GreenHeatEAF

Gradual integration of REnewable non-fossil ENergy sources and modular HEATing technologies in EAF for progressive CO2 decrease

Project webpage

Deliverable D5.2

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1. Scope

For the purposes of disseminating information about the project and its results, as well as for ensuring a communication channel for key stakeholders, a website has been set up in accordance of the project branding toolkit (deliverable D5.1).

The GreenHeatEAF website is accessible at the following URL link: https://www.estep.eu/clean-steel-partnership/list-of-csp-projects/greenheateaf

The project website is hosted on the ESTEP website and can be found under the list of projects of the Clean Steel Partnership (CSP). By being on the ESTEP website, the project GreenHeatEAF will benefit from the already existing visibility of the ESTEP website within the steel community and beyond. Nevertheless, it has to be noted that since ESTEP is updating its own website and it aims to be finalized by the end of the summer 2023. Therefore, the GreenHeatEAF website will subsequently also be updated with its new design. The above-mentioned project URL link will then also be slightly adapted and will merge to www.estep.eu/projects/clean-steel-partnership/greenheateaf

The GreenHeatEAF website is the principal source of information regarding the project, including its scope and framework, consortium, and activities, for the target audiences of the GreenHeatEAF project. It will function as a central point for distribution and interactivity, both with its own content and through links to other websites or platforms, and will also act as a central repository for GreenHeatEAF deliverables, documents and other material. As the project's major communication tool, the website address will be prominently displayed on all project-related communication materials. The website will, therefore, also be used for networking purposes.

2. Target audience

The GreenHeatEAF website is designed to engage both the project' stakeholders (see also deliverable D5.1) and members of the general public affected by and/or interested in the decarbonisation technology for integrated steelworks; more specifically in scrap-based steelmaking (a circular economy process) and the new DRI-EAF route, that is expected to replace the BF-BOF route steelmaking.

Therefore, the whole steel community and its value chain, academic and professional audiences (such as scientific communities, research centres, and public organisations) will be able to profit from the published content, as well as other European projects, in an effort to discover synergies and potential collaboration avenues. Journalists will discover recent information such as news, upcoming events, and press releases.

In order to increase the awareness of the project, ESTEP will share the project logo and the link to the dedicated project website to be added on the partner's websites. The partners will be invited to translate key information about the project in their respective national languages. This will also increase the reach of the target audience.

3. Website structure

The public area of the website presents all relevant information on the project. This includes the project overview, project objectives, partners, news and events, outcomes and contact.

Certain intermediate deliverables may be made available in the public area under the publication section, depending on the information contained. The public area will also be used for stakeholder engagement activities, for instance, the publication of links to the public consultation when this is launched.

There is also a private area generated by SSSA, a shared folder, which serves as a repository for working documents and intermediate deliverables as well as facilitating exchanges between partners and other selected stakeholders.

The website will be constantly updated to ensure the timely dissemination of information about the project.

The website is structured as following:

- **Home page** (Fig. 1) is divided with 4 subpages: project overview, news & events, outcomes and contact
- **Project overview** (Fig.2) contains the project summary, overall project concept and further links to other pages. It also includes 3 subpages: **objectives** of the project (Fig.3), **partners** (Fig.4) and **structure** (Fig.5). The structure page is an overview of the 6 work packages of the project.
- **News & events** (Fig.6): This page corresponds to all information that will be displayed in the media, press releases, social media, etc. as well as the past and futures events related to the project. It will also contain the project announcements made through the newsletters.
- **Outcomes** (Fig. 7): This page describes the outcomes of the project through the publications and deliverables. The **publication** section is related to the future publication of scientific articles, project flyer, etc. The **deliverables** section will contain any intermediate deliverables and documents that can be made available for the public area. Both sections will be regularly updated according to the progress of the results of the project.
- **Contact** (Fig.8): Contact details from the project Coordinator (SSSA) can be found on this page

