



D7.71 – AWARENESS AND DISSEMINATION PLAN

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DISEMINATION LEVEL	
X	PU = Public
	PP = Restricted to other programme participants (including the EC)
	RE = Restricted to a group specified by the consortium (including the EC)
	CO = Confidential, only for members of the consortium (including the EC)

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1 SUMMARY

The ECO-CEMENT dissemination plan presented in this report serves as a guideline for the dissemination activities performed in the context of the project. The dissemination plan contains a strategy to fulfil the dissemination-related objectives set in the Description of Work, namely to make the project and its work widely known.

The main areas addressed by this deliverable are the definition of the ECO-CEMENT communication policy and the presentation of a suitable dissemination strategy, including a definition of the term dissemination and its interpretation for ECO-CEMENT. Therefore, the objectives of ECO-CEMENT dissemination and an overall approach are set. Based on the plan in the Description of Work (DoW), target groups for dissemination in ECO-CEMENT are identified and the subjects and matters of dissemination are described. The management as well as the dissemination tools and activities are defined and the partner roles are shown. As the resources dedicated to dissemination are restricted, cost-effective ways were chosen to achieve a maximum of publicity for the project and its results.

2 INTRODUCTION

2.1 Purpose of this document

The objective of this deliverable is to present an overall communications and dissemination strategy designed to provide a comprehensive framework for the diffusion of the project concept, ideas and results. It provides a clear understanding of the target groups and actions needed to approach them. The design of a well-elaborated dissemination plan will support the successful communication among identified stakeholders, passing to each of them a clear message with the obvious (to be expected) benefits from the project, using a variety of dissemination methods tailored to the specific needs of the target audiences. Doing so, a win-win relationship will be established among the various stakeholders, providing significant added value to the project.

Furthermore, this document explains the ECO-CEMENT dissemination activities and tools and how they need to be employed during the project duration, so that the project and its results will be disseminated as widely and effectively as possible.

Main focus areas are:

- Definition of main objectives
- Establishment of target audiences
- Selection of appropriate dissemination platforms

The dissemination strategy will be constantly updated during the project lifetime. This will be emerged by the close interaction with the target groups as well as among the consortium partners themselves. This deliverable aims to assist the ECO-CEMENT consortium to generate an effective flow of information and publicity about the objectives and results of work.

2.2 Document structure

The present deliverable is split into three main chapters:

The first chapter gives an overview of the **ECO-CEMENT concept** including background information about the project and its main objectives.

Communication Policy presents the overall dissemination approach and clarifies which of the ECO-CEMENT outcomes can and should be made public and to whom those activities will be addressed. This encompasses the identification of stakeholders and target groups who will benefit from the results of ECO-CEMENT (based on Annex I of GA). Emphasis is also placed on the identification of the dissemination matters/areas and gives an overview of the partner's intention to direct their dissemination efforts towards the identified matters. The matters will give an answer to the question which concrete input the stakeholders need. This chapter further defines the ECO-CEMENT

dissemination management structure outlining the involved committees to be in charge of a suitable spread of results and assuring IPR consideration.

Dissemination Strategy presents the project identity guidelines and explains which specific dissemination tools and activities will be employed and performed, so that the project and its results will be disseminated as widely and effectively as possible. This chapter concludes with an evaluation of the mentioned dissemination activities by providing a set of quality check parameters.

2.3 Contributions of partners

The consortium has to contribute to dissemination activities during the whole project according to this dissemination plan. The partner's inputs to this deliverable are the dissemination activities they are planning to do (based on Annex I to GA). CNR-ICVBC, as responsible for this Deliverable, will review this document

2.4 Baseline/ Relation to previous and future version

This deliverable is the baseline document for the dissemination activities and will be subject to change and update during the course of the project.

2.5 Relations to other activities in the project

There are strong relations to all activities in the project. Results from various tasks of the work packages will be disseminated, according to the strategy and process written in this dissemination plan.

