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Interim report on lean learning, knowledge building & results transfer v2

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[1]   PU = Public
CO = Confidential, only for members of the consortium (including the Commission Services)
R = Report
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Abbreviations

Abbreviation / Acronyms	Description
ARSINOE	Climate Resilient Regions Through Systemic Solutions and Innovations project
C&D	communication and dissemination
CCD	communication, collaboration and dissemination
demo	demonstration
DS	demonstration site
EC	European Commission
edX	the edX online learning platform
ESCI	European Science Communication Institute
EU	European Union
EUT	Eurecat Technology Centre of Catalonia
GA	Grant Agreement
GDPR	General Data Protection Regulation
GD-SO	Green Deal Projects Support Office
IPR	intellectual property rights
KWR	KWR Water Research Institute b.v.
MOOC	massive open online course
QH	quintuple helix (stakeholders)
REGILIENCE	Regional Pathways to Climate Resilience project
RKB	resilience knowledge booster
RTO	registered training organisation
SDG	sustainable development goal
TransformAr	Accelerating and Upscaling Transformational Adaptation in Europe project
UK	United Kingdom
URL	Uniform Resource Locator
SDSN	Sustainable Development Solutions Network
WP	Work Package
WPL	Work Package Leader

Table of contents

List of tables

List of figures

Executive Summary

This document describes lean learning, knowledge building and results transfer related activities within the 4-year 'Dynamic Information Management Approach for the Implementation of Climate Resilient Adaptation Packages in European Regions' project 'IMPETUS', up to the end of September 2024 (project month 36). The work described is the focus of Work Package 7 task 5 (WP7 T7.5), which includes: subtask 7.5.1 - Massive Open Online Course (MOOC) (led by SDSN); subtask 7.5.2 - RKB workshops & engagement sessions dedicated to education and knowledge transfer (led by KWR); subtask 7.5.3 - Webinars and Virtual Visits (led by ESCI); and subtask 7.5.4 – Academic and scientific dissemination and events (led by ESCI). All project partners contribute to these activities, which help to fulfil the stakeholder engagement plans of the seven regional demonstration site (DS) teams (see IMPETUS Deliverable report D1.1* 'Stakeholder mapping and engagement plan') as well as the longer-term and extra-regional ambitions of the project and its strategic communication, collaboration and dissemination (CCD) framework objectives (see D7.2* 'Updated framework for communication, collaboration and dissemination').

As part of the WP7 portfolio of activities, all learning, knowledge building and results transfer materials and activities must be planned and executed in alignment with the principles laid out in D7.2 and documents such as the IMPETUS Data Management Plan (D8.3*).

At the time of writing, the planning of workshops, engagement sessions, webinars and virtual visits relating to DS resilience knowledge boosters (RKBs) is ongoing, in collaboration with WP1 (Governance & Stakeholder Co-creation for Transformative Adaptation) and the DS teams in WP4 (Deployment of Solutions at Demo Sites). The academic dissemination subtask has been ongoing with several presentations delivered at academic / scientific conferences and academic papers accepted for publication. The MOOC subtask remains, to date, the most advanced, with all production aspects being completed and officially launched on 1st September 2024. This document therefore mainly reports on progress and plans in that area, with the expectation that all activities and their results will be covered more fully in the final update (in month 48).

Building upon the plans, awareness raising, and content outlined in the first phase of the project, phase II of the project CCD activities (covering Months 19 to 29) for IMPETUS learning, knowledge building and results transfer activities, sought to bring these plans into the early stages of production, with the implementation of most activities primarily occurring during phase III (months 30-48).

Efforts are ongoing to explore potential synergies / efficiencies for this task – between IMPETUS tasks and WPs and with the activities of sister projects or other European initiatives or international networks and platforms.

All public IMPETUS Deliverable reports will be findable on the project website resources[1] area.

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[1] https://climate-impetus.eu/get-involved/#resources

1 Introduction and background

This document describes lean learning, knowledge building and results transfer related activities within the 4-year 'Dynamic Information Management Approach for the Implementation of Climate Resilient Adaptation Packages in European Regions' project 'IMPETUS', up to the end of September 2024 (project month 36).

1.1 Context of the task

IMPETUS lean learning, knowledge building and results transfer activities are coordinated and executed in the Communication and Dissemination (C&D) work package (WP7) in close collaboration with the seven demonstration site (DS) teams and WP1 (Governance & Stakeholder Co-creation for Transformative Adaptation). These activities will ultimately support the exploitation of project results by relevant professionals and other target audiences as well as the overall IMPETUS objectives, as part of the whole WP7 portfolio.

How WP7 supports and follows the project objectives and those of all the WPs is outlined in deliverable report D7.2, the strategic planning framework for IMPETUS communication, collaboration and dissemination (CCD). This document also positions IMPETUS in the wider strategic landscape of EU-funded climate-change related projects, policy actions and global programmes - in particular the EU Mission 'Adaptation to Climate Change'[2] known as Mission Adaptation. Within this landscape, the **overall objective of IMPETUS is to develop and validate a coherent, multi-scale cross-sectoral climate change adaptation framework to accelerate the transition towards a climate-neutral and sustainable economy.**

The part WP7 plays is to **inspire commitment and action by transmitting results, sharing insights and creating engaged public support for climate change resilience and adaptation measures**, with more specific objectives including:

- Amplify and accelerate climate-change resilience beyond IMPETUS with a powerful stakeholder engagement strategy and support networks;
- Use innovative lean learning and results transfer to drive broad socio-economic change made possible by IMPETUS adaptation pathways.

These WP7 objectives address the **need to build knowledge and transfer results at both the 'local level'** - within the scope of activities to engage with stakeholders relevant to the seven regional DSs – **and to other communities** that could benefit from learning about / applying results from the IMPETUS experience. These objectives also address both the more immediate need to conduct learning and knowledge sharing activities **within the lifetime of the project, and to support the ambition to leave a legacy** that continues to have an impact beyond the project years.

Like all activities in the WP7 portfolio, **learning, knowledge building and results transfer activities must be conducted in the context of the fundamental steps, identified in the IMPETUS CCD framework, needed in order to build understanding, trust and buy-in for all project activities and results**: establish credibility of IMPETUS actions, give visibility to results, make targeted and clear calls to action, and engage stakeholders to co-create pathways to scale up knowledge and results. Applying these steps in support of the project efforts to build knowledge and transfer results is the most likely and effective way to ensure these activities reach and are acted upon by those quintuple helix (QH) stakeholders / audiences best placed to benefit from them.

The sharing of knowledge as a key to effective and inclusive decision making on adaptive solutions and strategies is **an important ingredient in how IMPETUS aims to achieve its objectives and deliver its contributions to achieving the wider strategic ambition for Europe to become the first climate-neutral continent by 2050**.

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[2] https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/adaptation-climate-change_en

1.2 Objectives of the task

The lean learning, knowledge building and results transfer task (T7.5) aims to **bring IMPETUS to life for professionals and interested publics and provide interaction and support to activate knowledge transfer** from across the project.

These activities focus on four key areas:
- **massive open online course (MOOC)** – subtask 7.5.1 (led by SDSN, M1-M48)
  - create freely available content and courses
  - improve (young) professionals and student skills to better understand climate change adaptation, resilience and IMPETUS solutions and approach;
- resilience knowledge booster **(RKB) workshops and engagement sessions dedicated to education and knowledge transfer** - subtask 7.5.2 (led by KWR, M1-M48)
  - face-to-face or online workshops / engagement sessions per DS;
- **webinars and virtual visits** – subtask 7.5.3 (led by ESCI, M1-M48)
  - online sessions profiling DSs, their challenges, developments, solutions, results and resources;
  - where possible, in collaboration with EU and international cluster and network partners to boost impact and audience.
- **academic and scientific dissemination and events** – subtask 7.5.4 (led by ESCI, M1-M48)
  - key research, technology and university partners to mobilise academic results
  - focus on key exploitable deliverables with a technical focus;
  - extend socio-economic impact of research using Altmetrics to track attention received.

1.3 Expected outcomes and impact

The key expected outcomes of these work areas are:
- MOOC -
  - high quality content created using ESCI's audio-visual production team and the pedagogical and technical expertise of SDSN's SDG Academy;
  - content available on the SDG Academy's edX platform presence;
  - promote through the SDG Academy alumni network of over 150,000 people in more than 180 countries;
  - **reach more than 400,000 people** in the final year or two of the project.
- RKB education / knowledge transfer workshops and engagement sessions -
  - ensure **at least two events per DS**;
  - varied type and format (e.g. focus groups, brainstorms, beta testing, 'town hall' meetings) depending on each DS's chosen RKB format and engagement strategy
  - ensure these are embedded in the overall stakeholder engagement planning prepared by DS teams with WP1.
- webinars and virtual visits -
  - produce and schedule **online sessions profiling each of the DSs**, their key challenges, developments and solutions, as well as results and resources;
  - wherever possible, these will be held **in collaboration with EU and international cluster and network partners** to boost impact and audience;
  - ensure these are **embedded in the overall stakeholder engagement planning** prepared by DS teams with WP1.
- academic and scientific dissemination and events -
  - **at least 10 academic and scientific conference papers and open access journal publications** in the project lifetime.

Taken together and in conjunction with other project efforts to maximise impact and exploitation of results (e.g. WP6), **the ultimate ambition is for these lean learning, knowledge building and results transfer activities to engage citizens and other stakeholders in the process of climate change adaptation and to trigger and enable relevant decision making and behavioural change**.

2 Activities

At the time of writing this report, a number of activities have been undertaken to define roles and responsibilities and to begin the process of planning and implementing the creation and deployment of learning, knowledge building and results transfer activities.

2.1 Roles and responsibilities

Successful coordination and execution of IMPETUS lean learning, knowledge building and results transfer activities within the project lifetime and in the scope of the seven DSs and their resilience knowledge boosters (RKBs) **relies heavily on**:

- **ESCI** as WP7 leader and as the provider of graphic design, audiovisual production and media outreach teams that execute much of the work in T7.2 in particular;
- **collaboration with DS lead partners** (KWB, EUT, NTUA, N&S, UiT, BEF, EURAC) **and KWR as leader of WP1** (Governance & Stakeholder Co-creation for Transformative Adaptation) to develop relevant activities as part of their overall stakeholder engagement planning;
- **SDSN** for the provision of expertise and a distribution platform for the MOOC modules;
- **partners that are universities or registered training organisations (RTOs),** as they are expected to contribute all / the majority of academic and scientific publications;
- **all other WPs** (Digital and Knowledge Dimension of the Resilience Knowledge Boosters (WP2); Exposure and Vulnerability Assessment (WP3); Deployment of Solutions at Demo Sites (WP4); IMPETUS Adaptation Pathways and Innovation Packages (WP5); Boosting Project Impact (WP6); and Project Management (WP8) for timely information about relevant topics and developments and as potential interviewees / lecturers / learning content contributors.

The potential to **find synergies / efficiencies** with sister projects, other EU-funded projects, platforms and initiatives, and to further **extend the lifespan or widen the reach** of learning and knowledge-sharing activities and content through events or trans-national networks will rely on coordination and opportunities arising through T7.4, T7.6 and T7.7.

2.1.1 ESCI contributions

ESCI, in its capacity as WP7 coordinator and the leader of the majority of WP7 tasks has an overall coordination role in the development, implementation and promotion of IMPETUS learning and knowledge-sharing activities and content. This means that ESCI:

- **In general, seeks potential inputs from and synergies with** –
  - **other IMPETUS work packages** – in particular WP1 (Governance & Stakeholder Co-creation for Transformative Adaptation) and the demo site (DS) teams in WP4;
    - especially regarding subtask 7.5.2 (RKB workshops & engagement sessions dedicated to education and knowledge transfer) and subtask 7.5.3 (demo site webinars and virtual visits);
    - also relating to task 7.3 (connect, engage, and collaborate at IMPETUS demo-sites and RKBs);
  - **all project partners** via Project Board discussions, General Assembly or other meetings, ensuring that the project's learning and knowledge-sharing goals are kept in mind as a collective enterprise;
    - also feeding subtask 7.5.4 (academic and scientific dissemination and events);
  - **'sister' projects** Regilience, ARSINOE, TransformAr and others funded in the Green Deal, as well as with the Green Deal Support Office (GD-SO) and other relevant platforms and initiatives such as Climate ADAPT -
    - typically via subtask 7.4.2 (creating momentum and boosting communication & dissemination in partnership with nominated Coordination and Support Action) and task 7.7 (coordination / synergies with relevant EU projects and other initiatives), but potentially also involving subtask 7.4.1 (activate and engage with influential trans-national networks);
  - **other WP7 activities**
    - for example, task 7.4 (amplify and accelerate IMPETUS framework) and task 7.6 (event outreach).