Figure 1 : GreenHeatEAF website home page

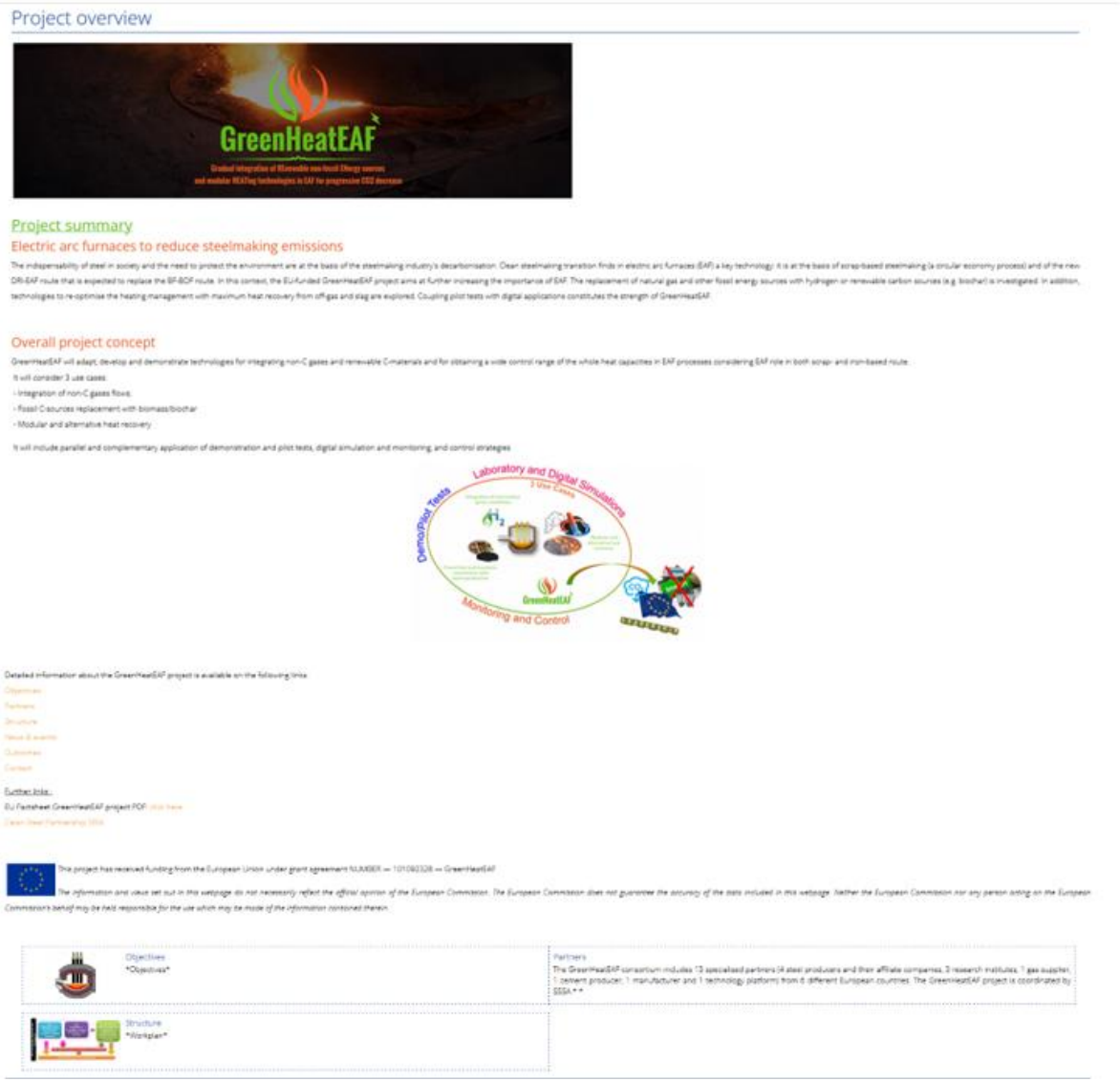

Figure 2 : Project overview

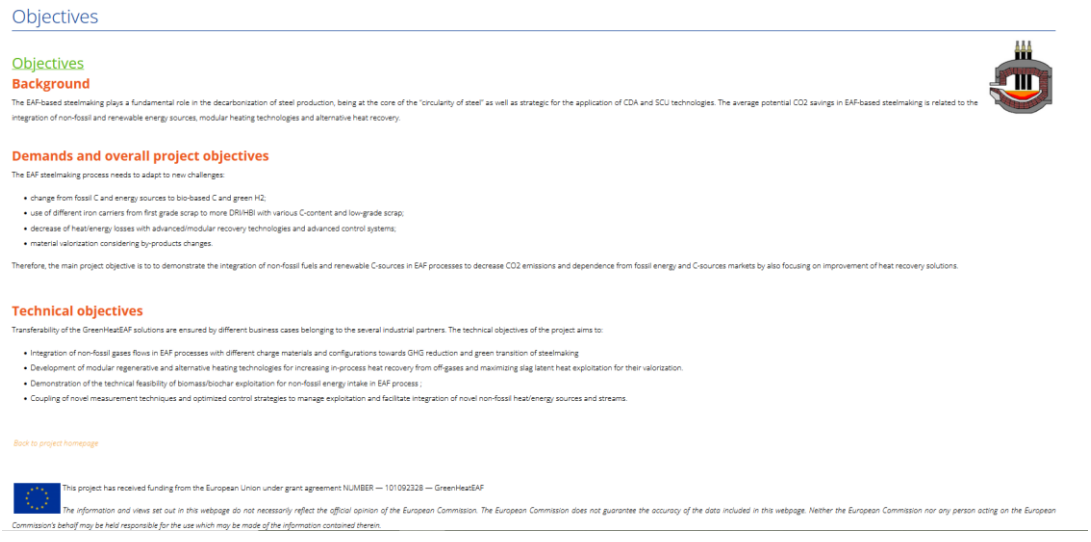

Figure 3 : Project objectives

Partners

The GreenHeatEAF consortium includes 13 specialised partners (4 steel producers and their affiliate companies, 3 research institutes, 1 gas supplier, 1 cement producer, 1 manufacturer and 1 technology platform) from 6 different European countries. The GreenHeatEAF project is coordinated by SSSA.

The Consortium consists of:

- 3 leading EU research institutes (SSSA, BFI and SWERIM)
- 4 major multinational steel producers (Sidenor, SSAB, CELSA & Deutsche EdelstahlWerke, who is an associated partner). Sidenor and SSAB are also participating with their affiliate companies: Sidenor Investigacion y Desarrollo (SI+D) and SSAB EMEA.
- Höganas, which is the world-class manufacturer of metal powders for powder metallurgy
- 2 further companies, which are partner and providers of steel sector. These are namely the cement producer Cementa, using slag for cement production, and LINDE, one of Europe's largest gas suppliers, with already installed electrolysers, which provides of the Cojet burners.
- ESTEP is also involved in the innovation process to accelerate, extend and multiply the project outcomes as well as to support wide dissemination and communication within the EU steel sector.

Figure 4 : Project partners

Structure

Workplan

GreenHeatEAF has a duration of 42 months and is organised in 5 work packages (WPs).The WP works combine pilot/demo trials, process modelling & simulation, monitoring and control strategies.WP1 and WP2 constitutes the core of project.The technical WPs 1-3 are complemented by WPs for dissemination, exploitation, communication and management.

WP1 : Integration of non-fossil gases and improved heat recovery in existing steelworks

WP1 deals with investigations related to the usage of H2 and NG-H2 blends in EAF process; standard and cutting-edge EAF burners are tested in pilot and on field trials, simulations support the trials. The effect of H2 on the process are evaluated and different charge materials and modes are explored. WP1 activities are completed by tests of heat recovery solutions from off-gases and slags generated during trials, by taking advantages from innovative sensors and heat recovery technologies and processes.