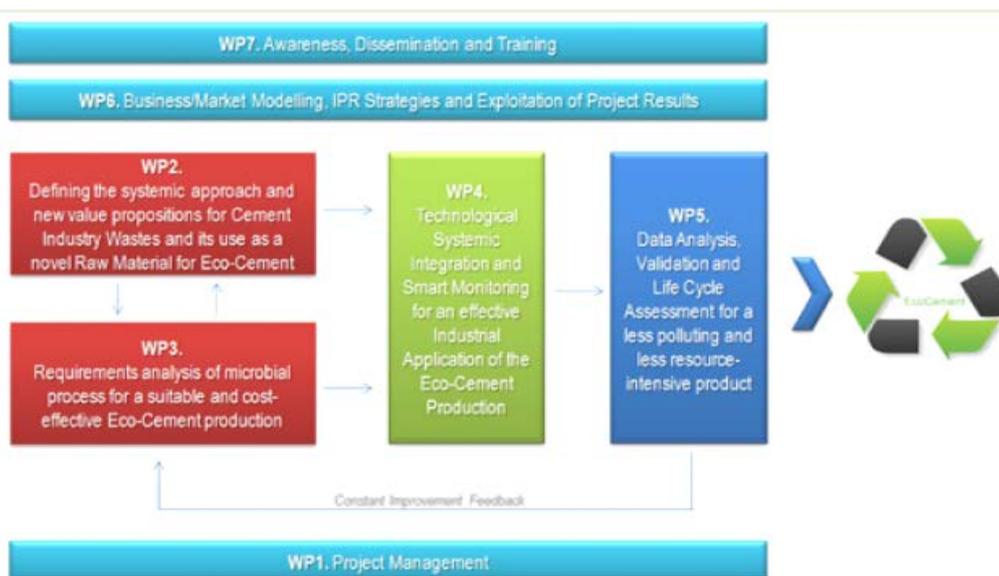


Figure 1: Correlation of the *ECO-CEMENT* Work packages

Deliverables

- D7.71 Awareness and Dissemination Plan (Month 6).
- D7.72 Design and set up of the operational basic structure for project website and extranet (Month 3).
- D7.73 Publication of results on architecture and construction brand making magazines (Month 30).
- D7.74 Workshops, conferences and congress (Month 34).
- D7.75 Liaison to other EU projects, National and EU Technology Platforms (Month 34).
- D7.76 Guideline for the assessment of policy instruments (Month 8)
- D7.77 Final sets of policy briefs (Month 36)

Table 1: Deliverables of Work Package 7

3 ECO-CEMENT CONCEPT

3.1 The overall objective of the project

Increased public awareness of the threats posed by global warming has led to greater concern over the impact of anthropogenic carbon emissions on the global climate. The current level of carbon dioxide (CO₂) in the atmosphere is approaching 380 ppm (particles per million). Without drastic market, technological and societal changes, CO₂ concentrations are projected to increase to over 800 ppm by the end of the century. The largest source of anthropogenic carbon emissions is from fossil fuel combustion, in particular cement manufacturing and iron and steel production are the most carbon intensive. Approximately 5 % of global carbon emissions originate from the manufacturing of cement. Despite significant improvements in efficiency, cement related emissions are expected to increase by 260 % throughout the 1990-2050 periods.

Apart from International Legislation, to implement European Climate Change Programmes is important to reduce greenhouse gas emissions from industry. So, one way to achieve this is substituting traditional construction materials with high energetic cost for new materials with lower energetic cost and less environmental impact. Moreover, industrial waste is now global concern, causing environmental and economic harm. Industries are rapidly trying to find a solution, searching for optimal ways to manage waste and to change the most common practices as landfill or incineration. Industrial waste is a very heavy burden for the environment, where a significant proportion of this industrial waste is attributable to construction and demolition waste.

Particularly under the scope of this project, there is an increasing trend in the waste concrete generation rate in Europe. In fact, the Cement Sustainability Initiative (CSI) supports initiatives targeted at an ultimate goal of "zero landfill" of concrete, there is a need to maximize the potential for materials reuse and recycling and minimize environmental effects. In order to mitigate the threats mentioned above (greenhouse gas emissions and waste management), the ECO-CEMENT Project will allow recovering valuable resources from industry, capturing carbon dioxide and transforming both products into ecological cement that can be used in construction or environmental applications.

The idea is based on the nature's way of creating natural formations through bacterial contribution to carbonate precipitation: extensive sedimentary rock masses as limestone or marble and calcareous sandstone in marine, freshwater and terrestrial environments. Natural carbonation occurs by the reaction between atmospheric CO₂ and alkaline material. The difference of ECO-CEMENT with respect to nature principles is that the microbial carbonate precipitation reaction takes a relatively short period of time instead of millions of years.

3.2 ECO-CEMENT objectives

The main objective of ECO-CEMENT is to develop novel bio-mimetic technology for enzyme-based microbial carbonate precipitation through the revalorization of industrial waste as raw materials, in order to produce eco-efficient environmental cement. The Bio-mimetic technology will convert industrial waste, mainly cement waste and other by-products into ecological cement using microbial carbonate precipitation via urea hydrolysis. The hydrolysis of urea by the enzyme urease can generate carbonate ions without an associated production of protons. When this hydrolysis occurs in calcium-rich environment, calcite (calcium carbonate CaCO_3) precipitates from solution forming a solid-crystalline material. The binding strength of the precipitated crystals is highly dependent on the rate of carbonate formation and under suitable conditions it is possible to control the reaction to generate hard binding ECO-CEMENT.

