



ConsenCUS

Plan for dissemination activities at demonstration sites

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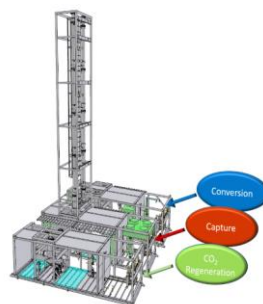
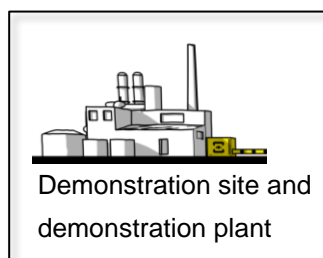
1 Introduction

1.1 Executive summary

The demonstration activities of the ConsenCUS project require a massive investment of time and resources by many different parties. This document describes the concept for dissemination activities during the demonstration. These activities will consist of (semi-permanent) physical elements during the three demo campaigns, three Dissemination Days where external stakeholders will be invited and (potential) smaller site visits with external stakeholders. The various communicative and safety aspects of the activities are listed in this document.

1.2 Background

The demonstration plant will be in operation for a period of approximately 4 months at each industrial site (AALPOR (DK), OMPET (RO) and GM (GR)). During each of the three campaigns, visitors are expected to come on-site and have tours or visits near at the site in general and at the plant specifically. This deliverable outlines the framework of these visits as they appear at this moment in time, the practical preparation of the demonstration plant, as well as how to align details between DTU, who operates the plant, and the sites.



CO2 capture and utilization
demonstration plant

Figure 1. The demonstration plant and a demonstration site.

1.3 Descriptions from the grant agreement

To further frame this deliverable, two excerpt from the grant agreement are included here.

D9.3 description (Page 43 in the grant agreement):

Plan on dissemination activities at demonstration sites (DK, RO, GR) with local stakeholders and community engagement, including practical necessities and physical material (brochures, flyers).

The demonstration sites are an important component of the project and give a real-life impression of the CCUS technologies deployed in the project. Giving guided tours at the demonstration sites, the sites can serve as an off-line information platform for interested public, professionals and policy makers. The visits will have to be coordinated and organized in a structured way, on the one hand to make the visits successful, on the other to avoid interference with the operation of the demonstration sites. These visits also will play an important role in reducing the barriers in the vicinity of the sites associated with the deployment of the new CCUS technologies.

2 Dissemination elements

We differentiate three types of demonstration site dissemination elements:

- (1) Visual aids at demonstration plant (signage, counters, etc.)
- (2) Dissemination days: Singular big dissemination day/event
- (3) Smaller site visits in small groups during a demonstration campaign for community events, press, stakeholders, schools etc.

Each of these elements require preparatory activities, initiated some months prior to the implementation as well as operational coordination during the campaign (Figure 2). An important part of the preparatory activities will be to update the details of this document with the increased level of information which will be available at this later stage of the project.

Responsible	Activity	2023												2024											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
DTU	AALPOR campaign																								
DTU	OMVPET campaign																								
DTU	GM campaign																								
DTU	Visual aids at demonstration plant																								
NEC	Dissemination days																								
DTU	Smaller site visits																								

Figure 2. Gant chart of dissemination element activities.

3 Visual aids at demonstration plant

Besides keeping ConsenCUS infographic flyers on the site, DTU must prepare visual aids materials to be placed at and on the demonstration plant to improve the visitor impact. Some assistance can be expected from NEC, although no declared budget exists for this activity for either partner. DTU will attempt to find and prioritize funds either in ConsenCUS in dialogue with the project coordinator or outside, as the elements are very important for the visitor experience. These elements come second to the engineering of the demonstration plant, and will therefore be designed and constructed as some of the finishing stages leading up to the first campaign at AALPOR. Signoff is required from all sites and NEC before the aids can be finalized. This section discusses initial considerations with regard to types and content of the aids. With all visual aids there should be proper acknowledgment of the EU Horizon Innovation and Research funding.