Key objectives:

- Demonstration of hydrogen enhanced combustion (HEC) for EAF heating by using standard EAF burners.
- Demonstration of hydrogen use in EAF using Coljet-technology in TRL7 for different use cases.
- New overall gas phase conditions using HEC (Simulation)
- Off-gas temperature and heat recovery monitoring system
- Demonstration of regenerative/recuperative heating of gases using EAF off-gas
- Evaluation of hot treatment of new EAF slag

WP2: Integration of renewable C-sources exploitation in EAF operation

WP2 is related to the study of the effects of biomass/biochar use in EAF; pilot, demo and simulation investigations are provided after a study of available biomass on the market and selection of most suitable ones.

Key objectives:

- Determination of the most suitable biomass/biochar to be used in the EAF considering their performance and effect on the process and facility.
- Simulation of the metallurgical process when using different types of biomass/biochar to study its effect during the melting of steel and to optimise its usage.
- Demonstration of the technical feasibility of using biomass/biochar instead of fossil fuels in the EAF operation.

Figure 5 : Project structure

News & events

Events

January 2023

The GreenHeatEAF project started in January 2023. The Consortium partner had a pre-kick off meeting online on 20 January 2023.

March 2023

The Kick-off meeting took place on 2 & 3 March 2023 in Brussels.
The GreenHeatEAFproject was presented at the ESTEP Spring Dissemination Event 2023, which took place in-person on 29 & 30 March 2023 at the Aula Magna of Scuola Superiore Sant'Anna (SSSA) in Pisa, Italy.
Swerim informed about the project on the 152nd TMS 2023 annual meeting & exhibition in San Diego (USA).

June 2023

The Consortium had its second General Assembly meeting online on 22 June 2023.

News

The webpage will be regularly updated throughout the whole project.

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Figure 6 : Project news & events

Figure 7 : Project outcomes

Figure 8 : Project coordinator contact

As already mentioned previously, the ESTEP website is in the process of being updated and redesigned. ESTEP aims to finalize the redesign of its website by the end of the summer 2023. The GreenHeatEAF project website will keep the same structure as presented in this document but will accordingly have a design on its own (as shown in Fig. 9). The project logo will be present in the website banner and footer (Fig.10). This is a first glance of the new redesigned website.

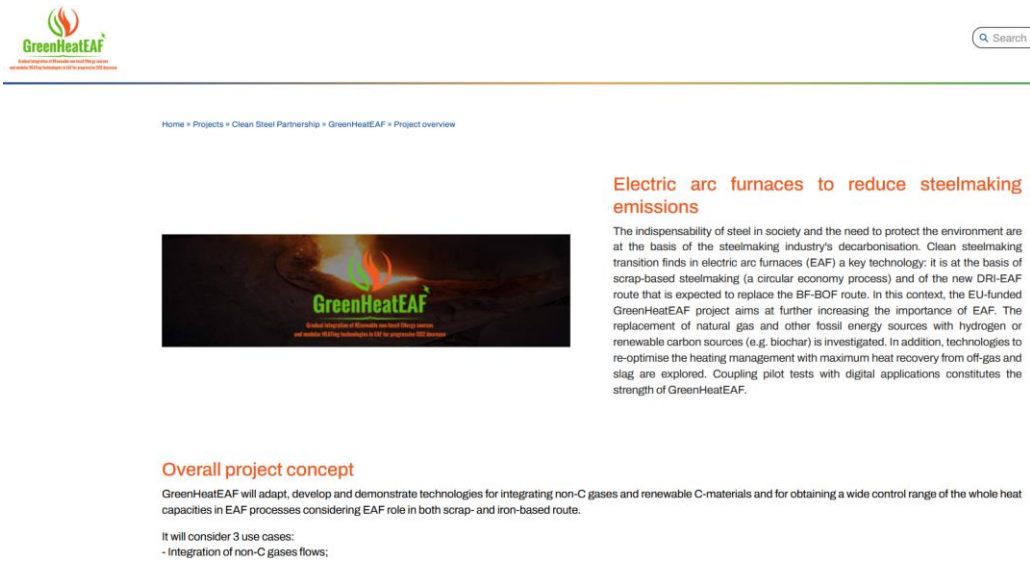

Figure 9 : First glance of new redesigned website

Figure 10 : First glance of new redesigned website - Project overview page

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