- **More specifically, contributes**:
  - **to planning and support of DS regional events** for training / learning / knowledge sharing in coordination with KWR (lead partner in T7.5.2 & WP1) and DS team lead partners KWB, EUT, NTUA, N&S, a , BEF, EURAC (see first sub-bullet);
  - **to MOOC development** in coordination with SDSN (lead partner in T7.4.1 and T7.5)
    - brainstorming on the focus and main elements (initial phase of the project);
    - meeting regularly to review progress with MOOC syllabus development;
  - **the creation of audio-visual content** to a high technical standard for use in the MOOC or in other learning and knowledge-sharing outputs.

2.1.2 SDSN contributions

SDSN is responsible for all phases of the MOOC development, except for the recording and production of any video content, including:
- syllabus planning and development;
- selection of speakers / lecturers and coordinating their inputs;
- integrating the course materials into the online platforms.

SDSN hosts the SDG Academy[3], which represents its education and training portfolio. The academy is **managed by a team of experts in international development, policy, pedagogy and content production**. The SDG Academy currently offers more than 40 MOOCs via edX.org, one of the world's largest online learning platforms. Each course has an average of 2,000-5,000 students and reaches more than 450 universities worldwide. The portfolio has gained more than 700,000 enrolments from learners around the world.
- The IMPETUS MOOC is offered by the SDG Academy on edX and available to edX's 42 million users (link to the course here).
- The MOOC is also accessible through the SDG Academy website (here), while all videos will be searchable through the SDG Academy Library in a few weeks following the submission of this deliverable. This allows the students to explore connections with other SDG Academy courses and videos on climate adaptation and beyond.

The coordinators of SDSN's activities in IMPETUS secured **support from the SDG Academy for the MOOC development regarding the syllabus, pedagogical content, engagement with potential lecturers, and advice about new content creation**. During the MOOC development phase, the SDG Academy provided advice on video script writing, reviewed the scripts provided by lecturers, reviewed all video lectures and built the course on the edX platform.

Furthermore, in its role as lead partner in T7.4.1 (activate and engage with influential trans-national networks) and with a more general responsibility through WP7 to help promote project visibility and results, **SDSN is also well placed to**:
- **seek synergies** between the promotion of the MOOC, related topics, and broader IMPETUS knowledge-sharing, communication and dissemination activities;
- **contribute to the achievement of the project's bigger-picture goals** of scaling up the reach, impact and uptake of replicable results and leaving a legacy beyond the project years.

2.1.3 Contributions of KWR, EUT and other partners

The MOOC videos have been developed in collaboration with **partners across the consortium** who were asked by SDSN and ESCI to contribute information about the IMPETUS project or to participate as speakers.

Likewise, as done so far, any partners could be asked to contribute relevant knowledge, speakers, materials or other support for the other learning and knowledge-sharing activities, such as webinars, workshops, training sessions etc.

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[3] https://sdgacademy.org/

All partners have a more general responsibility through their commitment in WP7 to help **promote project visibility and results and contribute to achieving the bigger-picture goals** of maximising reach, impact and uptake of replicable results, which includes the MOOC, any other learning and knowledge-sharing content, materials and events, and contributions to academic and scientific dissemination. Regarding the latter, **partners that are universities or RTOs have a particular responsibility** to publish project results and related information in academic and scientific publications.

Demo site team partners - in particular, the team leads KWB, EUT, NTUA, N&S, UIT, BEF and EURAC - have a responsibility to **ensure that relevant learning and knowledge-sharing events and materials are included in their planning** for regionally focused stakeholder engagement and communication.

As the partner that leads governance, stakeholder engagement and co-creation coordination with the DS teams through WP1, and as the lead/co-lead of closely related tasks in WP7 - subtask 7.5.2 (RKB workshops & engagement sessions dedicated to education and knowledge transfer) and task 7.3 (connect, engage, and collaborate at IMPETUS demo sites and RKBs) – **KWR has a significant role to play in the success of the project's learning and knowledge sharing activities**.

In leading T7.7, **EUT has a leading role by strengthening interactions and synergies** with relevant EU projects and other initiatives. Through leadership of WP8 as well as subtask 7.4.3 (design and launch of IMPETUS multi-sided platform), EUT could also support any potential synergies between learning, knowledge building and results transfer actions and other activities to amplify the visibility and uptake of exploitable results, e.g. in conjunction with WP6.

2.2 Methods

For the planning, developing and implementing of IMPETUS learning, knowledge building and results transfer content and activities to be conducted in the most efficient and effective ways, it is being done:

- in alignment with the overall IMPETUS CCD strategic framework defined in WP7;
- in alignment with best practices established through the experiences of key partners;
- in conjunction with related activities in other tasks and WPs.

2.2.1 Aligning with the IMPETUS communication, collaboration and dissemination (CCD) framework

As part of the overall WP7 portfolio of communication, collaboration and dissemination activities, the lean learning, knowledge building and results transfer actions must align with the overall strategic CCD framework outlined in D7.2.

2.2.1.1 Phases of the activities

The IMPETUS CCD actions will unfold and intensify as the project advances. Overall, these activities can be divided into three phases over the entire project period (see section 1.6 of D7.2 and Figure 1, below):

PHASE I (M1-M18)

Create initial content & awareness, establish collaboration contacts, plan learning activities

PHASE II (M19-M29)

Engage & co-create with stakeholders, strengthen collaborations, make learning content & opportunities, promote results to target audiences

PHASE III (M30-M48)

Maximise focus on results and benefits, support exploitation & replication, monitor & optimise uptake and impact, future-proof networks
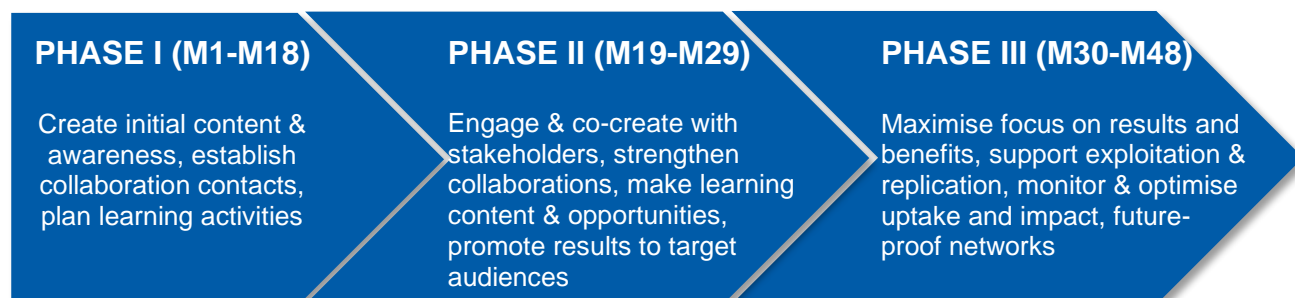
Figure 1: IMPETUS communication, collaboration and dissemination phases & activities (from D7.2)

In line with this approach, activities, content and materials to support **lean learning, knowledge building and results transfer will largely be planned and created in phases I and II, with implementation occurring chiefly in the third phase**.

2.2.1.2 Target audiences

The three categories of target audiences, from across the 5 types of QH stakeholders, for all CCD actions, as defined in section 1.7 of the strategic framework D7.2 (see columns 1-3 in Table 1, below), can largely be related to the relevant partner actions and responsibilities regarding specific learning, knowledge building and results transfer tasks (see column 4):

Table 1:Three categories of quintuple helix stakeholders showing example target audiences, primary partners responsible and the relevant learning and knowledge sharing activity types

AUDIENCE CATEGORY	AUDIENCE TYPE (SCOPE)	EXAMPLE AUDIENCES / SECTORS	LEARNING, KNOWLEDGE BUILDING & RESULTS TRANSFER ACTIONS & RELATED RESPONSIBILITIES:
1:	**RKB stakeholders** **(local / regional / national)**	• Policy makers / governance • Business / industry • Finance / investment • Tourism / culture • Research / education • Community / volunteer groups • Environmental groups • General public • Media	**DS team partners in WP1 & T7.5.2 plan & lead with support of KWR and ESCI:** - focus groups, ideation sessions, beta testing, 'town hall' meetings or other stakeholder engagement sessions dedicated to awareness raising, education, training, or knowledge transfer. **Liaise with WP4, WP5, WP6 & other WP7 tasks.** **ESCI in T7.5.3 leads DS team partners in planning & scheduling:** - Online sessions profiling each of the DSs, key challenges, developments, solutions, key results & resources. **Liaise with WP1, WP4, WP5, WP6 & other WP7 tasks.**
2:	**Future adopters of results** **(regional, national, international)**	• National authorities, governments • Regulators, certification or standardisation bodies • European institutions, Commission • Relevant associations • Environmental agencies • potential new RKB communities • General public	**SDSN in T7.5.1 leads ESCI in planning, creating & deploying MOOC content, with inputs from all partners as required:** - Using capabilities of the SDG Academy & publishing on the academy's edX platform presence; - promoting through the SDG Academy alumni network & WP7 channels. **Liaise with all WPs as required.** In T7.5.3, T7.4.1, T7.4.2 & T7.7, ESCI, SDSN & EUT lead activities to maximise reach & impact of IMPETUS learning & knowledge transfer content & activities through: - collaborations & joint events with sister projects & other EU initiatives, activating & engaging with influential trans-national networks. **Liaise with WP1, WP5, WP6 & other WP7 tasks.**

| 3: | Sectoral or thematic specialists (international) | • Earth Observation / remote sensing
• Data management / visualisation
• Artificial Intelligence / computing
• Open Science / Open Access
• Ecology / climatology / geohydrology etc.
• Finance / economy | **In T7.5.4 ESCI supports the submission, key messages and reporting by all partners – in particular those that are RTOs / universities - of their academic / scientific / professional knowledge transfer through:**
- abstracts, presentations, papers, journal articles.
Liaise with WP2, WP3, WP4, WP5, WP6 as well as T7.6 (event outreach) & T7.2 (complementary promotion and content)

The MOOC or other specific knowledge sharing materials (e.g. based on WP6 guidelines) may also be relevant for and promoted to specific audiences. |

2.2.1.3 Complement and amplify

Informed by the objectives, ambitions and consideration points outlined in section 1.8 of the CCD framework D7.2, the resulting strategic approach for all IMPETUS CCD actions is to proactively maximise opportunities to **complement and amplify** the messages, activities and impacts of partners, sister projects, stakeholders and other relevant organisations and communities in the climate-change adaptation space.

KEY IMPETUS CCD STRATEGY: Complement and amplify!

This approach also holds true regarding the planning, creation, implementation, promotion and monitoring of the lean learning, knowledge building and results transfer actions. In particular, this strategic approach involves interactions with/through T7.3 (connect, engage, and collaborate at IMPETUS demo sites and RKBs), T7.4 (amplify and accelerate IMPETUS framework), T7.6 (events outreach) and T7.7. (coordination / synergies with relevant EU projects and other initiatives) in order to find synergies and share information, best practices, planning updates, opportunities and tips about learning content topics and speakers etc. with DS team partners, sister projects, the GD-SO, platforms such as Climate ADAPT, other initiatives in the European climate change resilience ecosystem or even transnational networks, as relevant.

2.2.1.4 Messages, tone, language

If IMPETUS learning, knowledge building and results transfer activities are to successfully **support the objectives of engaging stakeholders and moving them through their resilience 'journey' (of being aware, informed, engaged and committed** – see section 1.7 of D7.2), they must use the same positive framing of messaging and 'tone of that the framework document defines as important strategic choices for all IMPETUS CCD actions: **offering hope** and inspiration; **instilling a sense of urgency** and purpose; **offering practical and constructive steps** and solutions; recognising that **'bottom-up', inclusive and innovative thinking** are key; **allowing the possibility for audiences to be / see themselves as active 'drivers'** of successful solutions.

