Market Research for a Climate Services Observatory (MARCO)

Wednesday 26th September 2018, Berlin
2nd General Assembly of the Copernicus Climate Change Service (C3S)

Thanh-Tâm Lê
(Climate-KIC)
Gathering a consortium of market research firms, climate scientists, climate services practitioners, and innovation actors, to

- Assess the EU CS market with an integrated approach
  - Benchmark existing suppliers and their business models
  - Quantify and qualify CS needs at EU level
  - Investigate case studies for validation
- Forecast future user needs and assess market growth
- Lead to market opportunities and promote market growth
  - Identify market opportunities and new potential CS
  - Raise awareness and connect CS providers and users
  - Make recommendations on CS market structuration & observation
- Project to be completed by end 2018
The MARCO Project

Scope and scale of climate services

Total Market Potential

Existing market

Supply

GAP

Demand

Latent market

New Business opportunities

Latent User needs

Current Market potential

Map of actual and untapped market

Gaps & Opportunities

User segmentation

Untapped market

Benchmark of existing suppliers

Outlook into market growth

Future Market potential

Recommendations for tapping, enabling & observing the market

New business opportunities

Complete ontology & recommendations

Stakeholder Mobilisation

Campaigns on the benefits of climate services

Vulnerability analysis & risk assessments

Case studies (sector & region specific)

MLP* & Qualitative interviews

Quantitative analysis of demand

Gap analysis

Mapping of suppliers

Business model innovation

SWOT

Methodologies

*Multi-level perspective
### MARCO highlights: summary of project achievements

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying market opportunities</td>
<td>9 case studies + Market size assessment + Qualitative demand analysis (trends, needs, competitors, uses, advantages...)</td>
</tr>
<tr>
<td>Providers’ Database</td>
<td>1 supplier database with 500+ entries</td>
</tr>
<tr>
<td>New business models, market intelligence</td>
<td>Mapping of business models + Innovation models</td>
</tr>
<tr>
<td>Resilience monitoring &amp; Forecast</td>
<td>Forecast and market potential on sectors</td>
</tr>
<tr>
<td>Raising awareness</td>
<td>Posters + 5 infographics on case studies + 1 video</td>
</tr>
</tbody>
</table>
MARCO highlights:
scope and scale of Climate Services

Climate Services was first estimated to be £12.3bn or EUR 17bn in 2010/11. This has increased to EUR 24.2bn by 2015/16.
MARCO highlights: current landscape of European-based CS providers

Database consists of +500 entries, collected from surveys, by desk research and identified by kMatrix’s transactional analysis.

Market still dominated by public and research-oriented providers (compared with private / commercial providers).

Figure 5: Absolute numbers of types of CS providers and relative share of total sample.
MARCO highlights: current landscape of European-based CS providers

**Upstream activities** (provision of climate information and regional downscaling) dominated by public organisations, while the number of private providers is steadily increasing towards further **downstream activities** (impact modelling and climate consultancy services).

*Figure 9: Relative share of public and private CS providers engaged in CS related activities*
MARCO highlights: analysis of CS market transactions

Eight Categories of Procurement across the EU %

- Impact Analysis plus Vulnerability analysis: 10%
- Actuarial long range forecasting: 12%
- Corporate Governance: 24%
- Vulnerability Analysis: 13%
- Adaptation Planning: 8%
- Research Services: 11%
- Actuarial long range forecasting plus Impact analysis plus Vulnerability analysis: 10%
- Impact Analysis: 12%
MARCO highlights:
case studies and infographics

- REAL ESTATE
  - DENMARK

- CRITICAL ENERGY INFRASTRUCTURES
  - GERMANY & POLAND

- FORESTRY & AGRICULTURE
  - FRANCE

- TOURISM
  - AUSTRIA

- WATER & SANITATION
  - CATALONIA

- MINING SECTOR
  - EU

- LEGAL SERVICES
  - UK

- RENEWABLE ENERGY
  - DENMARK

- URBAN INFRASTRUCTURE
  - GERMANY

WATER AND SANITATION IN CATALONIA

THE GLOBAL WATER MARKET

MARCO REPORTS

USE OF CLIMATE SERVICES

Key message

Key message

Use of climate services in Europe: a synthesis of case studies from across the EU, showcasing the benefits and potential of integrated climate services for adaptation and disaster risk reduction.
MARCO partnership

- Identifying market opportunities
- Providers’ Database
- New business models, market intelligence
- Resilience monitoring & Forecast
- Raising awareness
MARCO

towards an observatory/collaboratory

1. Data Hub

14. Policy recommendations

13. Suppliers’ Database

12. Helpdesk

11. New business models, market intelligence

10. Networking

2. Identifying market opportunities

3. Stimulating the market, matchmaking

4. Education/Training

5. Consulting

6. Raising awareness

7. Standardisation of CS

9. Resilience monitoring & Forecast

8. Identifying framework conditions

MARCO Observatory/Collaboratory

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MARCO and C3S: Climate Data Store infrastructure

- Science-focused:
  - Web Portal
  - Toolbox
  - Brokering component
- MARCO to integrate socio-economic aspects, including market growth mechanisms
MARCO and C3S: Community building

- Bridging the gap between climate science, policy and practice for adaptation decision-making and disaster resilience
- Identifying diversified climate services’ brokers in ensuring high quality climate guidance
Thank you!