This can be achieved through the installation of a bioreactor, as an additional device next to the current manufacturing process, using wastes in order to produce ECO-CEMENT and capture CO_2 emissions from the factory. It is expected that ECO-CEMENT can be produced at high scale, considering that current bioreactors can process high volumes of finished product. The general objectives are:

- To investigate the use of cement industry waste, specifically solid alkaline waste, as raw material for the production of ECO-CEMENT.
- To investigate the bio-mimetic process for the production of ECO-CEMENT.
- To evaluate the potential for energy saving, waste revalorization and reduction of emissions of ECO-CEMENT.
- Demonstration at a pilot scale.

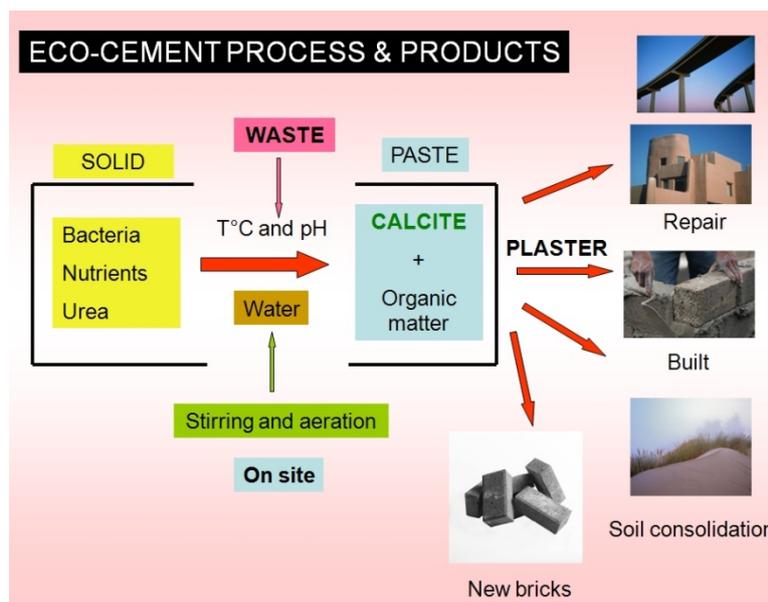


Figure 2: Scheme of process/product applications defined during the 6th Month Technical Meeting

4 COMMUNICATION POLICY

4.1 General context

Dissemination is responsible of making the project visible, creating awareness and understanding for the project and promoting participation in the project. Therefore, the ECO-CEMENT dissemination strategy needs to address the following issues:

- The aim of dissemination → overall approach and objectives
- What will be disseminated → outcomes and ECO-CEMENT key messages
- Who is the audience → target groups
- What medium will be used → dissemination tools and activities
- When will be disseminated → timing

Thereby, these issues cannot be regarded in an isolated way. For instance, different target groups need to be approached by different media or some information will only be published in the last stage of the project, etc. That is why, dissemination activities have to be modified according to the above mentioned issues. Effective dissemination thus has to take into account the following principles:

- Information has to be available, accessible, adaptable and diversified. Depending on the different purposes, target groups and cultural backgrounds, dissemination activities and tools need to be altered.
- Information has to be relevant and compatible for the different user groups to reach its maximum understanding and impact.
- Interaction with end-users has to be stressed. Analysing the end-users needs and responses creates links between the project goals and actual achievements. This interaction requires a constant adoption of dissemination activities.

All promotional material of ECO-CEMENT project will include ECO-CEMENT logotype and Seventh Programme Framework.

4.2 Objectives and overall approach

The communication and dissemination strategy of ECO-CEMENT includes project relevant objectives of dissemination, defines an overall approach for the strategy and describes the generic contents for dissemination.

The main objective of the communication and dissemination strategy is to ensure a high impact of all project results on the European cement and construction sector. For realising this strategy, a widespread dissemination is needed leading to an utilisation of the project's outcomes.

A further objective, while communicating the ECO-CEMENT results to the target audiences, is the protection of intellectual property of the knowledge. This involves acting and mediating accordingly in case a conflict related to IPR and ownership of results should emerge within the consortium. Confidentiality Issues will be treated according to the rules established in the Consortium Agreement, which was signed by each of the partners.

Another objective is to liaise with key stakeholders of the construction sector and to form consensus in order to maximize reuse of the project outcomes. Besides, additional knowledge from other research activities and the industry will be skimmed this way and will refine the work done within the project. The dissemination strategy ensures that the project results will be communicated to the target group in an understandable manner and at the right time. That, to a great extent, enables the reuse and enhancement of the outcomes.