Tone – hopeful, positive, constructive, inclusive, inspiring, enabling, purposeful, urgent

Storytelling techniques will be applied as relevant and as much as possible in learning, knowledge building and results transfer actions and content, as the emotional resonance engendered is not only more effective from a communication standpoint, but also is more likely to improve the learning and retention of the shared knowledge.

Storytelling – human, relevant, emotional & experiential resonance

Also in line with the strategic framework for CCD, language usage in learning, knowledge building and results transfer actions and content will need to vary per audience, context and learning purpose, with consistent attention to:

- Translation to local languages where possible and appropriate;
- Level of detail / technicality / expertise-specific terminology;
- Avoiding unnecessary use of unexplained jargon, abbreviations, initialisms or acronyms;
- Concise, informative, easy-to-read, engaging style;
- Correct grammar, punctuation, facts, spelling (European i.e. UK English);
- Nuances where needed, e.g. around political / commercial or other sensitivities.

For instance, speakers in the MOOC were guided to use straightforward language that suited non-expert learners. This was achieved through meetings and preparation sessions with SDSN and/or ESCI.

2.2.1.5 Branding and funding acknowledgment

In line with sections 2 and 3 of D7.2, all learning, knowledge building and results transfer materials that are wholly / partly produced in IMPETUS must:

- **acknowledge EU funding** by including the approved statement, disclaimer and the EU flag;
- **include the IMPETUS logo and observe other visual identity 'rules'** regarding colours, typeface etc.

In cases where any doubt arises regarding appropriate branding or related issues, this must be discussed and agreed with ESCI and among the relevant parties, for example if:

- content or materials are produced in collaboration with specific partners, sister projects or other organisations, meaning that other brands should be applied instead / as well;
- content or materials are produced upon which IMPETUS branding should not be dominant or not applied, or which should be 'white labelled' for onward branding and re-use, e.g. by regional stakeholders of DS partners.

The **contributions of IMPETUS, its partners or other parties must be clearly mentioned in any content or actions to promote or disseminate** learning, knowledge building or results transfer actions.

2.2.1.6 Confidentiality, security, privacy, copyright

In line with section 2.3.2 of D7.2 and the IMPETUS data management plan (deliverable D8.3), any learning, knowledge building or results transfer content or activities created or implemented by IMPETUS partners or collaborating parties must take into account and take any relevant steps regarding:

- copyright,
- intellectual property rights (IPR),
- confidentiality,
- security,
- privacy and consent,
- FAIR (findable, accessible, inter-operable, re-usable) data principles.

Issues of consent and privacy as they apply to use of personal information for purposes such as event registrations, mailing list contacts, use of photographs etc. will be handled with the use of standardised texts that provide the IMPETUS context for gathering the data. Such texts will be applied across any emails, mailing lists, registration forms etc. where data is collected, will include ways for consent to be understood, given or withdrawn, and will link to the relevant policies of the relevant partner organisation that is acting as Data Controller in each case, in line with the General Data Protection Regulations (GDPR[4]).

With this in mind, a project-branded template that partners can translate and save as a clickable form to collect personal data and privacy consent for a variety of options has been created and shared (internally as IMPETUS-participant-personal-data-consent-form) in the project SharePoint system.

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[4] https://gdpr.eu/

2.2.1.7 Approval for scientific and technical publications

In line with section 2.3.7.1 of D7.2, which quotes parts of the IMPETUS Grant Agreement and Consortium Agreement, **all partners are required to seek permission for publishing a scientific paper by sending prior notice** of any planned publication (once a submitted paper has been accepted) to the other Parties in the Consortium at least 45 calendar days before the publication date, together with sufficient information about the results it will disseminate.

2.2.2 Aligning with best practices and guidelines

In planning, developing and implementing IMPETUS learning and knowledge-sharing content and activities, a number of well-established procedures and best practices are being brought into play, based on the expertise and experience of the leading partners.

2.2.2.1 Guidelines for DS teams

KWR and ESCI have provided guidelines to DS teams to help them plan, execute and monitor the success of interactive training / knowledge exchange and co-creation workshops, among their other stakeholder engagement activities (see section 2 and annexes of deliverable report D1.1).

2.2.2.2 SDSN and SDG Academy guidelines and support

SDSN's SDG Academy has established a consistent tone, quality, design, etc in its portfolio of videos (to get a sense of this, view example videos as per the links in Annex 1a). Based on its experience of developing and managing its extensive portfolio, the **SDG Academy has provided the following guidance**:

- **Technical good practices for MOOC video content creation** - To facilitate ESCI's process of MOOC video production, experts from the SDG Academy shared good practices and guidelines for filming online / outdoors / using mobile phones with the ESCI audio-visual production team on 19 December 2022 (see Annex 1b, 1c, 1d, 1e for examples provided to other projects). ESCI reviewed these guidelines and implemented suitable tools and processes for the recording and production.

- **More general good practices for MOOC creation**, including –
  - Duration of the course – 4-8 weeks of content;
  - approx. 40-60 min of video content per week;
  - Length of video lectures - 8-12 minutes each;
  - Engaging design of video content - documentary-style, b-roll footage, text-on-screen;
  - Curation of supplementary resources
    - variety of reading materials, not to exceed 30 pages of required reading;
    - discussion-based activities;
    - comprehension assessments.

- **Recommended elements to ensure pedagogical value** of the MOOC –
  - High-quality video-based lectures and case studies;
  - Selected reading material (academic articles, news articles, reports from international organisations, etc.);
  - Additional resources (optional reading content, additional videos, recommended websites, interactive tools, data sets, etc.);
  - Assessments (multiple-choice quizzes, application- or discussion-based activities, etc.);
  - Open-ended discussions;
  - Transcripts (in English as minimum - other languages may be added as a bonus).

- **Support for MOOC speakers** (provided by SDSN)
  - Guidelines for scripting;
  - Script reviewing;
  - Best practices for on-camera delivery.

2.2.3 Aligning with other relevant tasks and WPs

2.2.3.1 DS / RKB activities development

The development of DS teams' plans for learning, knowledge co-creation or results transfer events as part of their regional resilience knowledge booster (RKB) activities was elaborated in conjunction with their broader stakeholder engagement planning with WP1.

Submitted at the end of January 2023, D1.1 captures the state of play during phase I of the project (see section 2.2.1.1 above). Further emphasis on expanding the plans for these regional knowledge co-creation activities, developing the needed content and materials, ensuring optimal impact and reach through related C&D activities, and implementing and monitoring success continues to be a focus for the DS teams in conjunction with WP1 and WP7 (with relevant inputs form other WPs / partners) in the coming months.

During phase I relevant exchanges occurred via Trello email and calls between WP1 and WP7, or jointly with all DS teams, or in one-to-one calls with individual DS teams, or via the weekly meeting of all WP leaders and DS team leaders that started from 24 February 2023 with as a follow-up to an internal project meeting held face-to-face in Brussels towards the end of January.

During phase II, in a bid to streamline coordination and synchronisation between DSs and WPs, a new framework was set by EUT after the Bolzano meeting in March 2024, who launched new coordination tools such as the "Bolzano Gantt chart". For WP7 the "Communication and Dissemination Tracker" was introduced which replaces some of the interaction that was carried out previously via Trello.

2.2.3.2 Academic and scientific publications and events development

Regarding academic and scientific publications and events participation, all partners are regularly reminded about upcoming conferences or other events that may be of interest to them, and reminded to notify WP7 about such events, during the biweekly synchronisation meetings with WP and DS leads. They are also reminded via Project Board and other internal meetings about the requirement for partners to observe a 45-day notification period for scientific and technical publications (see section 2.2.1.6 above).

WP7 supports submissions for conference participation through the editing of abstracts, advising on key messages, giving feedback or (ad hoc, low-level) design support for improving presentations. There are also potential synergies with T7.6 (events outreach), which targets all kinds of events as opportunities for speakers and visibility raising.

2.2.3.3 Other potential synergies

In monthly meetings with the REGILIENCE, ARSINOE and TransformAr sister projects' C&D teams (T7.4.2) or bi-monthly 'all hands' meetings (T7.7), any opportunities for synergies / efficiencies / opportunities related to learning, knowledge building or results transfer events, topics, content, speakers etc. are explored. For example, could topics defined for a series of webinars organised by REGILIENCE also provide ideas for MOOC modules, or could the webinars be recorded to help provide content? Likewise, would it be possible to disseminate IMPETUS learning, knowledge building and results transfer content via platforms such as Climate ADAPT or the network of Green Deal projects being established by their support office, GD-SO?

Clear benefits from these kinds of synergies were evident in the MOOC development and promotion, such as collaborations with other EU projects and discussions with key stakeholders. These synergies resulted in the following elements:

- Work performed through ARSINOE project was showcased in selected MOOC videos (i.e., Module 3 Chapter 3: "Supporting a Participatory Sustainability Transition: The Systems Innovation Approach", Module 4 Chapter 1: "Climate Innovation: Buzzword or Key to Solve a Wicked Problem?"

- Dissemination through MIP4Adapt newsletter (August 2024 edition)

Regarding other knowledge-sharing related synergies, to date IMPETUS partners have also participated in several webinars hosted by sister project ARSIONE (at least 4), TransformAR (at least 1) and REGILIENCE (at least 2) as well as organising its own knowledge sharing webinar in the frame of the EU Green Week on water scarcity and inviting sister projects to specific "Thematic meetings" that are hosted by IMPETUS consortium partners on the biweekly basis. All these activities fostered stronger links between projects and have also led to the development of joint brochures, videos and policy briefs under the Horizon Results Booster.

As preliminary results from the technical WP have become available since the last version of this DR IMPETUS has hosted a series of bi-weekly thematic meetings, some of which were opened to sister projects as part of T7.7:

07.06.2024 Demonstration of the Queston & Anwser module of the IMPETUS AI developed in WP2, or invited TransformAR to present their Playbook on 19.01.2024. Future sessions are planned, such as the Multi-Sided Platform concept, design and first application results, or an invitation to ARSINOE to present updates on their progress on a topic yet to be defined.

2.2.4 Massive Open Online Course (MOOC) development

To develop plans for the MOOC content and course, ESCI and SDSN held a series of meetings in the first 17 months of the project, to: raise MOOC timing, synergies and partner inputs during a Project Board meeting (May 2022); brainstorm with participants in a General Assembly session (October 2022); agree the initial topics and production outline (October-December 2022); develop the syllabus, structure and content plan (December 2022 – January 2023).

Following the submission of deliverable D7.4, the MOOC development focused on the following areas:
- **Selection of the Lead Faculty of the MOOC:** Professor Phoebe Koundouri (AUEB) was selected given her expertise in the topic and capacity to mobilize other researchers and partners.
- **Revision of the MOOC syllabus by the Lead Faculty:** Professor Phoebe Koundouri suggested several revisions to the course syllabus (Modules 1-3), as outlined in Section 3.3.5.1.
- **Selection of DS solutions to be featured in the MOOC and onboarding of DS leaders:** DS solutions (Modules 4 and 5) were chosen by DS leaders, following guidelines provided by SDSN. SDSN suggested selecting solutions that were at an advanced stage of development, would engage learners' interest (including non-experts), and had the potential to be replicated beyond the region and Europe. SDSN also held several meetings with speakers from demo sites to prepare them for the recordings.
- **Selection of remaining speakers**: Speakers selected for remaining lectures included researchers involved in the SDSN Global Climate Hub (AUEB, National Academy of Athens, Athena Research Center) ARSINOE project (BRIGAID Connect) and the Technical University of Denmark. Professor Jeffrey Sachs (Columbia University) was invited to deliver the video concluding the course. The speakers selected are specialists in climate change science and policy, economics, finance and engineering. Their biographies are available on the course page on edX.
- **Recording sessions:** The recordings took place in 5 different locations between October 2023 and May 2024. They were prepared and executed by ESCI and SDSN.
- **Editing of video content**: performed by ESCI.
- **Feedback rounds with SDSN and SDG Academy** (on the edited video lectures).
- **Creation and collection of the additional materials for the MOOC** performed by SDSN
- **Building of the MOOC platform on edX** performed by SDSN and SDG Academy.
- **Pre-launch and launch of the course and promotional campaign**: performed jointly by SDSN (Networks Team), SDG Academy, ESCI and IMPETUS project.