Join the side-event workshop on Friday 28th September

Steigenberger Hotel Am Kanzleramt, 5 Ella-Trebe Strasse, Berlin
Time: 9.00 to 16.15

Get in touch for more information

- All of the reports produced in the project will be available for download on the MARCO website
- Project coordinator: Thanh-Tâm Lê, EIT Climate-KIC
  Contact us: contact@marco-h2020.com
- Visit our website: www.marco-h2020.eu
- Follow us on Twitter!
  @marco_h2020
Highlights from the EU-MACS project

obstacles to the uptake of climate services
and how to resolve them

Adriaan Perrels
Finnish Meteorological Institute (FMI)

COPERNICUS Climate Change Services
2nd General Assembly,
Berlin 25 – 27 September 2018
Main features of EU-MACS

• Assesses **drivers, obstacles and enablers** for climate service market development
• ... including the role of **innovation**
• Aims to promote **better matching** of supply options and user needs
• Engages with stakeholders from **finance, tourism and urban planning**
• Produces recommendations on policies and measures
• Offers tools and guidance for users and providers
• joint Deliverable with MARCO on market prospects
Key building blocks

- Identifying & analyzing structural factors
  - Regulation
  - Market structure
  - Benefits
  - Risk scope

- Interaction formats
  - In the project – stakeholders
  - In climate services provision & use

- Guidelines & Tools
  - Policy briefs
  - Living Labs
  - FAQ
Obstacles and drivers can be arranged in 3 domains:

- **Demand** (for climate services)
- **Supply** (of climate services)
- **Matching** of offers and needs

### Demand creation factors
- Awareness, incentives
- Climate risk reporting in finance & tourism
- Adaptation plan obligation for cities

### Supply conditions, such as:
- CS RD&D budget & orientation
- National regulations on WCS provision
- Regulation on PPP
- Information policy & R&D instruments
- Information based policies / open data realization

### Transaction cost factors, e.g.
- Search cost
- Fitness uncertainty

### Governance / mind set
- Stance to climate change
- Technology or social oriented driver

### Involved fringe for EU-MACS

### (Global) trends in technology, climate, risk attitudes, etc.
# Value chain segments of climate service provision

<table>
<thead>
<tr>
<th>Basic infrastructure</th>
<th>Modelling (raw data)</th>
<th>Climate information</th>
<th>Regional climate modelling &amp; impacts (incl. econ)</th>
<th>Translation layer</th>
<th>(end) users</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Meteorological Services (NMS)</td>
<td>Public climate services centres (not NMS)</td>
<td>Universities and research institutes</td>
<td>Private firms</td>
<td>NMSs</td>
<td></td>
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<tr>
<td>Private firms</td>
<td>Private firms</td>
<td>Private firms</td>
<td>N/L public agencies</td>
<td>NGOs</td>
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<tr>
<td>National / local public agencies</td>
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</table>
### Most prominent obstacles

**Demand:**
- (preliminary) impact projections are of minor importance compared to many other risks
- inherently short term oriented business model (ruling out adaptation CS)
- no clue about how such information could be used in decision making (i.e. no risk management)
- lack of awareness of climate change or (seasonal) climate variability or climate information (as regular input for decision making)

**Supply:**
- available CS information is not really packaged as service (but e.g. rather as R&D project output)
- CS product portfolio is totally or largely out of scope for the user group
- insufficient resourcing of CS product development and delivery

**Matching:**
- mismatch of provider’s and user’s ‘language’ and conceptions
- uncertainty about the eventual relevance of the CS for the user’s decision process (‘fit for purpose’)
- temporal and/or spatial resolutions do not match with other user’s data
- insufficient guidance and/or embedded consultancy
• It is very hard to combine skills for all 3 segments in one organization
• Seasonal and adaptation oriented climate services are largely separate w.r.t fitting interactive formats
• Market volume depends also on market structure
• Innovations in downstream and impact CS especially important
Exploration & interaction formats

Product scenario matrix

Initial palette of CS for tourism

Business model canvas
Quality assurance in user perspective

Provision of meta-information by type of provider

Significance of different quality criteria for users

Engagement in quality assurance and its components
resource cost may be more in use than in acquisition even if climate service is charged

