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The Importance of Successful Dissemination in the DEEPEGS Project

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ABSTRACT

The DEEPEGS Project objective is to test stimulating technologies for enhanced geothermal systems (EGS) in deep wells in different geological contexts, with the purpose to provide new innovative solutions and models for more extensive deployments of EGS reservoirs, carrying sufficient permeability to deliver significant amounts of geothermal power across Europe. The ambition of the project is to explore the possibilities of producing energy from deep geothermal systems which enhanced following drilling to depths of 4-5 km. Drilling operations began in early August 2016, and a critical milestone was reached on January 25th, 2017, when drilling of IDDP2 at Reykjanes was concluded at 4659 m depth. HS Orka led the project, with the involvement of the Iceland GeoSurvey (ÍSOR) and several European (www.deepegs.eu) and American institutes (www.iddp.is). Iceland Drilling Company was in charge of the drilling phase. Dissemination and communication have been an essential part of the DEEPEGS project, relevant both to internal and external target groups. The interface in the H2020 projects context defines its actions as "taking strategic and targeted measures for promoting the action itself and its results to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange". Concerning internal communication, the emphasis was on meetings, workshops and web-based collaboration and project management products. Externally, DEEPEGS beneficiated from extensive media coverage during the 48 months lifetime of the project. Rebecca Morelle and Chris Baraniuk, British science journalists from the BBC, covered videos and articles on the project milestones. Then, article coverage also occurred through HORIZON 2020 EU Research & Innovation Magazine by Alan Archer-Boyd, and Euronews Futuris TV show series showcased the DEEPEGS as a sustainable source of electricity. Various interviews were also published on Icelandic media. On the other hand, DEEPEGS was also present on social media as part of its dissemination activities to communicate in real-time through networks such as Twitter and Facebook, generating trust among consumers. It is an effective way to communicate targetted information to the public, raise the profile of the project and build impact internationally.

1. INTRODUCTION

The DEEPEGS dissemination reporting provides a summary of the communication and dissemination activities in the duration of the DEEPEGS project and was divided into three general reporting periods. Communication is defined, according to the EU H2020 Guidelines (2016), as "taking strategic and targeted measures for promoting the action itself and its results to a multitude of audiences, including the media and the public, and possibly engaging in a two-way exchange". The aim is to reach out to society and in particular to some specific audiences while demonstrating how EU funding contributes to tackling societal challenges. The communication target audience comprises the following groups: citizens, communication experts, influential targets, direct stakeholders.

The communication strategy for the DEEPEGS project is complementary to the communication developed for each demonstrator and participates to the spreading of the project's results at a larger scale. It generally targets a wider audience, by opposition to the local stakeholders. Indeed, the promotion of the deep geothermal energy business constitutes the main objective of project communication. Besides, communication in the DEEPEGS project keeps the project partners actively involved in promoting knowledge exchange.

2. TARGET GROUPS

The target audience can be comprising the following four main groups: (1) Citizens - considering to the heterogeneity of this group, specific sub-groups (scholars, teachers, associations, etc.) will be defined before addressing any communication initiative or specific participatory activity. (2) Communication Media will be targeted to increase the coverage of dissemination and communication actions and take advantage of their capacity to influence opinion and raise public awareness. Media – actions will address the aim of catching media interest and building trust to become a reference source to them, on the need for more renewable energy to ensure the energy security of Europe. (3) Influential targets (e.g. policymakers, business leaders, energy specialists, environmental specialists), are those not directly connected to the project but regular speakers or influencers in the energy sector. This target group has a certain capacity to influence public opinions. They will be approached and get involved in activities focused on best practices, regulatory, environmental and guidance for the wider market-related exploitations. (4) Direct stakeholders (scientific community in this field, energy consumers, secondary industries in resource parks, grid managers (and their representatives), public authorities with competence in energy resources and environment management, NGOs etc.) will be addressed as potential end-users of project results.