3.1 Banner on container exterior

The demonstration plant consists of shipping containers, which can be easily decorated with banners (Figure 3). Banners serve to differentiate the demonstration plant from the rest of the site equipment. Besides logos, project title, EU fund acknowledgment and slogans, they may even contain some information about the role of specific container modules (e.g. capture, solvent regeneration, utilization). Site signoff on canvas banners and their attachment is important. QR codes may also be applied for access to online information.



Figure 3. Example of prior DTU containerized project with informative and decorative banner.

3.2 Poster stands with infographics

The demonstration plant constitutes a large installation of 3-4 shipping containers when sited. When showing visitors the demonstration plant, there will be several spots where it will make sense to gather the group. Outdoors poster stands placed there can create a “podium” for the speaker and hold prudent infographics to underline what is being delivered verbally, and allow the visitors to linger and revisit some of the information spots at the end of the tour (Figure 4).



Figure 4. An outdoors poster stand with an infographic about the plant and the project, and an example of an infographic.

Several such poster stand infographics can be made, covering both the entire demonstration plant and the project as such, and also the individual demonstration plant modules. The overall infographic of the demonstration plant may also be adapted for a roll-up to be used at conferences or the like. The size of the poster stands should enable several individuals to see the content simultaneously. General banners, leaflets and infographics have already been created as rollups as part of the ConsenCUS communication activities in WP9 and will serve as the basis.

For the content of the infographics, some minimum requirements are listed below.

- ConsenCUS overall goal
- Demonstration targets (per site) and activities
- Project partners
- Visibility of EU funding: : “This project has received funding from the European Union’s Horizon Research and Innovation programme under Grant Agreement no. 101022484.”

3.3 Large screen

Some of the container modules may be possible to open, to reveal the equipment inside. Such an open section would be great for visitors but would also represent a sheltered environment where a large screen, e.g. 50" LCD or similar, could be mounted (Figure 5). Such a screen could be used as part of the tour to give visitors a general introduction to the ConsenCUS project, using the video already produced by NEC. Other possible content could be:

- Mirroring an operational display, giving insight into the actual operation of the plant
- Time lapse of equipment installation within the containers
- Narrated walkthrough of the equipment type and functionality inside a container



Figure 5. A large screen may be possible to mount in a sheltered part of the demonstration plant.

3.4 Lights and counters

The ConsenCUS project has a set of very well-defined objectives, some of which communicate well to the public. Among those are the amount of CO₂ captured, and the amount of CO₂ utilized. An online reading of these numbers can be put on large displays to be put somewhere visible on or near the demonstration plant to engage with the visitors (Figure 6). If kg's of CO₂ is difficult to relate to, the numbers could be converted to plane rides or something similar.



Figure 6. An example of a possible counter for kg of CO₂ captured since demo start.

Much of the equipment comprising the demonstration plant does not offer any visual indication of whether it is running or not. One or more LED stack lights mounted on the outside of the modules could serve to visibly assure visitors that the plant is running (Figure 7).



Figure 7. An example of an LED stack light, clearly communicating the status of a machine.

3.5 Interactive physical elements

The demonstration plant may contain interactive elements to provide visitors with a hands-on experience. As the demonstration plant will likely be running scheduled experiments, these hands-on elements should have no direct effect on the plant. However, a simple simulation of some parameters using two knobs and a lever (Figure 8), perhaps combined with a large screen could be envisaged. Other ideas currently are:

- Big lights highlighting parts at the press of a button
- Capture CO2 from your breath – breathe into this container that we can enter into the system
- Bicycle to generate green electricity and see how much CO2 could be captured with your result



Figure 8. Early ideas for interactive content.

3.6 Virtual reality version of the demonstration plant

It may be possible to mirror the demonstration plant or parts of it as a virtual reality package, using the software Present4D. DTU has used this before for student exercises. Such a mirrored version could be used both for off-site dissemination activities and for operator training (Figure 9).



Figure 9. An example of a DTU lab setup which is mirrored digitally.

