge management framework.

• What might get in the way?

How to restrict? Purely climate services? Geographically?

• Who should be involved?

Should be an 'open access' hub – with people encouraged to provide information and access to project results/reports etc.

• What are the next steps?

Material from this meeting provides a starting point.

• When do they need to happen?

Soon – with ongoing updating and enhancement.

9 dots

• What is required?

'Researchers in residence' – RC-funded placement of climate researcher into user organisations, e.g. Emily Shuckburgh in DECC.

• What would this achieve if successful?

Improve dialogue and mutual understanding across researchers-users spectrum

Define a community?

• What might get in the way?

Is there a suitable funding route? Would both parties be interested?

• Who should be involved?

RCs, Scientists, End user organisations

• What are the next steps?

Secure appropriate funding. Identify 'pilots'.

• When do they need to happen?

Soon – in order to feedback and contribute to this debate. Shaping UK climate services.

8 dots

• What is required?

Less focus on research or programme approach ... Need to take service delivery approach.

Therefore: Funding for users as well as researchers.

: New shared objectives, e.g. meets 'users' business' objectives...will it meet academic objectives/researcher needs (i.e. end product not a peer-reviewed paper, but a <u>SERVICE</u>)?? If Climate Services is the bit between research and consultancy, who pays/invests, how to achieve multiple objectives.

• What would this achieve if successful?

A <u>SERVICE</u> (or set of services) that have practical merit but might not have academic merit.

• What might get in the way?

Conflicting 'needs' of those involved (e.g. academics becoming service providers – does this work for your institution?) Funding unbalanced/unaligned ...will it always be research focused or 'business' focused ...will it ever really serve both masters equally.

• Who should be involved?

Researchers/users/doers

• What are the next steps?

Develop a 'model' for <u>DELIVERING</u> Climate Services Develop a funding model for all elements (not just research) Resolve discussion on WHO is responsible for delivering Climate Services....and to what extent PUBIC GOOD or paid for service

 When do they need to happen? SOON!

6 dots

• What is required?

KNOWLEDGE MANAGEMENT SERVICE

A way of knowing WHAT info is already available, HOW to access and HOW to $\underline{\text{USE}}$

Encourage sharing of bespoke/consultancy info...may benefit other, very different users

• What would this achieve if successful?

Better targeting of GAPS for further research

Existing knowledge used more/better

• What might get in the way?

Cash and expertise in knowledge management

'Ownership' of info – if you paid for it may be you don't want to share

How to regulate – quality control vs getting as much out there as possible

• Who should be involved?

Knowledge Management Experts

Holders of info

Users of info

• What are the next steps?

Get funding for it!

• When do they need to happen?

Soon!

6 dots Peter Stephenson

• What is required?

Commitment from RCs (and others) to provide resources to support community and future activity on climate services science. ->This could be a pot of funds for future discussions/meeting or a guarantee of funding for research in this area

• What would this achieve if successful?

Having a commitment to funding would encourage engagement from researchers and other stakeholders

• What might get in the way?

Lack of available resources

Lack of understanding of future research agenda

• Who should be involved?

Research councils/ESRC/NERC/EPSRC/AHRC

• What are the next steps?

Internal discussions in RCs within a LWEC forum

• When do they need to happen?

Sooner rather than later

5 dots Polly Turton

• What is required?

A series of targeted feedback sessions about the discussions and outputs/outcomes of this workshop for <u>purveyors</u> and <u>users</u> of climate information/services.

Once key stakeholders in purveyor/user groups have a similar level of understanding about what 'climate services' is all about, organise one more vent/forum to bring reps from the producer, purveyor/and user??? group together to ...inform and develop research programmes

• What would this achieve if successful?

Common ground/understanding of climate services

Commitment to contribute to research and decision making programmes

• What might get in the way?

Commercial sensitivity (e.g. consultants)

Intellectual Property (e.g. Met Office)

Busy calendars

• Who should be involved?

TSB MBE KTN Defra/DECC/BIS/DfiD et al. Met Office NERC reps LWEC Adaptation Reporting Powers respondents, i.e. major utilities/statutory bodies/service providers CCC/ASC Climate UK – LCCP/Adapt NE/NW CCP Institute for Sustainability City Governments (Core Cities) Environment Agency Professional Institutions – CIBSE/IMechE/RTPI/RICS/RIBA

• What are the next steps?

Notes from this workshop to be typed up and circulated

MBE KTN to organise the feedback sessions

• When do they need to happen?

Between now and Christmas

Event in March 2012?

5 dots

• What is required?

A special issue of Nature Climate Change focusing on climate service science – inc. Science and social scientist (along the lines of Phil. Trans. Royal Society B which focused on interdisciplinary research – organised by RELU – Jeremy Phillipson) and including 'perspective' pieces from users (e.g. ARUP)

• What would this achieve if successful?