3. INTERNAL COMMUNICATION

EMDESK is the main internal communication tool used in the DEEPEGS project. EMDESK allows you to maintain full control over the project and is a certified all-in-one software solution specially designed for the administration of European research projects. EMDESK is a web-based collaboration and project management product developed especially for European research projects in the EU-funded framework programmes like Horizon 2020. An integrated and secure platform, EMDESK supports the

entire project life-cycle with essentially three function areas. The Implementation functions enable controlling project progress against plan data. Its product features facilitate the reporting of costs, efforts and deliverables for the DEEPEGS project. The Collaboration functions facilitate the communication and collaboration in the consortium through, e.g. mailing lists, a document manager and shared calendar. The collaboration functions in the Implementation Mode of EMDESK are in use by the DEEPEGS project.

4. INTERNAL AND EXTERNAL MEETINGS AND WORKSHOPS

The internal and external meetings and workshops have focused on internal exchanges of knowledge and expertise within the consortium. The scheme of outreach to stakeholders and dissemination tasks and milestones was created during the project planning procedure. These activities involve different types of events under two main categories. The first is internal workshops and meetings, and the second is workshops conducted in collaboration with other events or organising entities. The DEEPEGS project team held 20 workshops and meetings during the first 36 months. The kick-off event was the Svartsengi Deep drilling meeting with a Japanese delegation in January 2016, and the last one was the DEEPEGS workshop at GEORG Geothermal Workshop (GGW) in Reykjavik in November 2018.

5. EXTERNAL COMMUNICATION

The external communication activities ensured maximum visibility and accessibility of the project. The dissemination activities were tailored to make the project outcome visible and available for different stakeholders. Online presence gave the project notable exposure and gave the consortium an important channel to share the project information and materials with interested stakeholders.

6. WEBSITE

The DEEPEGS website (Figure 1) is a powerful dissemination tool and the interface between the project and the external community interested in geothermal energy. It promotes deep geothermal systems as a future viable renewable energy resource. The website for DEEPEGS project was launched on February 1st, 2016. The website CMS is a WordPress management system. Drakkar Studio was subcontracted to design the website and set it up. The web address is www.deepegs.eu. On top of the front page of the website, there is a navigation bar to the subpages of the website where visitors can dig into more detailed information on the project. The front-page contains the logos of the project partners, with live links to their website, general info on the project goal, a video section (Figure 2) and a news section. The website is a main public information source to highlight the project milestones, activities and relevant field updates. Its role also consists of archiving available public project resources and publications. The DEEPEGS website is available in English and French, to honour the two main partners of the project.