3   Results

While Deliverable D7.4 outlined the preliminary results (i.e., decisions) arising from the planning activities by M18, this deliverable, D7.11, completes them with more detailed results achieved to date. As the learning, knowledge building and results transfer activities will continue in the last year of the project and/or will continue to be disseminated, the final results will be reported in D7.7 in M48.

3.1 DS / RKB activities

During phase I of the project (see section 2.2.1.1 above), many of the DS and their RKB activities were not sufficiently mature to be the subject of webinars, virtual visits, workshops or other kinds of learning, knowledge building or results transfer events. During phase II, as work progressed and initial results emerged, the consortium partners and DS leads began to take advantage of the many opportunities to present their progress through community newsletters such as the Climate Resilience Post and MIP4Adapt, and at events and webinars, often attended jointly with the sister projects (for a comprehensive list of these activities please consult the WP7 "Communication and Dissemination tracker").

In parallel, together with WP7, WP1 (lead by KWR) has supported the Demo Sites (DSs) to host 370 stakeholder engagement (SHE) activities to date (see D1.2). These SHE activities include all types of engagement, from one-on-one meetings with vital partners, to larger workshops with multidisciplinary actors. Since the beginning of the project, KWR has developed 4 guidance documents and hosted numerous trainings and workshops in collaboration with WP7 on how to effectively engage stakeholders in the DSs. To effectively identify, engage and monitor SHE, KWR developed several templates and living documents for DSs and WPs to use; these include the Theories of Change, SHE roadmaps, and the Monitoring and Evaluation spreadsheets. These living documents ensure that DSs adapt their SHE plans over time based on changing circumstances, new information and ideas from their SHs. In doing so, we can capture how the needs of the DSs and SHs have changed over time and better attune the SHE and communications to ensure successful and targeted learning and knowledge sharing. For more information, refer to WP1's deliverable D1.2 Co.creation Process in Demosites.

During the final phase of the project, as project results become more consolidated, brainstorming sessions will be held with the DS and WP leads on how to best further showcase their work through a new series of targeted webinars, likely based on the 4 point bundle structure of the IMPETUS solutions outlined in WP4.

3.2 Academic and scientific publications and events

To date, the academic partners of the IMPETUS consortium have issued 36 scientific articles. This number includes 6 academic papers / book chapters that have been submitted and accepted for publication by open access journals, 16 presentations given at international academic / scientific conferences, and several extended abstracts have been accepted for papers. Given the objective to achieve at least 10 academic and scientific conference papers and open access journal publications during the project lifetime, it is likely this target will be surpassed by the end of the project. Table 2 below shows the overview so far:

Table 2: Overview of academic / scientific publications

Article (linked)	Authors / Presenter	Date	Platform / publication / event	Type
Resilience Knowledge Boosters for elaborating adaptation and mitigation measures	Aitor Corchero (EUT)	1 April 2022	Lien de la Vigne conference[5] 'Modes of Adaptation to Climate Change'	Conference presentation

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[5] https://climate-impetus.eu/events/lien-de-la-vigne-conference/

to minimise the effects of climate change				
The effect of lithology and microstructure on the deformation of unstable rock slopes in northern Norway	Emilie Jensen Aamodt	14 April 2022	UiT The Arctic University of Norway[6]	Masters thesis
Characteristics and failure mechanisms of the unstable rock slope Dusnjárga	Simen Bekkevoll	15 May 2022	UiT The Arctic University of Norway[7]	Masters thesis
Leveraging the power of remote sensing for the implementation of climate change adaptation and mitigation in Europe	Andrea Marinoni (UiT)	23-27 May 2022	ESA Living Planet Symposium[8] - session E2.02 'Climate Security – The key role of R&I and cooperation to address global threats'	Conference presentation
Resilience Knowledge Boosters to support the development of adaptation and mitigation measures to minimise the effects of climate change	Aitor Corchero (EUT)	31 May – 2 June 2022	International conference Climate Change and Water[9]	Conference presentation
Management of coastal dunes on the Catalan and on the Valencian shorelines (Spain)	Garcia-Lozano C, Roig-Munar FX, Santana-Cordero AM, Martí-Llambrich C, Pinto J.	14 July 2022	Geographical Research Letters[10]	Open access article
Developing, testing and replicating cross-sectoral solutions to make mountainous regions more resilient to climate change	Valentina D'Alonzo (EURAC)	11-15 September 2022	International Mountain Conference[11] - session ID37 'Mountain climate change adaptation: data, knowledge, and governance'	Conference presentation
Financing the Joint Implementation of the SDGs and the European Green Deal 2nd report of the SDSN Senior Working Group	Koundouri P, Halkos G, Landis C, Dellis K, Plataniotis A and Chioatto E	21 March 2023	UN SDSN Europe	Book Chapter
Advancing surrogate-based optimisation of time-expensive environmental	Tsattalios, S., Tsoukalas, I., Dimas, P., Kossieris, P.,	April 2023	Environmental Modelling & Software, Volume 162, 105639: (DOI:	Journal article

[6] https://munin.uit.no/handle/10037/25427
[7] https://munin.uit.no/handle/10037/25428
[8] https://climate-impetus.eu/events/living-planet-symposium/
[9] https://climate-impetus.eu/events/international-conference-climate-change-water-2022/
[10] https://www.researchgate.net/publication/359268612_Management_of_coastal_dunes_on_the_Catalan_and_on_the_Valencian_shorelines_Spain
[11] https://climate-impetus.eu/events/international-mountain-conference-imc22/

problems through adaptive multi-model search	Efstratiadis, A., & Makropoulos, C.		https://doi.org/10.1016/j.envsoft.2023.105639)[12]	
Enabling far-reaching living labs through regional Digital Twins	Moraitis, G., Fragkoudakis, C., Tsattalios, S., Nikolopoulos, D., Pelekanos, N., Monokrousou, K., Makropoulos, C.	April 2023	EGU General Assembly - Session HS5.7 - Multi-scale water-energy-food-environment (WEFE) nexus planning: from research to practice in managing socio-economic, climatic, and technological change[13]	Conference presentation
Towards climate resilience: paving dynamic adaptation pathways for regional climate change hot-spots	Nikolopoulos, D., Spartalis, I., Pantazis, C., Pelekanos, N., Moraitis, G., Monokrousou, K., Makropoulos, C.	April 2023	EGU General Assembly - Session HS5.7 - Multi-scale water-energy-food-environment (WEFE) nexus planning: from research to practice in managing socio-economic, climatic, and technological change[14]	Conference presentation
Bringing knowledge closer to practice: an inferential analysis of EU climate change policies and measures	Pelekanos, N., Nikolopoulos, D., Moraitis, G., Makropoulos, C.	April 2023	EGU General Assembly - Session HS5.7 - Multi-scale water-energy-food-environment (WEFE) nexus planning: from research to practice in managing socio-economic, climatic, and technological change[15]	Conference presentation
Decentralized hybrid wastewater treatment system for water reuse on a campsite at Costa Daurada	J. Llimós, Q. Plana, M. Casademont, J. Herrero and S. Casas	28 June 2023	6th IWA International Conference on eco-Technologies for Wastewater Treatment. ecoSTP 2023 - Girona[16]	Conference presentation Girona
Design of a decentralized multifunctional wetlands – case study in Ebro Delta	Jofre Herrero, Maria Casademont, Víctor Gallego, Queralt Plana, Nil Álvarez, Carles Ibáñez, Víctor Matamoros, Sandra Casas	30 june 2023	International Meeting on New Strategies in Bioremediation/Restoration Processes (BioRemid2023)	Poster
Valuation of marine ecosystems and Sustainable Development Goals	Koundouri P, Halkos G, Landis C, Dellis K, Stratopoulou A, Plataniotis A and Chioatto E	26 July 2023	Frontiers in Environmental Economics[17]	Open access article

[12] https://www.sciencedirect.com/science/article/pii/S1364815223000257?via%3Dihub
[13] https://meetingorganizer.copernicus.org/EGU23/EGU23-12166.html
[14] https://meetingorganizer.copernicus.org/EGU23/EGU23-7541.html
[15] https://meetingorganizer.copernicus.org/EGU23/EGU23-9994.html
[16] https://ecostp2023.icradev.cat/
[17] https://www.frontiersin.org/journals/environmental-economics/articles/10.3389/frevc.2023.1160118/full

The role of cultural heritage in climate resilience in mountainous regions: cross-sectoral solutions for historic buildings in Valle dei Laghi, Italy	Daniel Herrera-Avellanosa, Fabio Carnelli, Silvia Cocuccioni, Matteo Rizzari, Petra Pagliughi, Valentina D'Alonzo (EURAC)	18-19 September 2023	Sustainability in Energy and Buildings Conference[18]	Conference presentation
Effectiveness of sand traps in promoting sediment gain in foredunes of a semi-natural beach (Costa Brava, Spain)	Carla Garcia-Lozano, Frances-Xavier Roig-Munar, Josep Pintó, Carolina Martí-Llambrich	September 2023	SCACR International Symposium	Conference paper
Motivation and the initial steps for a data science investigation on slushflows in northern norway	Christopher D'Amboise, Vilde Hansen, Jordy Hendrikx, and Louise Vick	Oct 2023	ISSW Proceedings[19]	Conference paper
Climate IMPETUS: Long-term availability of data and engagement of stakeholders through the development of Resilience Knowledge Booster for a mountain case study	Valentina D'Alonzo (EURAC)	3 October 2023	EuroGEO Workshop[20]	Conference presentation
Adaptation pathways for agricultural water management: A multi-stakeholder approach in the IMPETUS demo site of Valle dei Laghi - Italy	Giorgia Robbiati (BIM), Matteo Dall'Amico (MGIS), Matteo Rizzari, Silvia Cocuccioni, Valentina D'Alonzo (EURAC)	22-24 November 2023	SISC (Società Italiane Scienze del Clima) Annual Conference[21]	Conference presentation
Tourist Adaptation to Climate Change: Strategies and Co-Creation on the Costa Daurada.	A. Boqué-Ciurana, O. Saladié, C. Garcia-Lozano, G.Borràs, G. Giné, I. Labairu, C. Martí, T.Rovira, M. Tonda and, E. Aguilar	26 November 2023	Jornades Eduard Fontserè	Poster presentation

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[18] https://bia.unibz.it/esploro/outputs/conferencePresentation/The-role-of-cultural-heritage-in/991006732492101241
[19] https://www.researchgate.net/publication/374849058_MOTIVATION_AND_THE_INITIAL_STEPS_FOR_A_DATA_SCIENCE_INVESTIGATION_ON_SLUSHFLOWS_IN_NORTHERN_NORWAY
[20] https://egw2023.eurac.edu/presentation/00_Adler_intro.pdf
[21] https://files.sisclima.it/conference/2023/presentations/robbiati.pdf

Ecosystem services valuation for supporting sustainable life below water	Koundouri, P., Halkos, G., Landis, C.	20 December 2023	Springer Nature [22]	Open access article
Conceptualising boundary work activities to enhance credible, salient and legitimate knowledge in sustainability transdisciplinary research projects	Andrews, L., Munaretto, S., Mees, H., Driessen, P.	7 March 2024	EU SPRI ECC Rome 2024[23]	Conference Presentation
Climate Services and Behavioral Change: Enhancing Resilience in Mediterranean Tourism through co-creation	Boqué-Ciurana, A, Saladié, Ò, Garcia-Lozano, C, Borràs, G, Giné, G, Labairu, I, Martí, C, Rovira Soto, T, Tonda, M and Aguilar, E	17 April 2024	EGU 2024 – Session Climate Services - Underpinning Science[24]	Oral presentation
Investigating limitations of RAMMS:Debrisflow as a slushflow simulation tool	Vilde Edvardsen Hansen	May, 2024	UiT The Arctic University of Norway[25]	Master thesis
Cambio climático y vulnerabilidad de los destinos turísticos: la percepción de los actores de costa daurada (tarragona)	Saladié, Ò.; Rovira, T	6 June 2024	XIX International Colloquium on Tourism Geography AGE-UGI: Rethinking Tourist Destinations in Times of Global Change[26]	Conference presentation
Sediment transport modelling for coastal preservation in the Ebro Delta	Naomi Mestre-Curto*, Manuel Martínez, Queralt Plana, Sandra Casas and Xavier Martinez-Lladó	25 June 2024	10th International Symposium on Environmental Hydraulics 2024 ,	Conference presentation
VR in Risk Communication Investigating sea level rise risk communication amongst stakeholders	Wytske Kuipers	June 2024	UiT the Arctic University of Norway[27]	Master thesis
Moving beyond scientific excellence: Mainstreaming transdisciplinary approaches in climate	Lisa Andrews, Stefania Munaretto, Ingrida Bremere	June 2024	SRI Congress Finland [28]	Conference Presentation