Raise interest/awareness in research community

Gauge level of interest from research community

Establish an 'avenue' for academic recognition in a peer-reviewed journal

• What might get in the way?

Nature don't agree

No demand to submit articles

• Who should be involved?

NERC/ESRC and Met Office

• What are the next steps?

Talk to Nature

• When do they need to happen?

Initial call from Nature in a year + time

5 dots Myles Allen

• What is required?

Towards quality assurance of climate services:

Agreed set of information and processes that represent a necessary (prob. not sufficient) condition to judge whether climate service information is useful and/or appropriate Mechanism for discriminating between information sources that do/ do not satisfy these criteria Distinguishing between 'good enough' and 'best available'

• What would this achieve if successful?

Long-term clarity in what climate services can and cannot provide Improved confidence and public/user perception of climate service science Rationalisation of field of providers – more/fewer?

• What might get in the way?

Proliferation of purveyors and multiple standards Danger of premature ossification of practices International discrepancies

• Who should be involved?

RCs, Met Office, major potential providers (consultancies), EU

• What are the next steps?

Research into standards currently in use or in use in related fields.

EU-wide discussion of standards

• When do they need to happen?

2012

5 dots

• What is required?

A paper (building from this workshop) which articulates 'a' view of what climate services (in the UK?) are and which articulates who the actors/stakeholders/communities are. To be submitted/presented at relevant events in 2012, and shared across participants at this workshop

• What would this achieve if successful?

A clever definition of climate services which can be debated/challenged/agreed by key actors in the UK

• What might get in the way?

Articulating coherently enough in the paper what our (UK) view of climate services is

Not an awareness of the 'space' that exists between researchers and users and the role intermediaries play in articulating this

• Who should be involved?

UKCIP in the first instance writing up the findings from the workshop in consultation with the group

- What are the next steps?
- UKCIP in the first instance writing up the findings from the workshop in consultation with the group
- When do they need to happen?

In good time to submit abstracts to key identifies meetings in 2012/13

4 dots

• What is required?

Communities of Users with defined needs (representing different areas of decision-making)

Define demand Cost/benefit balance -> benefit for users/comms needs by NAP/multiple communities/capability/best practice

• What would this achieve if successful?

Pls check

Two-way dialogue to raise awareness of user requirements

Researchers can provide useful information

• What might get in the way?

Finding users

Convincing 'users' to be involved and to become a community. Competitiveness

• Who should be involved?

Depending on specific community (e.g. Government (and equivalent) and adaptation for most sectors

Professional networks and bodies - CIWEM/KTNs/trade bodies

Science communicators to facilitate

Delivery bodies (regulators)

• What are the next steps?

Awareness raising – series of events (perhaps?)

• When do they need to happen?

Soon, e.g. in consultation phases of adaptation programmes

3 dots

• What is required?

Opportunities for users and scientists and social scientists to work together to develop new, existing examples and case studies that illustrate the value of this work

• What would this achieve if successful?

An enthusiastic user community that will aid learning in this fast moving area

• What might get in the way?

Insufficient interest or time from users; lack of shared objectives or agreed outcomes

• Who should be involved?

Selected users/scientists/social scientists/LWEC

• What are the next steps?

Small targeted programme or demo projects

• When do they need to happen?

Soon, if you want to make sure you get continued user involvement

3 dots

• What is required?

Req: Improved user capacity to understand and access climate services.

- Includes non-specialist users
- Includes communicators of climate info
- Need: Accredited training courses aimed at various (i) levels of expertise and (ii) specific area of interest
- What would this achieve if successful?

It would satisfy the above requirements

• What might get in the way?

Who does the accreditation? /Will you get end-user buy-in? /Do we have the capability to deliver this? / Who would champion this in universities?

• Who should be involved?

HEIs, NERC, Met Office, professional bodies, chartered institutes, govt backing

• What are the next steps?

Scoping study

Issue a call for the (i) requirements capture and (ii) demonstration delivery

• When do they need to happen?

5 April 201x

2 dots

• What is required?

A common hub or focal point through which

- Researchers can access what end-users are doing (putting information into practice)
- Users can access relevant climate knowledge

(could be web based knowledge exchange platform, plus...)

• What would this achieve if successful?

Dialogue

Access

• What might get in the way?

Who will take the lead to establish this?

Who will fund it?

• Who should be involved?

Defra-EA-Met Office-Research Councils (LWEC partners) to establish

Then the whole community to engage

• What are the next steps?

Define/specify

Agree funding

• When do they need to happen?

Soon – feed into plans for enhanced role at EA

4 dots

• What is required?

Coordination of different disciplines to facilitate holistic decision-making

• What would this achieve if successful?