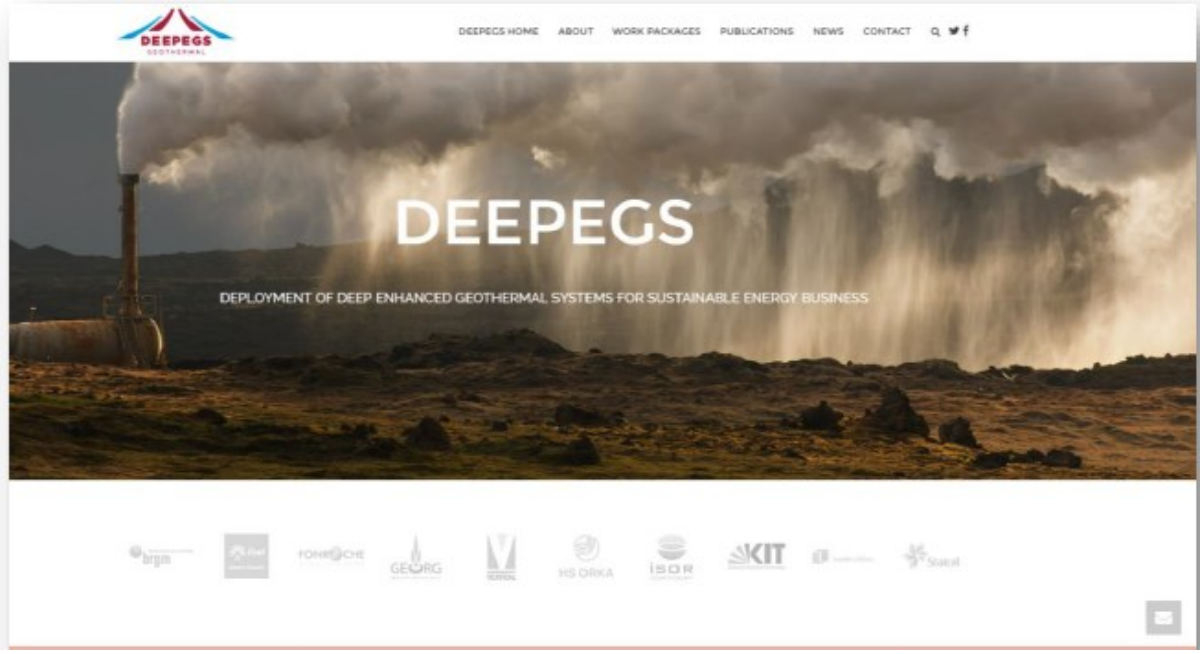

Figure 1: The DEEPEGS website front page.

During the second reporting period, M19 to M36, the website has been updated and re-organised regularly. The main work on the second reporting period was on the French language version of the website. Drakkar Studio was subcontracted to design the French version of the website and set it up. Personnel from Fonroche Geothermal and Geothermal Research Cluster (GEORG) worked together on the content and translation of the text. The web address is: www.deepegs.eu/fr/.The number of unique visitors until the 48 months of the project was 3300, the average duration of visits is 2,33 minutes and the number of posts published (including news) until end of month 48 was 48.

Web design and usability were created to make it user-friendly and practical. It has an automatic system of links to all the key pages and sections. Visitor can access information with three clicks. It makes the navigation easy for a user having in mind that not

everyone will be accessing a page from the home page. Design is minimalistic and professional, no sound in the background, there is an animation on the front, which marks significant drilling milestones in different locations — content prepared by the Project Office with close cooperation with the Coordinator. The company HS ORKA is responsible for the maintenance of the web page with its project office support from the Geothermal Research Cluster (GEORG) until the end of the project's duration. After the end of the project's period, the website will continue for at least three years to support DEEPEGS results' dissemination and promote information on deep geothermal energy developments. All partners and other interested stakeholders established a direct link to the DEEPEGS website.