4 Dissemination Days

During each of the three demonstration campaigns, NEC will schedule at least one event where stakeholders outside the consortium can learn about the ConsenCUS activities. This event will comprise e.g. dissemination of results by consortium members, a presentation of the demo host, public lectures related to CCUS and a visit to the demonstration plant.

4.1 Target Audience

Expected visitors and their goals at dissemination days include:

Target group	Goal of target group	Addressed by	Benefit for ConsenCUS
ConsenCUS consortium partners (considering joint timing with General Assemblies)	Looking for network opportunities, feedback from external stakeholders, cross-work package interaction	Matchmaking, breaks, Q&A Potentially enhanced by questionnaires or structured discussion	External feedback, network and business opportunities
Local/regional officials, press	Understanding/enhancing impact for their region (PESTLE)	Targeted presentation and Q&A, demo visit	Dissemination of results, business opportunities
Local energy professionals	Looking to be informed on-state-of-the-art CCUS developments, business opportunities and impact for their sector	Targeted presentations, lectures, matchmaking, demo visit	Collaboration and business opportunities.
<i>If jointly scheduled with educational activities:</i> international energy professionals	Looking to be informed on state-of-the-art CCUS developments and impact for their sector	Targeted presentations, lectures, matchmaking, demo visit	Collaboration and business opportunities.

<p><i>If jointly scheduled with community events:</i> local community members without energy background, potentially including NGOs, students and young adults</p>	<p>Looking to understand benefits and drawbacks for themselves and their community</p>	<p>Targeted presentations, demo visit</p>	<p>Feedback, dissemination, education</p>
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Reaching out to attract the target audience will be a joint effort of NEC, EPG, DTU and the host sites once the scheduling is finalized. The will be coordinated in the bimonthly Communication Team meetings and aligned with WP7 activities.

4.2 Scheduling

To minimize travel, these dissemination days will be scheduled as part of the local General Assemblies or other activities where possible.

February/March 2024, at Aalborg Portland, Denmark (no GA planned during DK demo)

23-24- (25) April 2024 General Assembly at OMV Petrom, Romania

8-9-(10) October 2024 General Assembly at Grecian Magnesite, Greece

Under ideal circumstances, the event will also connect to:

- Community events (Task 7.3) organised by RGU, aimed at local citizens surrounding demo site locations. A field trip to see the demonstration unit as part of the event would be appealing.
- Education and training events (Task 9.3) organised by NEC, aimed at energy sector professionals. A field trip to the demonstration unit (and site) as part of the CCUS course would be appealing.

The goal is to finalize the dates and programs at least 3 months before the start of the first demonstration campaign, once we are sure the technical developments are on schedule.

4.3 Dissemination activities during dissemination days

Apart from the interaction with the physical elements described in Section 3, the following activities are expected to be part of the dissemination day:

At a nearby building with conferencing infrastructure:

- Presentation of the ConsenCUS concept and project (NEC or DTU)
- Presentation of the host site activities and sustainability goals (AALPOR, OMVPET, GM)
- Presentation of the demonstration modules and goals (DTU)
- Structured matchmaking if conditions permit
- Q&A
- Coffee / tea or other catering

At the demonstration module (transport and/or walking tour arranged)

- Visit to the demonstration modules, explanation by DTU
- Interaction with items from Chapter 2.

4.4 Practical considerations

For all sites, visits need to be thoroughly scheduled according to the guidelines in Chapter 5. This section supplies a non-exhaustive list of base rules for the Dissemination Days specifically: Meeting room requirements: 50-75 people, presentation equipment. If capacity is an issue we can divide into groups and/or give priority to people external to the consortium. Getting to the meeting room should ideally be possible with public transport and not require PPE.

Aalborg Portland:

Aalborg Portland can host guests upon request. Please make sure to contact at least a week beforehand to ensure that a guide can be provided since its mandatory to have a guide. All participants must wear correct personal protective equipment PPE – helmet with safety glasses (separate plastic glasses will be provided for guests wearing glasses with corrective lenses), high visibility vest, ear protection for entering high noise areas and safety shoes. These equipment can be borrowed at Aalborg Portland. A meeting room or an auditorium can also be booked to present material regarding the test unit before or after the plant visit.