Preparedness for joint acquisition of climate services

- No, because our climate service needs are quite specific
- No, because our climate services acquisition happens irregularly
- No, because it mixes with confidential or commercially sensitive information
- Yes, in order to better exploit the potential of climate services
- Yes, with organisations from same area
- Yes, in order to share costs / save resource use

Acquisition cost of CS

- No purchase cost (10)
- Modest purchase cost (18)
- Significant purchase cost (4)

Resourcing implications for use of CS

- No or no notable extra resource use (14)
- Moderate extra human resource and/or equipment (11)
- Significant extra human resource and/or equipment (7)
## Preliminary Identified instruments

<table>
<thead>
<tr>
<th>Instrument categories</th>
<th>Public and sector policies</th>
<th>Measures at organisation level</th>
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<tbody>
<tr>
<td><strong>Financial incentives</strong></td>
<td>Climate communication fund; Public service contracts on CS; Promoting / supporting brokerage services (e.g. start-up subsidy)</td>
<td>Sponsoring networking between business – experts – policy makers; Promoting / supporting brokerage services (e.g. start-up VF)</td>
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<tr>
<td>- subsidies</td>
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<td>- sanctions</td>
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<tr>
<td><strong>Obligations</strong></td>
<td>Regulated climate proofing (incl. resilience level); Societal risk assessments; Public service contracts on CS;</td>
<td>Sectoral guidelines and standards (such as endeavoured in the TFCD process)</td>
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<tr>
<td>- Accountability</td>
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<td>- Disclosure</td>
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<tr>
<td>- Minimum standards</td>
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<tr>
<td><strong>Information</strong></td>
<td>Regulated climate proofing (incl. resilience level); CCIAVD as part of business education; Ambitious open data policy; W&amp;CS marketing packages; CS Best Practice programmes</td>
<td>Sponsoring networking between business – experts – policy makers; W&amp;CS marketing packages; CS Best Practice programmes</td>
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<tr>
<td>- Training</td>
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<td>- Campaigns</td>
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<tr>
<td>- Open access</td>
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<tr>
<td>- Communities of practice</td>
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<tr>
<td>- Quality standards</td>
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<tr>
<td><strong>Hybrid</strong></td>
<td>Public service contracts on CS; Exploration of new business &amp; resourcing models ('fremium'; P&amp;U clubs; etc.); Promoting / supporting brokerage services;</td>
<td>Promoting / supporting brokerage services;</td>
</tr>
<tr>
<td>- Feebates (performance dependent) e.g. related to progress in uptake</td>
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<tr>
<td>- Sanctions combined with standards / open access / disclosure rate</td>
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Conclusions (selection)

• The greater part of current climate services (CS) related activities is realized under *non-market conditions*; yet there are signs of change

• Public CS providers and public-private partnerships for CS provision should pay sufficient attention to *business model development*, in connection with proper understanding of viable positions in the value chain (*role creativity!*)

• A *layered market structure* (up/mid/downstream) gets a more likely outcome

• *Benefits* of climate services need to be better demonstrated and communicated

• Consequent and comprehensive *open data policy* is key enabler, but needs careful reflection on *charging* and public-private domain delineation

• Given the novelty of CS for many users joint promotion of different CS (seasonal, adaptation oriented, …) is not helpful for CS uptake

• Well communicated and *harmonized standards and quality assurance* will promote uptake of CS; climate ↔ non-climate data?

• *Funding limitations* seem more crucial for *regular CS delivery* than for CS development
EU MACS media & contacts

Website:  http://eu-macs.eu/#

TWITTER:  http://eu-macs.eu/#

Newsletter:  http://eu-macs.eu/....

http://p4eabqd3.evenium.net
Steigenberger Hotel, Friday
<table>
<thead>
<tr>
<th>Participant</th>
<th>Type of organisation</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMI (coordinator)</td>
<td>Met-services; climate &amp; adaptation research;</td>
<td>Finland</td>
</tr>
<tr>
<td>HZG-GERICS</td>
<td>Climate services &amp; research</td>
<td>Germany</td>
</tr>
<tr>
<td>CNR-IRSA</td>
<td>Hydrological research &amp; consultancy, incl. adaptation</td>
<td>Italy</td>
</tr>
<tr>
<td>Acclimatise</td>
<td>Climate services provider</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>CMCC</td>
<td>Climate research and services</td>
<td>Italy</td>
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<tr>
<td>U_TUM</td>
<td>Market start-up support for innovations</td>
<td>Germany</td>
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<tr>
<td>U_Twente</td>
<td>Research in innovation mechanisms and policy</td>
<td>Netherlands</td>
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<tr>
<td>JR</td>
<td>Technical &amp; social innovations for climate change issues</td>
<td>Austria</td>
</tr>
<tr>
<td>ENoLL</td>
<td>Promotion and support of Living Lab applications</td>
<td>Belgium</td>
</tr>
</tbody>
</table>
Thank you