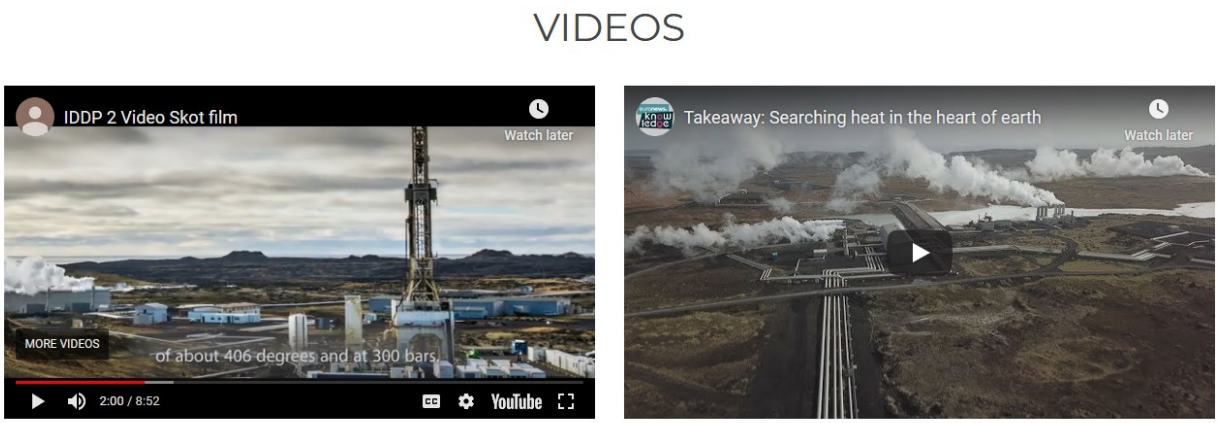

Figure 2 - Video section of the DEEPEGS Website - Front Page

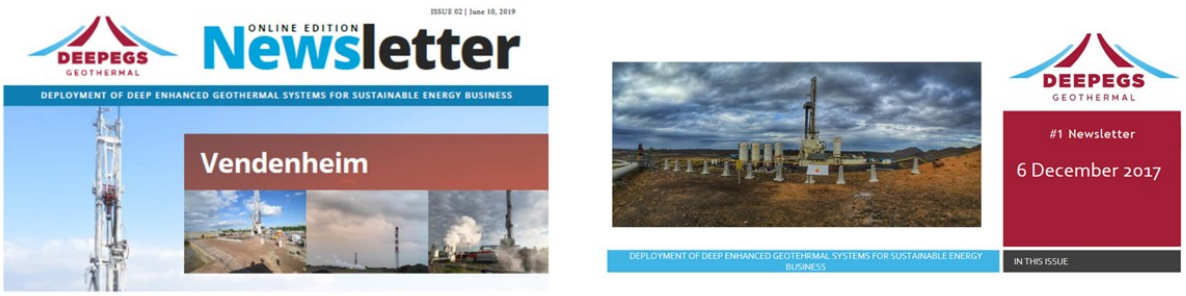

Figure 3 - DEEPEGS Newsletters (2017, 2019)

During the European Geothermal Congress (EGC) 2019 in the Hague, DEEPEGS team presented the issues and lessons covering perspectives from the project management and the policy environment. Attending that European conference aimed to share the experience gained from the DEEPEGS project, and discuss how the barriers encountered might be addressed to enable geothermal development and its wide deployment truly, but also that the knowledge and technical developments from publicly funded projects like DEEPEGS can be more successfully facilitated and transferred. DEEPEGS team had two oral presentations at the EGC2019 and a combined booth with other EU funded geothermal projects.

7. SOCIAL MEDIA

DEEPEGS has visibility on social media (Facebook and Twitter) as part of its dissemination activities (Figures 4, 5, 6). It is an effective way to communicate targetted information to the public, raise the profile of the project and build impact internationally. Social media activities help increase the project's impact and relay information as widely as possible in Europe. Considered as a powerful interactive media tool, they serve as a platform to discuss, comment, consult and suggest research and engineering topics to different stakeholders at different levels. The DEEPEGS project has followers on Twitter and Facebook media channels and documents its milestones, and project information there, which links to different EU supported portals with chosen targeted groups.

The Twitter account (Figure 3) is one of two social media accounts of DEEPEGS and is accessible under the link: https://twitter.com/DEEPEGS_demo. The channel is used to create direct connections with the European community and has a day by day communication with leading EC officers with different information.

Figure 4 - DEEPEGS Twitter Account Header

DEEPEGS Twitter account serves as a primary communication channel with the target audience. The account is open with the use of #hashtags to capture and communicate more widely with the public DEEPEGS' concept and scope using the following hashtags: #DEEPEGSdemo, #GeothermalEU #H2020 #HORIZON2020 #geothermal (Figure 4).