Enhanced engagement of right researchers with right users

Development and testing of tools – identification of generic information

CASE STUDIES TO FOCUS CO-ORDINATION (e.g. linked to regulatory framework), e.g. coastal, water, cities, land use

Optimal outcome of deciosin-making

• What might get in the way?

Funding/different priorities/overcoming path dependencies/who has the lead (could be lead decision-maker)

• Who should be involved?

Case study specific

Researchers/users/responsible authority (LEAD)

• What are the next steps?

Scope current landscape – build on existing work

Identify further case studies

BE OPPORTUNISTIC!

• When do they need to happen?

Need to adapt to the relevant timescale for that decision context

2 dots

• What is required?

A regulatory environment or 'best practice culture' which encourages/requires/mandates consideration of 'weather and climate risks' in decisions/actions

• What would this achieve if successful?

Stimulate development of methods/awareness raising etc.

• What might get in the way?

Fear of regulatory creep

Fear of stifling innovation

Government desire to reduce 'red tape' and regulatory burden (star chamber)

• Who should be involved?

Regulators/professional bodies/trade organisations/policy makers and economists

• What are the next steps?

Prepare a discussion paper? Organise workshop

• When do they need to happen?

Within 12 months?

Timescale consistent with National Adaptation Plan? Alongside implementation of NAP via govt depts

1 dot Polly Turnton

• What is required?

Buy in from the UK Construction Industry for the development and use of climate information and services

Propose the creation of a new UK Green Building Council Task force on Climate Risks and decision making

• What would this achieve if successful?

Raising the profile of climate risks and decision making amongst key UK construction industry representatives/leaders/decision makers

• What might get in the way?

Competing proposals

Not considered a priority by UKGBC

Who should be involved?

UKGBC/TSB/MBE KTN/Met Office/LWEC/Defra, DECC, BIS/ EA/ASC/Climate UK/Institute for Sustainability

• What are the next steps?

Notes from this workshop to be typed up and circulated

MBE KTN to coordinate the writing of a proposal and buy in from key stakeholders (as in 'Who should be involved')

• When do they need to happen?

January 2012 ->

1 dot

• What is required?

Generic tools and approaches to help address users QNS

• What would this achieve if successful?

Efficient and effective service delivery

• What might get in the way?

Scientific limiters

Data handling limitations

• Who should be involved?

Science Community

-informed by previous/ongoing exercises re user needs

• What are the next steps?

Build picture of user needs first

Continue generic science devt in meantime

• When do they need to happen?

ASAP

1 dot

• What is required?

ESRC to identify <u>what</u> social science expertise is required – to the level of personnel and institutions

• What would this achieve if successful?

A mapping of relevant and best quality social science expertise

• What might get in the way?

Perception of favouritism

Necessarily, some research areas will be left out or minimised

• Who should be involved?

Research Councils

TSB

LWEC partners

• What are the next steps?

ESRC to initiate process with other research councils

• When do they need to happen?

Immediately – doesn't need any resources per se

0 dots Ruth Hughes

• What is required?

Circulate workshop reports and series of feedback sessions to wider group of researchers (social science and science) – not at workshop. (Agreement for research funding)

Joint event with researchers and purveyors/users to develop

• What would this achieve if successful?

Raise awareness in <u>all</u> the research communities

Wider participation – forthcoming activity

Build connections between research community and research <->users

• What might get in the way?

Workshop fatigue

There <u>must</u> be an agreement from research councils to fund

• Who should be involved?

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ESRRC
NERC
ESRC
SRC
HILWEC partners (Defra, DECC, DfiD)
ESRC
TSB
Purveyors – see other part
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KTNs

• What are the next steps?

Prepare workshop report

• When do they need to happen?

ASAP

0 dots

• What is required?

Funding streams

• What would this achieve if successful?

Enable and facilitate establishment of the community

• What might get in the way?

Change of government, economic downturns

Unable to demonstrate the value to the funders

Changes to the decision to fund

Pressure to demonstrate 'success'

• Who should be involved?

Gov., Research Councils, all potential funders (get innovative)

Users

Providers to articulate value

EU/international streams

What are the next steps?
 Approach all groups mentioned

Assess and articulate value of climate services

 When do they need to happen?
 Start asap, could increase gradually over tim Need to identify responsibilities

0 dots

• What is required?

Better ambition (less ambitious)

What are the next steps to forming a community

Understanding the need for developing a community

• What would this achieve if successful?

Clarity of purpose

How vulnerability and impacts fit into Climate services

• What might get in the way?

Definition of Climate Services

Where are the boundaries

• Who should be involved?

Does this group need to agree on what this activity is or does it get tested with LWEC next before sharing with wider world (e.g. through the conferences next year)

• What are the next steps?

Agree on who needs to do what next. Identify a proto-steering group to guide this process. Need to include people from different areas of expertise in this group (i.e. not just UKCIP/LWEC)

• When do they need to happen?

Soon