[22] https://sustainableearthreviews.biomedcentral.com/articles/10.1186/s42055-023-00068-1
[23] https://www.sciencedirect.com/science/article/pii/S146290112400056X
[24] https://meetingorganizer.copernicus.org/EGU24/EGU24-8456.html
[25] https://munin.uit.no/handle/10037/34140
[26] https://x.com/ftgURV/status/1800460876795052530
[27] https://munin.uit.no/handle/10037/34135
[28] https://iiasa.ac.at/events/jun-2024/iiasa-at-sustainability-research-and-innovation-congress-2024

and WEFE nexus policy and practice for wider societal impacts				
Conceptualising boundary work activities to enhance credible, salient and legitimate knowledge in sustainability transdisciplinary research projects	Andrews, L., Munaretto, S., Mees, H., Driessen, P.	August 2024	IWA World Water Congress Toronto [29]	Conference Presentation
Driving Change: User Engagement and Governance in Climate Adaptation for Coastal Destinations	Boqué-Ciurana, A, Saladié, Ò, Garcia-Lozano, C, Borràs, G, Martí, C, Rovira, T, Aguilar, E. Plana, Q, Céster, I.	3 September 2024	EMS 2024 Annual Meeting (https://meetingorganizer.copernicus.org/EMS2024/EMS 2024-523.html)[30]	Poster presentation
Motivation for slush flow classification	Christopher D'Amboise, Vilde Hansen, Jordy Hendrikx, and Louise Vick	Sept 2024	ISSW Proceedings	Conference paper
Limitations of ramms:debrisflow as a slushflow simulation tool	Vilde E. Hansen1, Christopher J. L. D'Amboise, and Louise M. Vick	Sept 2024	ISSW Proceedings	Conference paper
Enhancing coastal resilience: assessing the efficacy of nature-based solutions for beach-dune system management and foredune restoration	Carla Garcia-Lozano, Frances-Xavier Roig-Munar, Josep Pintó, Carolina Martí-Llambrich	Accepted and preprint version	EMCEI 2023	Extended abstract
Fuentes geohistóricas para el análisis de la gestión costera: estudio de la playa de Sant Pere Pescador (Golfo de Roses, NE España)	Carla Garcia-Lozano, Frances-Xavier Roig-Munar, Maria-Marta Tonda, Josep Pintó, Carolina Martí-Llambrich, Aaron Moisés Santana-Cordero	Accepted and preprint version	Ecos modernos. Fuentes geohistóricas de los siglos XIX y XX[31]	Book chapter
Evaluating the impact of sand fences on foredune recovery in Sant Pere Pescador	Carla Garcia-Lozano, Warren Meredith, Maria Marta Tonda,	Accepted and preprint version	Monitoring of Mediterranean Coastal Areas: Problems and Measurement Techniques[32]	Book chapter

[29] https://www.sciencedirect.com/science/article/pii/S146290112400056X
[30] https://meetingorganizer.copernicus.org/EMS2024/EMS2024-523.html
[31] https://idegeohis.com/wp-content/uploads/Programa_SesionesDefinitivo_ICFGH.pdf
[32]
https://www.researchgate.net/publication/383240456_Evaluating_the_impact_of_sand_fences_on_foredune_recovery_in_Sant_Pere_Pescador_beach_Costa_Brava_Spain

beach (Costa Brava, Spain).	Josep Pintó, Carolina Martí-Llambrich, Ventura Campillo, Francesc Xavier Roig-Munar			

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In the coming months, a greater effort will be made to encourage partners to upload their open access research onto the Zenodo platform.

3.3 MOOC development results to date

Results of the MOOC development and planning process outlined in section 2.2.4 above, have generated the following results to date, in terms of defining the MOOC objectives, audiences, structure, duration, contents and deployment.

3.3.1 Definition of MOOC objectives

The purpose of the MOOC is to support the project's broader ambitions to raise visibility of climate change issues, promote uptake of project results and influence adaptation behaviour and decision making beyond the project's immediate regions and lifetime by reaching wider audiences in and beyond Europe and showing them solutions and (aspects of) the RKB approach that can be replicated.

The main practical objective is for the MOOC to provide clear, varied and engaging content that will create value for both beginners and more experienced course participants.

This means the MOOC::
- includes a clear introduction, logical sequence, conclusion;
- allows course participants to acquire basic knowledge first and expand it with issue-specific content and case studies;
- includes the most recent findings regarding climate science, policy and the outcomes of the IMPETUS project;
- accompanies each module with a set of assignments, such as multiple-choice-based comprehension questions, application and discussion-based activities, opportunities for reflection, etc.;
- provides all course materials – video lectures, readings, assignments – online and free of charge. (Note: the course is fully available free of charge, however, learners have the option to choose a paid version (44 EUR), which includes a final exam and a certificate of completion).

3.3.2 MOOC target audiences

The MOOC aims to engage a broad audience with differing levels of familiarity with climate change issues. In line with section 2.2.1.2 above, the MOOC addresses target audiences in the category 'future adopters of IMPETUS results' as well as 'Sectoral or thematic specialists'. However, the MOOC also targets students and (younger) professionals in the sustainable development field, as well as anyone interested in developing their knowledge on climate adaptation solutions.

More precisely, as stated on the course pages on SDG Academy and edX platforms, the MOOC is for:
- Policy professionals who want to understand the evolution of European climate policy and its alignment with the sustainable development goals.
- Development practitioners seeking knowledge on climate adaptation solutions across Europe, energy transition pathways, climate data sources and pathways to assess climate change impacts.
- Advanced undergraduates and graduate students interested in climate science, policy, development, and other key concepts related to climate innovation.
- Private-sector actors such as those who work in energy, built environment, natural resource management, science & innovation and all related to the European climate policy and/or seeking to learn from it.

3.3.3 MOOC structure and duration

The MOOC consists of 5 modules, each containing 40-60 min of video lectures (each video 8-12 minutes long) and no more than 30 pages of 'required reading'. The sequence of modules allows participants to acquire basic knowledge first, then expand into issue-specific content and case studies.

Each module is equivalent to one week of learning content and is organised as follows:
- 4-5 new videos each module includes readings relevant to the module subject, representing, where possible, the most recent findings regarding climate science, policy and IMPETUS outcomes;
- All modules also include supplementary materials, such as additional videos, data sets, websites, further reading suggestions, etc.
- Each module is accompanied by a set of assignments, such as multiple-choice-based comprehension questions, application and discussion-based activities, opportunities for reflection, etc.

The defined MOOC structure qualifies it as a 'mini-MOOC' in SDSN terms, (in comparison with an 8-12 week academic MOOC course). This approach supports the objective to provide a variety of content that will create value for both beginners and more experienced participants, with some of the additional materials providing further information on the basic concepts while others target participants willing to acquire a more in-depth understanding of complex issues.

3.3.4 MOOC deployment

The MOOC was made available internationally via the SDG Academy's presence on the edX platform, which hosts online university-level courses in a wide range of disciplines to a worldwide student body.

The MOOC was opened for pre-enrolment on August 15th, 2024, which was announced through a multi-channel promotional campaign. The official launch took place on September 1st, 2024.

The MOOC will then remain on the SDG Academy platform indefinitely, as part of its wider portfolio. In this way, this activity will further support IMPETUS ambitions to achieve impact beyond the lifetime of the project.

3.3.5 MOOC contents

The initial outline of the MOOC was agreed during the IMPETUS project meeting on 13-14 October 2022 in Barcelona, Spain. In that initial view the MOOC would cover three broad thematic parts:
1) introduction to climate change;
2) climate change impacts;
3) solutions for climate change adaptation.

The final structure of the MOOC follows this logic, albeit it was slightly updated in the months following the submission of deliverable D7.4. In particular, it was decided that IMPETUS solutions will be showcased in two modules instead of one. The later elected Lead Faculty of the course, Professor Phoebe Koundouri, also provided insightful suggestions for the content of Modules 1, 2 and 3 and the potential speakers.

The MOOC, therefore, consists of the following modules:
- An Introduction to Climate Change Science and Policy
- Climate Change Impacts, Adaptation and Resilience
- Cross Cutting Area in Climate Adaptation in Europe
- Climate Adaptation Solutions in Europe (1/2)
- Climate Adaptation Solutions in Europe (2/2)

As planned in D7.4, the first three modules introduce the learners to climate change science and policy, climate change impacts, and cross-cutting areas in climate adaptation. The last two modules, after introducing the learners to the concept of climate innovation, focus on the IMPETUS project, solutions from the 7 DSs and illustrations of the RKB approach. Demonstration site activities serve as case studies

for different biogeographical, ecological and political contexts. These case studies help to illustrate the broader themes presented in the relevant video lectures.

The course begins with an introductory video by Professor Phoebe Koundouri and finishes with a concluding video by Professor Jeffrey Sachs.

3.3.5.1 Final MOOC outline

The table below presents the final outline of the MOOC.

Table 3: Final outline for the IMPETUS MOOC

Module	Chapter	Short description
Introduction	**Introducing the course**	Prof Phoebe Koundouri welcomes participants and introduces them to the course.
Module 1: Introduction to Climate Change Science and Policy	**Chapter 1: Climate Change Science - Basic Concepts and State of the Art**	This chapter explores transformative approaches needed for climate adaptation in Europe. It presents the fundamentals of climate change, the human impact on the atmosphere, and the concept of the Anthropocene. It delves into innovative adaptation strategies, socio-economic considerations, as well as technological and participatory approaches.
	Chapter 2: European Policy Framework and the connection between SDGs and European Climate Policy (Part A)	This chapter highlights Europe's leadership in translating sustainability into regulations and policies. It covers the 2015 adoption of the UN Agenda 2030 and the Paris Agreement, and their global impact. The European Green Deal, launched in 2019, is examined for its goals of climate neutrality by 2050, pollution reduction, ecosystem protection, clean tech leadership, and social cohesion.
	Chapter 3: European Policy Framework and the connection between SDGs and European Climate Policy (Part B)	This chapter examines the alignment between the European Green Deal (EGD) and the Sustainable Development Goals (SDGs). The EGD, aiming for climate neutrality by 2050, is assessed through advanced machine learning and expert analysis to map its policies to the SDGs. The findings highlight significant alignments, particularly with clean energy and sustainable industry goals, while also identifying areas requiring further integration, especially concerning social SDGs. This analysis underscores the importance of a holistic approach in European climate policy to ensure environmental sustainability and social equity.