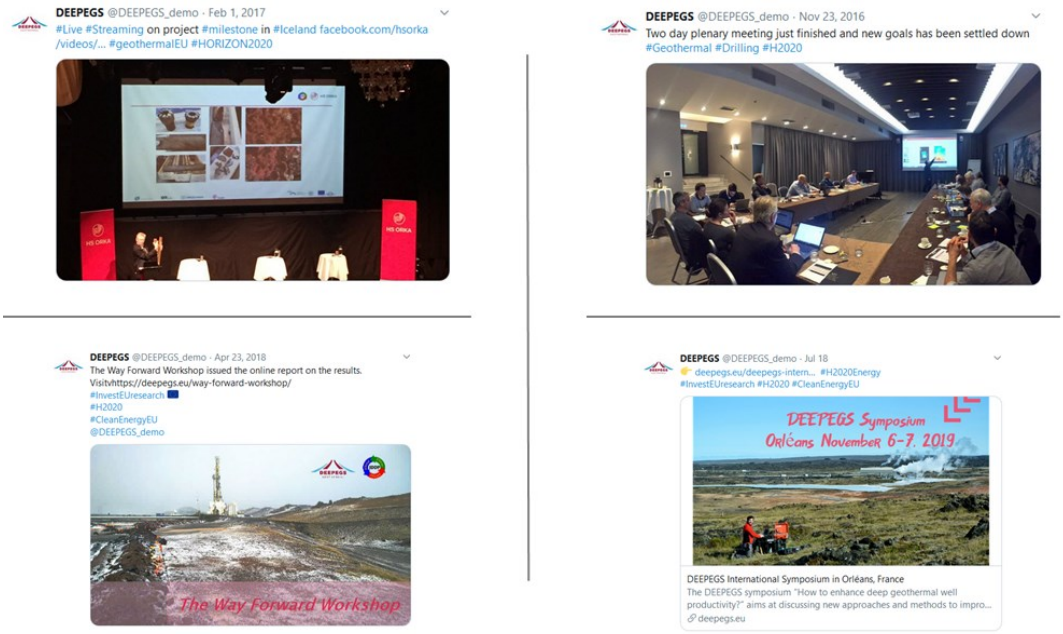

Figure 5 - Snaps of DEEPEGS Tweets Promoting the Project's Activities and Scope

The DEEPEGS Twitter account steadily increases traction and number of followers. The current statistics (July 2019) are 178 followers, 968 Twitter account visits, 59 posted Tweets, 27358 impressions - which is the number of times users saw the post on Twitter.

Facebook is a second social media channel which was launched in February 2016. It is targeting the younger scientists, researchers and public media.

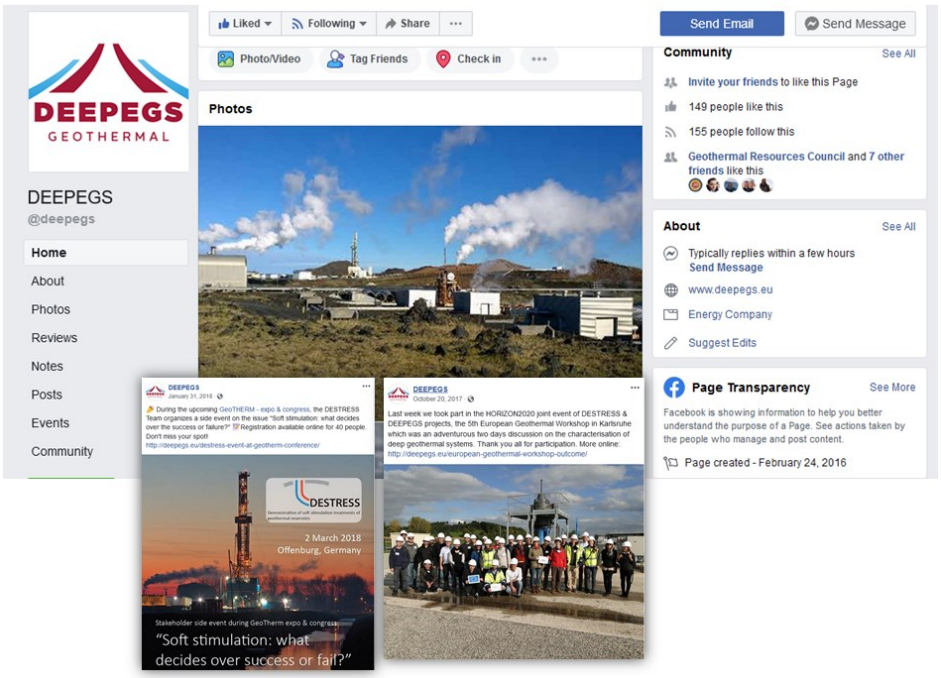

Figure 6 - DEEPEGS' Facebook Page Interface and Snaps of Posts Advertising Cooperations Triggered by the Consortium

Until the end of month 48, the Facebook account displays 155 followers, 8500 Facebook organic reach, 36 posted public project news and 1.500 audience engagement statistics, which mean the number of actions Facebook's followers have taken as a result of seeing DEEPEGS posts, including likes, comments, shares, video views, and link clicks.