OMV Petrom:

Safety regulations and sensitive operational activities must be taken into account for visits to the site. All visitors at the demonstration plant need to perform a safety training. Visitors which observe the module from a gathering point situated in the vicinity of the demonstration plant (aprox. 5m) do not need PPE. When it is required (eg. entering between the demonstration plant modules) the PPE will be provided by the refinery.

For each site visit, registration beforehand (one week notice) is required. To assure the right support at site, the visit will be planned in a specific day, hour and duration.

Office for meetings is at walking distance from the module placement.

Grecian Magnesite:

GM regularly hosts events or site visits for interested stakeholders.

Conferencing options are available in a nearby town, after which transport by bus to the GM site and module's operational activity is preferred. Groups of ~30 people at the time can be accommodated, so splitting across multiple groups is likely required. For groups this size, module-only tours are preferred. Light PPE is required depending on exact location of the group. Registration beforehand (one week notice) is necessary for planning and logistical purposes.

5 On-site visit organization

Site visits from people other than operators or suppliers will occur during official Dissemination Days, but could, in principle, also occur on other days during the demonstration campaigns to accommodate smaller groups of interested stakeholders. It is the responsibility of DTU to organize and coordinate such visits. Availability and precautions vary per site. This section outlines the boundary conditions and practical considerations for the site visits at the three sites.

As each site presents very different conditions, the main activity leading up to the demonstration campaign consists of aligning expectations and practical details. To do this, a questionnaire will be used, containing at least the items in Table 1, but with space for items unaccounted for. The questionnaire will be completed and signed off by DTU and site in the months leading up to the demonstration campaign.

Table 1. Preliminary questionnaire to align expectations between DTU and a site.

Item	Note
Site (<i>AALPOR, OMVPET, GM</i>)	<i>Example: OMVPET</i>
No-visit timeslots or date durations (<i>This is completely up to the site to define. E.g. some sites may have work planned in specific periods, or they may close early on Fridays or may not wish to have any visits besides the Dissemination days</i>)	<i>Example: No site visits on Fridays (if mandatory we are flexible to arrange).</i>
Possible visit content (<i>E.g. could be only in headquarter meeting room, could be only at demonstration plant, could be both demonstration plant and entire site if needed, could be flexible</i>)	<i>Example: One visit per week, demonstration plant and meeting room. General visits for the entire refinery will not be provided (only for special guests as per request).</i>
General site guided tours contact (<i>Who could DTU people contact about items in this list</i>)	<i>Example: Mihaela Stanciu</i>
Site tour resource person contact (<i>Who could DTU contact with questions specifically about site visits</i>)	<i>Example: Mihaela Stanciu</i>
DTU guides contact (<i>Who at DTU could site contact with questions about visits</i>)	

Warning of site contact required before visits (Could visits be arranged by DTU without having to involve the site, or should someone be called or emailed beforehand? How many days before the visit should a heads-up be given by DTU to the site?)	Example: DTU will inform OMVPET with minimum 7 days before the visit
Maximum size of group (E.g. 15 per guide)	Example: 10 people
Security equipment required for visitors – where to get and how much is available (Is this needed? Is there a room where DTU can borrow PPE for visitors?)	Example: PPE will be provided by OMVPET.
Security instructions required for groups – who gives this and how to book (Is this needed?)	Example: Safety training will be provided by OMVPET. The booking will be done by OMVPET responsible prior to the visit (minimum 7 days before).
Training or certification requirements for guides from site (Can DTU operators be OK'ed to act as guides for the entire site, or maybe just the demonstration plant? What would it take?)	Example: To be clarified what trainings and certifications are you referring. DTU operator cannot act as guide for the entire site. No matter OMVPET personnel will always be present with the group.
Marking of pathways for visitors (Is there a specific path visitors should follow? Is it marked? Who marks it?)	Example: Yes. OMVPET responsible will guide the groups in the refinery to the demonstration plant.
Office facilities for visitor introductions (E.g. a large meeting room with a projector, is something like this available, how many people can it hold and is it available for DTU to book)	Example: Office meeting room is available near the demonstration site. OMVPET will be informed minimum 7 days before and will book the room in advance.
Location of site canteen resources or similar and instructions for booking or use (E.g. where do we take visitors to eat if necessary)	Example: Local site canteen is available between 11:30-13:30 (200m from the demonstration site).
Location of group visit toilets facilities (What toilets can visitors use?)	Example: Toilets facilities are available at the local canteen and the office building (200m from the demonstration site).
Emergency contact at site (E.g. a visitor wanders off and touches something hot, who should we call and notify).	Example: Visitors will always be accompanied by OMVPET responsible who will handle any emergency situation.