	Chapter 4: Turning Climate Commitments into Action - the EU as a leader in implementation	Through this video, learners will understand the implementation and progress of the Sustainable Development Goals (SDGs) within Europe, particularly through the European Green Deal. They will learn about key EU policies and strategies aimed at climate action and sustainability, such as the Emissions Trading System (ETS), the Circular Economy Action Plan, and the Farm to Fork Strategy. Learners will also gain insights into the challenges Europe faces in achieving SDG targets by 2030, including environmental sustainability, biodiversity, and socio-economic disparities.
	Quiz and Discussion	Learners will have the opportunity to demonstrate what they learned in Module 1, post their responses to a discussion board in the sidebar, and comment on other learner's posts to keep the conversation going.
Module 2: Climate Change Impacts, Adaptation, and Resilience in Europe	**Chapter 1: Climate Change Impacts and Sustainability Pathways on Energy and Transport Systems**	Students will gain a deeper understanding of energy transition pathways in climate impact assessments. They will reflect on the energy sector's transformation and its challenges, learn basic concepts of energy system modelling and scenario development, and assess the impact of policies on carbon emissions using these techniques.
	Chapter 2: Transitioning to a Sustainable Blue Economy	This chapter will acquaint students with key concepts related to the Blue Economy, challenges, opportunities and transition process.
	Chapter 3: Climate Change Impacts on Physical and Mental Health	By the end of this chapter students will have a better understanding of the direct and indirect pathways in which climate change will impact physical and mental human health. They will learn how to apply a pathways model to help visualise these impacts so that future climate change adaptations can be designed from a health centric perspective.
	Chapter 4: Socio-economic Narratives for Climate Change Adaptation: Valuation, Fiscal and Financial Instruments	This lecture familiarizes students with socio-economic narratives for climate change adaptation, focusing on the 2030 Agenda and the 17 SDGs. It explores how fiscal policies and green finance support sustainable development, covering economic valuation methods and emphasizing social equity and environmental sustainability in policymaking.
	Quiz and Discussion	Learners will have the opportunity to demonstrate what they learned in Module 2, post their responses to a discussion board in the sidebar, and comment on other learner's posts to keep the conversation going.
Module 3: Cross Cutting Areas in Climate	**Chapter 1: Climate Data, Digital Applications and Platforms**	This lecture explains how Climate Data Platforms and Digital Applications play a significant role in addressing climate change challenges by giving us access to large amounts of data and knowledge and can foster informed decision-making,

Adaptation in Europe		promote sustainability, and drive global efforts towards climate resilience.
	Chapter 2: 85% of 2030 jobs do not exist today! Skills and Occupations for the Green and Digital Transition	This chapter discusses the skills required for the Twin Transition. Students get familiar with the definitions of the green, the digital and the jointly green and digital Occupations (jobs) and Skills required in the EU market.
	Chapter 3: Supporting a Just and Inclusive Transition: Participatory System Innovation	This session aims to highlight the importance of engaging stakeholders within the sustainability transition. In particular, the session focuses on breaking down the Systems Innovation Approach as a useful tool to support meaningful and lasting stakeholder engagement within the context of sustainable development, and the attainment of the SDGs.
	Chapter 4: Climate Adaptation and Mitigation Supporting Business	Students get familiar with the corporate sustainability reporting, the ESG criteria and the metrics to measure the level of implementation of the SDGs at a company level. The tools discussed in this section are mainstreaming the SDGs at the corporate and decision making and are expected to accelerate the transformation of the business sector.
	Quiz and Discussion	Learners will have the opportunity to demonstrate what they learned in Module 3, post their responses to a discussion board in the sidebar, and comment on other learner's posts to keep the conversation going.
Module 4: Climate Adaptation Solutions in Europe (1 of 2)	**Chapter 1: Climate innovation: buzzword or key to solve a wicked problem?**	This video explains how to deal with the concept of climate innovation in a more meaningful, effective and responsible way, and how to orient initiatives involving innovation so students can expedite an increased awareness of relevant climate challenges, support the identification of needs and capacities, and facilitate the prioritisation of action – all of this at the community level, to ensure the discussion remains concrete, relatable and applicable.
	Chapter 2: Sewer Mining Technology	**IMPETUS Demo site #3 Mediterranean** This video explores how sewer mining technology addresses water scarcity in urban areas affected by population growth, urbanisation, economic challenges, and climate change, promoting sustainable environmental and economic development.
	Chapter 3: Sand Dune Restoration and Monitoring to Prevent Coastal Erosion	**IMPETUS Demo site #2 Coastal** This chapter raises awareness and understanding of the significance of dunes and the beach-dune system, as well as the challenges they face due to human activities and coastal urbanisation. The text also aims to inform readers about the efforts and potential for dune restoration and the importance of implementing nature-based solutions, such as sand fences, to

		enhance the resilience of beach-dune systems against storm events and climate change impacts.
	Chapter 4: Marine Spatial Planning Framework	**IMPETUS Demo site #5 Arctic** This chapter helps learners understand how a marine spatial planning (MSP) framework can help in planning of infrastructure, aquaculture, and fisheries along the coast in northern parts of Norway, to make the region more resilient against climate change.
	Quiz and Discussion	Learners will have the opportunity to demonstrate what they learned in Module 4, post their responses to a discussion board in the sidebar, and comment on other learner's posts to keep the conversation going.
Module 5: Climate Adaptation Solutions in Europe (2 of 2)	**Chapter 1: Flood risk management using Decision Support tools**	**IMPETUS Demo site #4 Atlantic** This chapter describes the challenges associated with flood risk management in a dynamically changing climate. Students will recognize the need for accurate data and information to facilitate better decision-making, as well as the importance of tailored support tools based on innovative software and integrated hydrodynamics models.
	Chapter 2: Decision Theatre: A decision-making approach to link scientific knowledge to policy-making for urban water resource management	**IMPETUS Demo site #1** Through this video, students will understand how to link knowledge and action to support decision-making in managing urban water resources under changing climate conditions.
	Chapter 3: Improving Integrated Climate Risk Assessment and Management through the Use of Impact Chains	**IMPETUS Demo site #7** This chapter provides students with basic knowledge on how to develop Impact Chains, a standardised framework for the conceptualization of significant impacts and related drivers contributing to climate risk and their relationships. This framework envisages the participation of sectoral experts and is often adopted in the context of climate change adaptation planning.
	Chapter 4: Establishment of a Climate Change Adaptation Plan Governing Climate Risk Management	**IMPETUS Demo site #6** Students will learn how to apply a tailored participatory planning approach to create the framework for turning away from the ad hoc activities to systemic implementation approach in analysing challenges and solutions, creating pathways for adaptation to the climate change and selection of the consequent strategy for making investments.

	Quiz and Discussion	Learners will have the opportunity to demonstrate what they learned in Module 4, post their responses to a discussion board in the sidebar, and comment on other learner's posts to keep the conversation going.
Course Conclusion	**Conclusion Video**	Professor Jeffrey Sachs concludes on transformative approaches to climate adaptation and sustainable development. He emphasises the importance of new governance methods, multi-sector and multi-stakeholder collaboration, and long-term, goal-based strategies to achieve the Sustainable Development Goals (SDGs). The course explores the integration of climate science, engineering, political systems, and economic instruments to address complex challenges such as climate resilience and sustainable land use. Highlighting Europe's Green Deal as a model, the course prepares participants to lead and collaborate on regional and global solutions for a sustainable future.
	Final Exam	Learners will have the opportunity to demonstrate what they learned in Modules 1-5.

3.3.5.2 MOOC content contributions and contributors

In line with the plans outlined in D7.4, SDSN identified final topics and speakers using inputs from Consortium members, DS teams and from sister projects, via various meetings and email exchanges throughout 2023. SDSN held various meetings with all DS leaders and/or their representatives to identify the most suitable IMPETUS solutions to be showcased in the MOOC Modules 4 and 5.

Significant contribution to the choice of topics and preparation of videos for Modules 1-3 was provided by the Lead Faculty, Professor Phoebe Koudouri and the team at AUEB.

IMPETUS partners contributed to the following videos by writing the scripts, delivering the speech and providing additional materials:
- Introduction to the course; Module 1 Chapter 1-4; Module 2 Chapter 2 & 4; Module 3 Chapter 1-4: AUEB
- Module 4 Chapter 2: NTUA
- Module 4 Chapter 3: UDG
- Module 4 Chapter 4: TFFK
- Module 5 Chapter 1: N&S
- Module 5 Chapter 2: KWB
- Module 5 Chapter 3: EURAC
- Module 5 Chapter 4: BEF

Support offered by SDSN to contributors is outlined in section 2.2.2.2 above.

3.3.6 MOOC timeline

As planned in Deliverable D7.4, the MOOC modules, chapters and speakers were confirmed in the months following the deliverable submission. All videos were also recorded and edited between Autumn 2023 and Summer 2024, and as a consequence, **the MOOC was officially launched on September 1st, 2024, on the edX platform**.

Steps taken between M19 and M36 (April 2023 and September 2024):

- **April 2023 – September 2023:** SDSN and ESCI held several bilateral meetings to plan and organise the first recording session. In parallel, SDSN exchanged with all demo site leaders to assist them with the preparation of videos highlighting selected solutions from the demo sites (Modules 4 and 5). This included: email exchanges, sharing useful information on lecture preparation, bilateral meetings, joint preparation sessions (including ESCI), and review of lecture scripts.
- **July 2023:** Professor Phoebe Koundouri (AUEB) was elected as the Lead Faculty of the course. Following this appointment, Professor Koundouri suggested several adjustments to the course syllabus (see updated section 3.3.5.1) and proposed speakers for lectures in Modules 1, 2 and 3. Invitations were sent out to suggested MOOC speakers with the help of AUEB.
- **October 2023 (first recording session):** The first MOOC recording session took place during the IMPETUS General Assembly in Utrecht, Netherlands. Eight video lectures were recorded (Seven demo site videos for Modules 4 and 5, one video for Module 3). Following the recordings, a first pilot video was edited by ESCI.
- **February 2024 (second recording session)**: The second MOOC recording session took place in Athens, Greece, at the Athens University of Economics and Business. Ten video lectures were recorded (for Modules 1, 2, 3, and the Introduction to the Course).
- **February 2024 (third recording session)**: Professor Jeffrey Sachs (Columbia University, President of UN Sustainable Development Solutions Network) recorded the video chapter "Conclusion: Main Takeaways and Steps Forward" in New York, United States. The video was recorded as a courtesy from Kontentreal, a video production company that was working on a different project for SDG Academy at that time. The raw footage provided by Kontentreal was subsequently edited by ESCI.
- **April 2024 (fourth recording session)**: The third recording session took place in Copenhagen, Denmark. Two videos were recorded for Module 2.
- **May 2024 (fifth recording session):** The fifth recording session took place in Berlin, Germany, where one video was recorded for Module 4.
- **May 2024 – August 2024:** ESCI finalised editing all videos, considering feedback provided by the SDSN and SDG Academy. SDSN finalised the creation of the course structure for edX, collected additional readings from speakers, created course assignments (multiple choice questions after each video chapter and a final exam), discussion prompts. The course was subsequently submitted to edX for approval.
- **15 August 2024 (Pre-launch of the MOOC)**: The MOOC became available on the edX platform and was opened for pre-enrolment. Social media campaign was launched, as a cooperation between SDSN, SDG Academy and IMPETUS.

1 September 2024 (Official launch of the MOOC): The MOOC was officially launched. The social media campaign and broader efforts to disseminate it are ongoing.

3.4 Outreach, communication and collaborations

The current planning of C&D activities related to learning, knowledge co-creation or results transfer activities in connection with the 7 demo sites, their RKBs and stakeholder engagement is outlined in section 5 of deliverable report D1.1. Further work to elaborate and implement these plans will be a focus in the coming months in collaboration between the DS teams, WP7 and in conjunction with WP1. These actions and their results will be reported as relevant in updates to this document (D7.7) and, mostly, in the report on innovative communication and dissemination actions to build resilience – DS (D7.5).

The results of actions to communicate about academic publications will be reported along with other editorial outputs as relevant, in deliverables D7.6 and D7.11.

3.4.1 MOOC dissemination and promotion

Actions to communicate about the MOOC and their results will be reported along with other editorial outputs as relevant, in deliverables D7.6 and D7.11. So far we can highlight that the MOOC is currently disseminated through the following platforms:

- **edX platform**
  The SDG Academy presence on the edX platform hosts all the MOOC content.
  More than 1 million enrolments worldwide have been registered on the academy's platform.
- **SDG Academy website**: https://sdgacademy.org/courses/
  This website permits visitors to search courses that are on the SDG Academy edX platform by their type, by the name of the lecturers involved, or by related sustainable development goals (SDGs).
  The website had 350,331 views between July 2023 and June 2024.
- **SDG Academy Library**: https://sdgacademy.org/sdgacademy-library/
  This provides a platform to expand the reach of high-quality, open educational materials on sustainable development related topics and distribute the knowledge as a global public good with the intention to share, integrate, and contextualise the videos.
  The SDG Academy Library makes all videos by the SDG Academy searchable by SDG, lecturer and subject.
- **IMPETUS website and social media channels**: via news posts, direct links to a MOOC landing page under the "resources" section and potential integration with the upcoming IMPETUS platform.