8. INFORMATION MEETINGS AND PUBLIC HEARINGS

Three events fall under this category of information meetings and public hearings. Two public DEEPEGS information meetings were held in Iceland early in the project's period. The first open meeting was organised on the 4th of August 2016, at the cultural centre of Reykjanes, called Hljomahöll. The event was held by the Coordinator office and technical specialists of Hljómahöllin. The motivation for the meeting was to inform about the upcoming drilling schedule and issues for interested citizens and media. Information about the assembly was advertised in the Icelandic Online newspaper Vikufréttir (page 6) (Figure 7) and promoted on the DEEPEGS' website. The number of attendees was 25.

Invitation for the first public meeting regarding upcoming drilling at Reykjanesbær district, local news magazine Vikufréttir

Figure 7 - Advertisement a DEEPEGS Event on Icelandic Media (Vikufréttir 2016)

The second open meeting was held on 1st of February 2017, in the Old Cinema in Reykjavik, to mark the significant milestone, the end of drilling and achieved results. At the same time, on the purpose of the meeting, the report on the operation schedule was released for public and made available for download on DEEPEG's website. The number of attendees was 150.

The third event in this category is when the DEEPEGS project was introduced at the Researchers' Night (Vísindavaka) at Laugardalshöll Exhibition Forum in Reykjavík, Iceland, on September 28th 2018. It was a poster event, and DEEPEGS was presented by GEORG representatives together with other geothermal projects that GEORG is involved. Researchers' Night is a significant event in Iceland, and about 1.500 guests attended it. The European Researchers' Night events are a part of the Marie-Curie sub-program of Horizon 2020 EU program.

9. MEDIA COVERAGE

On media, DEEPEGS beneficiated from extensive coverage during the 48 months lifetime of the project (Figure 8). One of the first issues was a video and article coverage by Rebecca Morelle (2016) and Chris Baraniuk (2016) from BBC. Secondly, an article coverage by HORIZON 2020 EU Research & Innovation Magazine by Alan Archer-Boyd and a short TV program made by Euronews about the DEEPEGS project.

The Icelandic media published newspaper interviews and TV news about the DEEPEGS project milestones. Numerous media coverages commenced during the second period for DEEPEGS project. The IDDP-2/ DEEPEGS Coordinator made an ambitious video on the status and success of the Reykjanes demonstration site published on Youtube channels (Figure 2) in autumn 2017.

The first DEEPEGS Newsletter (Figure 3) was released as an online version on December 6, 2017. It was distributed to both national and international media. An article by Julia Rosen, journalist at New Scientist appeared on the 20th of October 2018 with the title: "Full steam ahead", and a headline reading: "Recent advances could let us crack the immense promise of geothermal heat to power our world". The information for news, communications and dissemination material is publicly available on the DEEPEGS' website, www.deepegs.eu.