Can external visitors (outside the consortium) reach the company and the demonstration unit on the site? (E.g. what are preferred means of transportation to get to the site)	<i>Example: The refinery site can be reached by car. Public transportation is possible also from the near town Ploiesti. For international travels, the airport is located 50km from the refinery and can only be reached by car.</i>
How would you as a site like to include your company's perspective (E.g. should the guided tour contain certain background elements about the site history or current mission)	<i>Example: The guided tour may contain a few background information like the products obtained in the refinery and also the OMVPET strategy for decarbonisation. The content will be further establish.</i>
Should there be recurring meetings about visits scheduling during the demonstration campaign. If so, how often? (E.g. to review upcoming visits and evaluate earlier ones)	<i>Example: If necessary.</i>
... table to be adapted in case of additional items	
Site signature	
DTU signature	

To maximize transparency, DTU expects to maintain a shared timeline showing any scheduled visits.

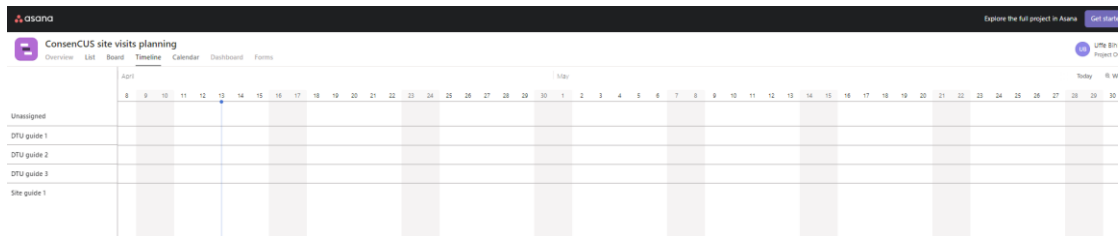


Figure 10. Transparent visit schedule shown online (<https://app.asana.com/read-only/Consensus-site-visits-planning/16060828910470/d548624e1f5307a7ab0716f56e2ffb59/timeline>)

With regard to booking of visits, it may be done with an online form or it may be just by direct contact with the DTU main contact. This depends on the possible visit timeslots and on the number of visits.

ConsenCUS site visits planning

Contact name *

Email address *

Telephone number *

Desired site to visit *

Who is visiting? *

Number of visitors *

Date of visit *

Time of visit during the day

Never submit passwords through Asana Forms.
[Report abuse](#) or check out our [privacy policy](#).

Figure 11. An example of an online form which could be used to apply for a visit at a site.
<https://form.asana.com/?k=BXgg1KqtKzyrM4LyKf5Fpg&d=16060828910470>

6 Conclusion

The demonstration activities of the ConsenCUS project require a massive investment of time and resources by many different parties. The culmination of these efforts is the demonstration campaigns, which must be well planned to maximize the impact. For the dissemination activities at the demonstration sites, physical materials will be made, which will play a crucial role in larger dissemination events, and also for smaller visits. The larger events (“Dissemination Days”) will be meticulously planned by NEC to achieve synergies with other meetings and work packages. The concept for these days is drawn out in Chapter 4. To minimize the risk of miscommunication about smaller visits organized by DTU, a thorough questionnaire (Chapter 5) has been proposed to align expectations between DTU and the local site.