An essential aspect of the MOOC promotion is the course card (i.e., the primary visual representation of the course):

3.4.1.1 MOOC reach

Since its launch, the MOOC has been widely promoted through the SDG Academy network, official SDSN channels, the SDSN Networks programme, and through the IMPETUS channels. These have the following estimated reach:

- **SDG Academy network**:
  Students and alumni in over 193 countries/territories.
  Alumni Network Facebook Group: 7,000 members
- SDG Academy Alumni LinkedIn Group: 2,695 members
- **SDG Academy channels**:
  Newsletter: 71,923 subscribers
  Facebook: 55,000 followers
  LinkedIn: 28,000 followers

X (formerly Twitter: 15,900 followers
Instagram: 9,906 followers
- **SDSN main channels**:
Newsletter: 70,884 subscribers
Twitter: 33,400 followers
LinkedIn: 72,000 followers
FaceBook: 58,000 followers
- **SDSN Networks programme channels**:
SDSN Europe Newsletter: 1000subscribers
SDSN Europe X (formerlyTwitter): 804 followers
SDSN Europe LinkedIn: 3,538 followers
'Mobilize': 4000 members

Other channels via which the MOOC has been and/or will be promoted:
- IMPETUS project social media accounts (Twitter & LinkedIn)
- IMPETUS partners' and MOOC lecturers' social media accounts, networks and newsletters
- Sister projects' social media accounts, networks and joint newsletter.
- ClimateADAPT Newsletter
- Mission Adaptation Newsletter
- Mailing sent to SDG Academy Alumni
- Mailing sent to SDSN members and/or selected contacts of SDSN
- IMPETUS website (blogs)
- SDSN Europe website

3.4.1.2 MOOC indicators

MOOC indicators will be the number of enrolments, over the first six months and first year.
Due to the specificities of the MOOC, such as it being destined mainly for an EU audience, the SDG Academy has no exact comparable references to date.

The average number of total enrolments (Verified & Audit) per course within a year/course run (e.g in Sept 2021- Aug 2022) is 2,018. However, it is important to note that depending on the nature of the course and audiences, the number of enrolments can be quite varied.

In Deliverable D7.4, the following targets were envisioned as a starting point
- Over the first six months: 300 enrolments
- Over the first year: 600 enrolments

At the moment of writing the present deliverable (11 September 2024), the MOOC has **139 enrolments (11 days following the launch).** Efforts will continue to disseminate the course further and reach the set targets.

4 Conclusions and outlook

The task of developing plans and content for IMPETUS learning, knowledge building, and results transfer activities has been successful so far, particularly with the development and launch of the project's key learning tool, the IMPETUS MOOC and also over 300 activities with local stakeholders and several webinars and events with sister projects. For the last phase of the project, the focus will shift more closely on the latter to develop complementary learning and knowledge-building activities such as additional thematic webinars/virtual visits based on the solutions matured in the DSs.

As part of the WP7 portfolio of activities, all learning, knowledge building and results transfer materials and activities must be planned and executed in alignment with the principles laid out in the CCD strategic framework (D7.2) and other project documents such as the data management plan (D8.3 –updated as D8.6 in month 18 and D8.7 in month 36). As these activities support IMPETUS goals to achieve knowledge building, uptake of results, and behavioural change and decision making towards climate change adaptation during and beyond the project, the intensification of work to complete the initial planning and production processes and move the work into implementation will become a priority in phase III of the project.

4.1 Next steps

Following the launch of the MOOC in September 2024, the efforts in M37-M48 will focus on disseminating the course through various channels and increasing the number of learners. New pathways for dissemination will also be explored.

At DS level, with over 370 stakeholder engagement activities carried out so far, the project has established a broad network of engaged local stakeholders who could support IMPETUS RKB knowledge building and results transfer activities during the final phase of the project. Maximising the impact of these engagements will be the point of focus of WP1 and WP7 in the following months.

Having achieved several academic publications, poster presentations and participation at scientific conferences, activities will continue to intensify as the development of IMPETUS technical tools and other activities associated with the DS solutions testing and RKB developments progress.

At project level, potential synergies / efficiencies between task 7.5 and the activities of sister projects, Climate ADAPT, the GD-SO and other platforms and networks will continue to be explored. IMPETUS partners will carry on participating at events were relevant and will seek to organise more events to promote the results achieved in the third and final phase the project.

As WP5 activities begin to gather momentum, potential synergies will be explored, in particular with task 5.1 (adaptation pathways), task 5.1.1 (definition and sharing of the operational methodology for the design of regional adaptation pathways), task 5.2 (innovation packages) and task 5.3 (evaluation of regional innovation packages). Likewise, as technical and scientific developments progress in WP2, WP3, WP4 and WP5, and as WP6 publishes its updated set of guidelines for decision makers, business opportunities, financing mechanisms and policy and market instruments (D6.1), its market perspectives report (D6.2) and its adaptive exploitation plans (D6.3), these will be reviewed so that any relevant insights, topics, content or contributors that could influence or provide inputs to the learning, knowledge building and results transfer activities can be identified and brought into play.

A summary of all past and planned lean learning, knowledge building and results transfer activities as well as results from their implementation, once they reach maturity, will be reported in the last update of this document (D7.7) and/or in other relevant deliverable reports, such as the report on innovative communication and dissemination actions to build resilience - DS (D7.5). Actions to communicate about these activities and related results will be reported along with other editorial outputs as relevant, in IMPETUS Deliverable reports D7.6 and D7.11.

Annex 1:
SDG Academy best practices and examples

a) Examples of course videos

To view examples of SDG Academy course videos and get a sense of tone, quality, design, etc., visit SDG Academy Library (https://sdgacademylibrary.mediaspace.kaltura.com/), specifically:

- **Videos from *How to Achieve the SDGs*** *(https://sdgacademylibrary.mediaspace.kaltura.com/category/By+Series%3EH%3EHow+to+Achieve+the+SDGs/123652361)*
  - This is one of the most typical MOOCs, filmed on-site in Prof. Jeffrey Sachs's office.
- **Videos from *One Planet, One Ocean*** *(https://sdgacademylibrary.mediaspace.kaltura.com/category/By+Series%3EO%3EOne+Planet+-+One+Ocean/123652431)*
  - filmed on-site in a variety of topical locations
- **Videos from *Understanding Poverty and Inequality*** *(https://sdgacademylibrary.mediaspace.kaltura.com/category/By+Series%3EU%3EUnderstanding+Poverty+and+Inequality/223102263)*
  - filmed remotely via webcam using Riverside.fm. Video quality varies by webcam, but this is logistically easier.
- **Videos from *Living Heritage and Sustainable Development*** *(https://sdgacademylibrary.mediaspace.kaltura.com/category/By+Series%3EL%3ELiving+Heritage+and+Sustainable+Development/238389853)*
  - filmed remotely using the instructors' own iPhones. Better quality video, but logistically challenging.

b) Guidelines for remote filming

SDGacademy

Best Practices for Remote Filming

This document is designed to support the creation of videos using the internal camera of a smartphone or tablet. Please follow the steps below to ensure the highest possible quality of your device's filming and storage.

Filming with a Mobile Device

Using the latest model smartphone or tablet available to your team:

- Change the recording settings to the highest resolution possible.
    - For instance, on an iPhone, you would go to:

        "Settings" → "Camera" → "Record Video" → "4K at 30fps"

- Make sure your device has enough available storage for recording.

- Always record in landscape (holding the device sideways, horizontally).

- For the best quality of audio and video, the camera should be no further than *one meter* (approx. 3 feet) from the speaker.

- Before you start filming, make sure that your speaker is positioned well within the frame. Click
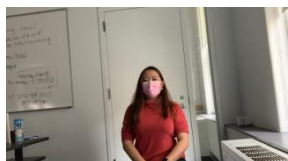
Nope, too far away. *Nay… too close* *Better!*
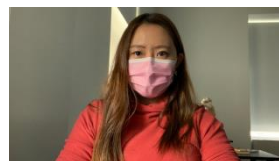
here for tips on framing a shot in a video.

Person too high and head cuts off *A bit too low*
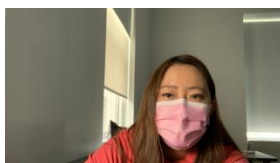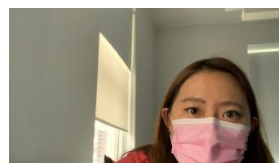
Don't hide in the corner!

1

Better! Because:
1. Person is in the middle, has equal space on both sides
2. Has some extra space above the head
3. Eye level is above the center of the frame
4. Showing part of the chest

- Make sure that the speaker is lit well from the front, with the light shining on his/her face. If necessary, film with the speaker facing a window, or place a lamp behind the camera so that the light shines on the speaker. For more tips on lighting, click here.
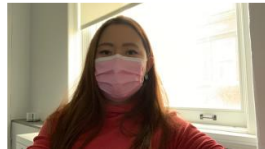
Bad! The window behind is too bright. Turn around and face the light, or use curtains to block the lights. Don't have a super bright window behind you.

- When you film, the speaker should look directly into the *camera*. If you are using a webcam, concentrate on the camera or the little light next to the camera, rather looking at yourself on the screen. In the finished video, this will help engage the audience, making it seem that you are looking *at them*.

Looking at the screen - Nope!

Looking at the camera - better!

- Have some space behind you, and avoid being right in front of a wall if your space allows. The background behind you can make the image look much more interesting.

Try to avoid! Not a very interesting image to look at

Best! Light, position, background - all check marks!

2

- Film in a quiet space. Don't film in a coffee shop where everyone is talking, don't film in a moving car or next to a noisy air conditioner. Cell phone microphones are not the greatest so if you're in a noisy environment, your audiences won't be able to hear you well. If a loud noise -- door slam, cup drops on the floor, siren or helicopter sound outside - occurs when you're filming, stop and redo the last one or two sentences.

- Before you start recording your video, please record one or two test videos (approx. 5 min each) to test the lighting, sound, and recording quality. Once the tests are complete and you are happy with the results, fully delete the test files to ensure ample space for the real video.

3

c) Guidelines for filming outdoors

Camera Type:

iPhone/iPad

Using the newest version of iPhone available within your team:
- Change the recording settings to the highest resolution possible:
  - "Phone Settings" →
  - "Camera" →
  - "Record Video" →
  - "4K at 30fps"

- Make sure the phone has enough storage space available for recording! Please test a few times (2 min/recording) before your first official take.

- Phone should be held sideways (in landscape mode).

- Distance from presenter:
  - No further away than *3 ft.* for best quality of audio and video (closer is preferable).

- Recordings should be *no longer than* two minutes.
  - Please provide at least two takes.

Transferring Footage

- Upload the footage from your phone to a computer. This will likely store directly in iTunes or your iCloud. Open the file and save it directly to your computer.

- Transfer the footage directly via WeTransfer (WeTransfer.com).
  - You will only need their "Free" option (transfers up to 2GB. You'll need to create an account with them (also free).
  - Upload the files to WeTransfer.
  - Send the footage directly to both:
    - jlfitzgerald37@gmail.com
    - krisb22@gmail.com

d) Guidelines for filming with iPhone

FILMING VIA IPHONE

INTRO:
The capabilities and advanced technologies of the new iPhones offer more versatility to an already solid video setup. Professors/Practitioners/Presenters will **speak straight to an iPhone** which in edit will be intercut with appropriate b-roll, graphics, animation, and illustration.

SETTINGS:
Click the settings app on the homescreen of your iPhone 11. Scroll and go into the **camera menu.** Make sure the format of recording video is **4K at 24fps.** This will make the footage smooth and professional.

Then go back into your camera menu and check if the format is set to **'most compatible'** which helps the compression of the footage.

BACKGROUND:
The first thing you need to consider before starting to film is what background is best for you.

Jeffrey Sachs
Director,
Earth Institute & Sustainable Development Solutions Network

Bookshelves are an ideal option for creating an educational professional environment.