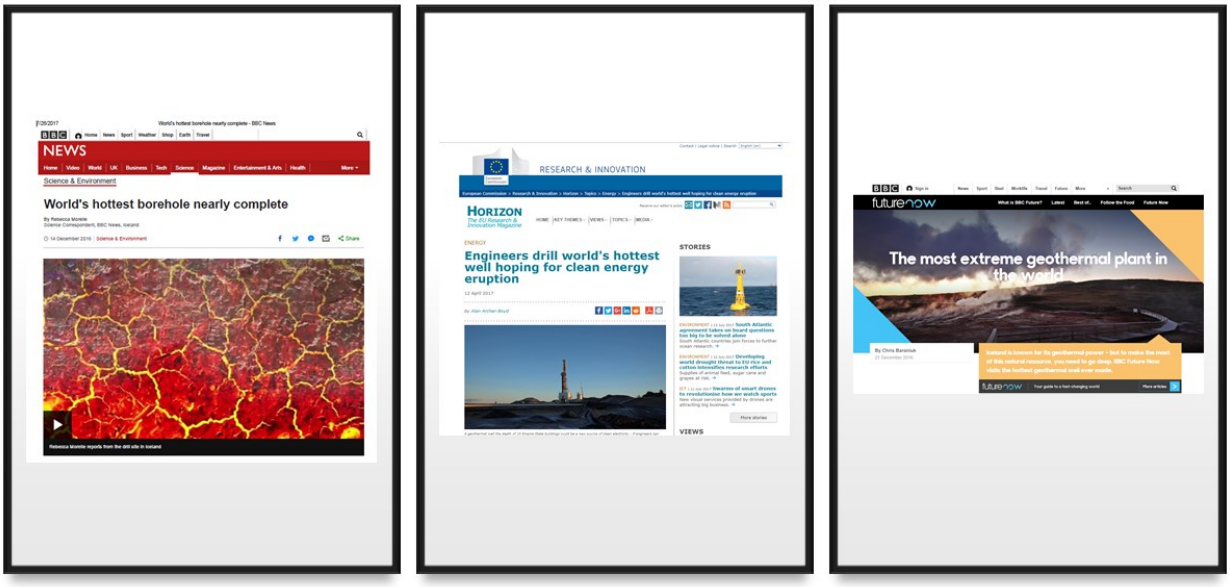

Figure 8 - Snapshot examples of media coverage.

10. BROCHURES/LEAFLETS

The DEEPEGS brochure was designed and printed in the early stages of the project period. The first version of the pamphlet was in English (Figure 9) and distributed in several workshops, conferences, exhibitions, and meetings to external and internal target groups. On February 23rd, 2018, the French version of the brochure (Figure 10) was published and has been distributed to French-speaking target groups, mainly by Fonroche Geothermal and Bureau de Recherches Géologiques et Minières (BRGM).

Figure 9 - Snapshot of the English version of the brochure.

Figure 10- Snapshot of the French version of the brochure.

11. SCIENTIFIC PUBLICATIONS

From the beginning of the DEEPEGS project until January 2019 seven scientific papers were published, and currently, many more are being prepared to share and disseminate the innovations and knowledge produced from the DEEPGS project (https://deepegs.eu/publications/). The DEEPEGS consortium has published 42 presentations and proceedings connected to different conferences, workshops and seminars. Most of them for the World Geothermal Congress 2020 Reykjavik, April 27th to May 1st, 2020, in Iceland.

12. CONCLUSIONS

The main findings from this article are that it is not only essential to finish the scientific and technological goal of the DEEPEGS project; it is also vital to disseminate the results for all stakeholders in a comprehensible, strategic and accessible manner. All partners have been active in regular communication and dissemination to all target groups. It is essential for the success of the project that the industrial and technical communities are kept well informed of developments, to facilitate widespread acceptance of the results while ensuring that relevant intellectual property rights of participants are protected. The dissemination activities have mainly been focusing on the geothermal energy sector and related organisations forming the primary exploitation route for the DEEPEGS project. It is fulfilled by publication of technical papers in international scientific journals, in presentations at relevant international and national conferences and EU organised workshops and seminars. The DEEPEGS project has also been promoted through the project's website, by using social media, through public meetings, by publication and distribution of brochures and leaflets, and by coverage in global media, like TV, radio, newspapers and magazines. The implemented communication strategies aim at providing transparency in the projects over their life-cycle by interacting with as many stakeholders as possible. The policy should enhance the awareness of all stakeholders, increase the mutual understanding of the interests of each of them, and generate trust in the project's actors and project's associated operations.

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