PHONE SET-UP:
Set up your iPhone into the provided tripod in **landscape mode**.
If you do not have a tripod and iPhone "cage" it is easy to rig something up>
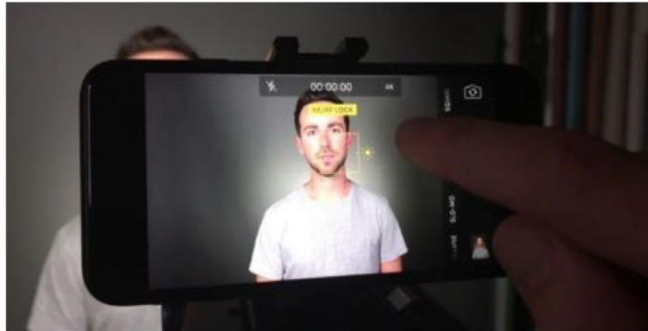
Make sure that the phone is **no more than 3 feet away** from the presenter and that the **frame captures you from the lower chest up**. Check to make sure your head is not cut-off and that you are relaxed and comfortable- not posed!

SOUND:

Attach the lav microphone to you in a place like under the collar or beneath the tie - somewhere it is inconspicuous. Record a quick video to see if there is any rustling of your shirt against the mic. Plug the mic into] your phone.
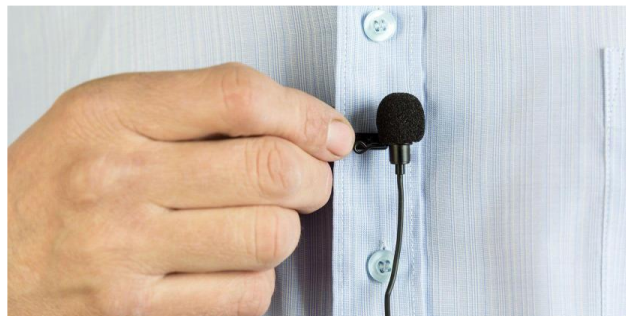
Lastly, make sure the extension cord of the mic is **not shown in the shot**.

LIGHTING:

Natural lighting is always best if it is available. The source should **come in from the side**, not directly behind or in front. If natural light is not available, a small ring light is another option and can be attached to your tripod. It should be placed strategically.

Insider tip: If the presenter is a bit shiny, use translucent powder to minimize. If the presenter is wearing glasses- give the glasses a good cleaning before filming commences.

AFTER FILMING

TRANSFERRING DATA:

- Download the **Frame.io app** and open it.
- Login with your email since you will already be a collaborator on the project, **"Book Club With Jeffrey Sachs"**
  - Then input a password.
- Click the folder titled, **"Jeffrey Sachs Promo (1/21/2021)"**
- Tap the three dots in the right hand corner.
- Click upload, then click camera roll.
- Select the videos you just recorded.
- Press done and the videos you selected should upload.
- Thank you so much!

e) General filming guidelines

SDG Poverty MOOC
March - July 2021

BACKGROUND:
Locate an interesting background in your filming space. This will be your background. A plain white wall can also work to keep your focus on you. It also creates space for the editor to insert text, graphics, animation and illustration.

Dr. Sonia Massari
Gustolab International Institute for Food Studies

Make sure you are a bit off center so that in edit, there is space for the editor to play with supporting text, graphics, etc.

PHONE/COMPUTER SET-UP:
Set up your phone in landscape mode. Create a makeshift tripod or use an actual tripod to make sure your phone stays still and captures you. Using a stack of books always works!

Make sure that your phone is no more than 3 feet away from you and that the frame captures you from the lower chest up. Check to make sure your head is not cut-off and that you are relaxed and comfortable- not posed!
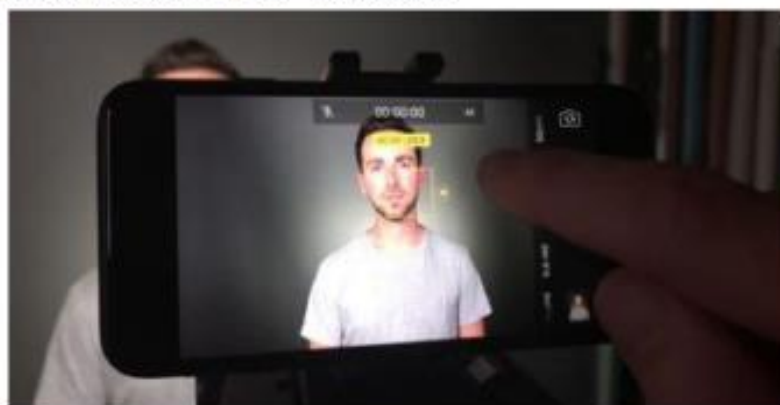
Two Settings:
Format - Most Compatible
Record Video - 4K at 24 fps

LIGHTING:

Natural lighting is always best if it is available. The light source should come in from the side, not directly behind or in front. If natural lighting is not available set up either a ring light or a lamp, never use overhead lights.

Teleprompter:

With iPhone:

Look up 'Teleprompter" in the App Store

Download Teleprompter for free

Open it and click the plus sign in the top right hand corner of the app.

Either Compose a new script (if you would rather copy and paste from another location like your notes app) OR Import a document (If your scripts are located in your Google Drive, you can import them directly through there by logging in)

Adjust formatting, speed, fonts, text size, background color, and more by tapping the settings icon in the bottom left corner after you import your script.

While you're in settings, make sure that recording is set to 4K.

Settings > Video Recording > 4K

Press record on the teleprompter app and read along. Adjust speed as a test.

Without iPhone:

Depends on technology being used by Presenter - will vary.

Online Teleprompter for ALL Computers

Go to : https://www.teleprompt.online/ or https://cueprompter.com/

Paste your script in the text box.

Adjust the speed and text size to your preference.

Press the play button and read your script!

PLEASE make sure to practice before your filming date.

UPLOAD:

With iPhone:

Download the **Frame.io app**

Log in : kontentrealclient@gmail.com / Kontentreal4!

Press the folder that says "CLIENT" > "PRESENTERS" > Your last name

Tap the three dots in the right hand corner.

Press upload, then press camera roll

Select the videos you just recorded

Press done.

Keep the screen open until the videos have FULLy downloaded.

Thank you so much!

Without iPhone:

Download the videos onto your laptop.

Go to **https://www.frame.io/**

Log in : kontentrealclient@gmail.com / Kontentreal4!

Double click the folder that says "CLIENT" > "PRESENTERS" > Your last name

Either click "Upload Files" or drag and drop the videos into your folder

Keep the screen open until the videos have FULLy downloaded.

Thank you!

Annex 3: MOOC – Final Result

The MOOC can be accessed through the SDG Academy website (here), or directly on the edX platform (here). This Annex displays the MOOC's visual identity and selected elements of its content.

Figure 2 Course Card (main visual)

Figure 3 Video capture - welcome from Prof Jeffrey D. Sachs
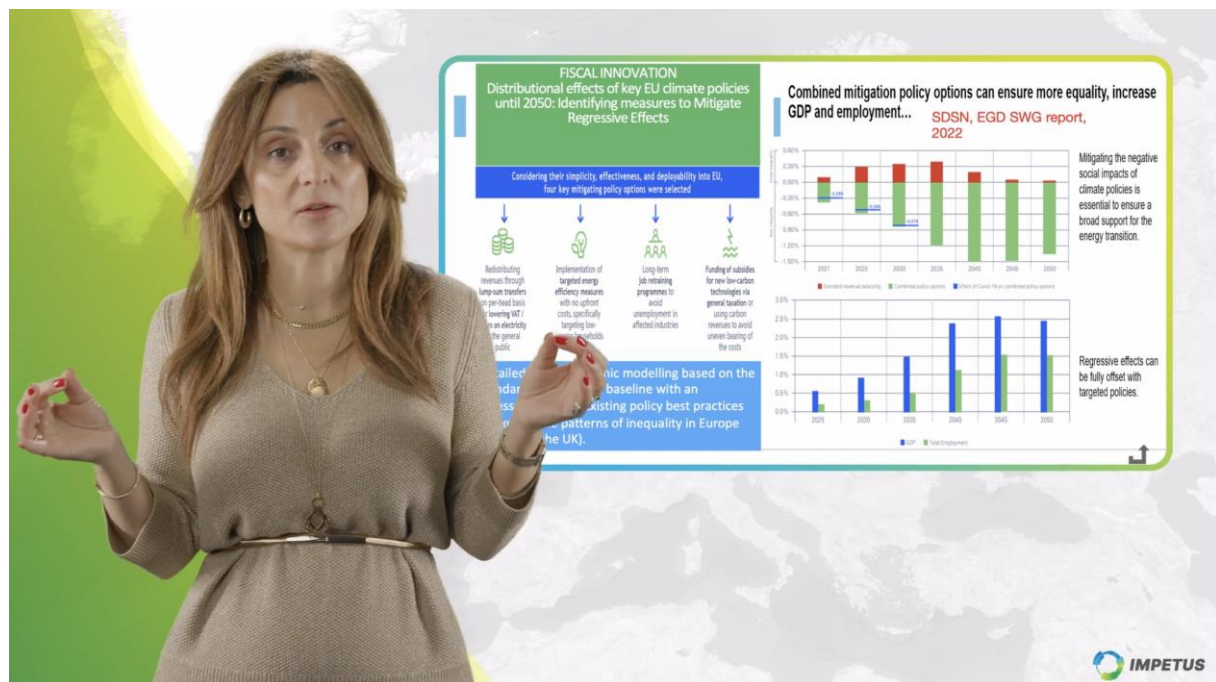
Figure 4 Video capture - intro from Prof. Phoebe Koindouri
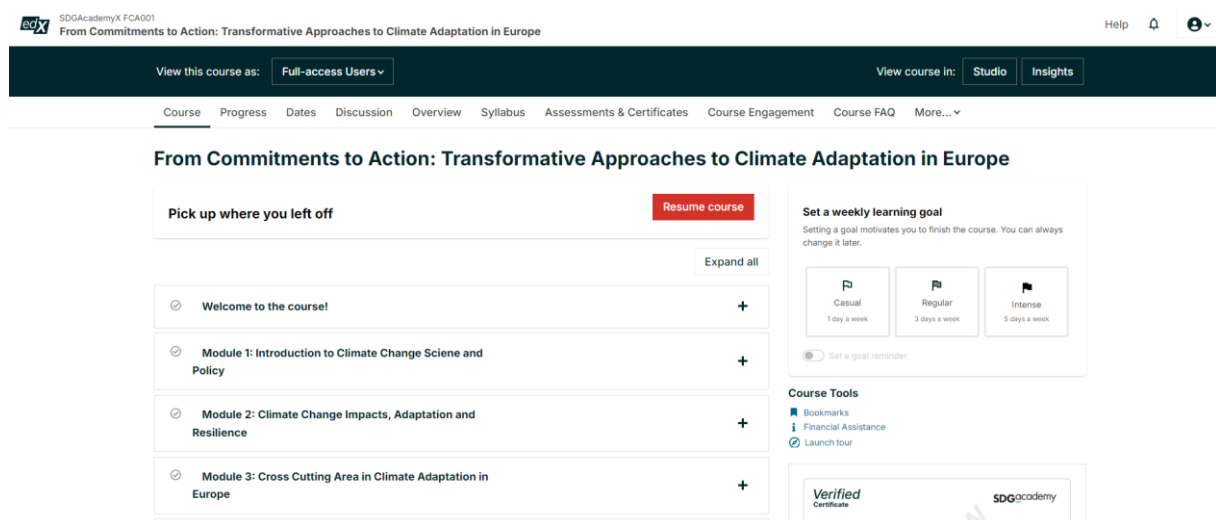
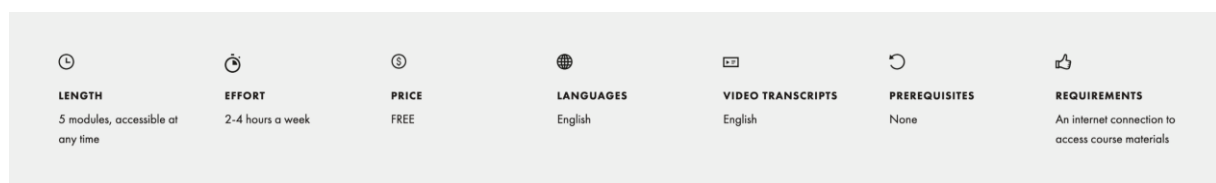
Figure 5 Course Landing page on edX

Figure 6 Key Details about the course

Figure 7 Quiz Example

Figure 8 Reading Materials Example