To publicise the results of ECO-CEMENT, is a core activity within the project. The projects outputs will be presented and delivered to relevant internal and external target groups from industry, research and academia. The overall approach described in this chapter, defines relevant steps for successful dissemination of the results during the term of ECO-CEMENT.

The dissemination goals can be translated into three actions which can be identified as the three levels of dissemination for a project

- Awareness
- Understanding
- Action

Awareness is necessary in terms of the project itself, its objectives and its outcomes. This will be achieved using specific dissemination media as communication channel as well as conferences and trade fairs as a presentation platform. For example, project summaries in popular newsletters or in widely read journals can raise awareness of the projects existence.

Groups that are fully aware of the ECO-CEMENT project may be interested to get a better **understanding** of the work done by the consortium and therefore to benefit from the project and its outcomes. The disseminated outcomes of the project have to be well adapted for the particular target group and their standard of knowledge – for example the level of abstraction of a scientific publication may be higher than the one of a presentation for industrial practitioners. An important information source for people interested in understanding the project, its activities and results will be the website of the project (www.eco-cement.eu). This will bring together potential beneficiaries and users of the results of the project, and building upon the contacts and relationships of each participant.

Action, the third level of dissemination, means a change of practice that is caused by the adoption and use of ECO-CEMENT results. Therefore, the target group identified for this type of dissemination

includes people from industrial practice or Institutions that are in the position and have the influence to achieve such a change of practice.

N	COMUNICATION METHODS	Expected DATE
1	<ul style="list-style-type: none"> • ECOCEMENT PROJECT - WEB SITE 	T3
2	<ul style="list-style-type: none"> • ECOCEMENT PROJECT- LEAFLETS 	T3
3	<ul style="list-style-type: none"> • ECOCEMENTPROJECT - DIGITAL NEWSLETTER 	T6
4	<ul style="list-style-type: none"> • ECOCEMENT PROJECT- PRESS RELEASE 	T12-24-35
5	<ul style="list-style-type: none"> • ECOCEMENT PROJECT - ORGANIZATION OF THE FINAL CONFERENCE and WORKSHOP 	T 32 - 34
6	<ul style="list-style-type: none"> • ECOCEMENT PROJECT- EDUCATIONAL AND TRAININGS 	T30 - 34
7	<ul style="list-style-type: none"> • ECOCEMENT PROJECT - TECHNOLOGICAL TRANSFER 	T36
8	<ul style="list-style-type: none"> • ECOCEMENT PROJECT - SCIENTIFIC PUBLICATIONS 	T30-32

Table 2: Principles and best practises for the dissemination strategy for Eco-Cement Project

4.3 Dissemination subject matters and outcomes

The consortium consists of six participants, all involved in dissemination activities. They will use their commercial links with many different users worldwide. Furthermore, they will organise public presentations and demonstrations of the project research results and innovation.

During the project there will be a bi-directional transfer of information and knowledge to other external groups. This amount of single actions will occur in a manner that quality and legal-ethical conformity is ensured. Therefore the project and its work have to be presented in a consistent way.

With regard to the ECO-CEMENT objectives and to the project structure four matters of dissemination can be determined [1]:

1. **General project overview**
 - Mainly performed by e.g. presentation at conferences, leaflets, etc.
2. **Concepts and approaches**
 - Mainly by publications in journals and conferences, specifically for each field of development and application of the publishing partner
3. **Products and technology**
 - Mainly carried out by the defined demonstrators , to be shown at exhibitions or dedicated events, as those to be organised by partners
4. **Standards**
 - In case standards are developed, these will be disseminated through Standardisation bodies with specific actions and to the general community with all the other above means.

ECO-CEMENT will provide general information about the project, its objectives and expected results to external stakeholders and by this means raise their awareness of the project. The ECO-CEMENT consortium comprises large companies mainly deriving from the construction sector, high tech SMEs with research capabilities and research organisation.

The idea is to take advantage of the strong point of each partner in order to reach all target groups defined (see next section) and also cover all dissemination tools and activities. The table below describes the target groups and related communication methods:

Partner	Country	Target group	Communication Method	Estimated Dates
Essentium	ES	Government and Policy Makers	Presentation of project concepts	M12
IFAM	DE	Research Communities	International Conference and Scientific Paper	M18
Solintel	ES	Concrete industries	Presentation of project results	M30
CNR-ICVBC	IT	Research Community	International Conference and Scientific Paper	M24
NEAPOLIS	CY	Research Community	International Conference and Scientific Paper	M30
DWEcoCo	IRE	Waste-supplier promoters	Presentation of Project Concepts	M12 – M 20

Table 3: Dissemination target groups and topics of the partners

Outcomes

Summarizing the above input given by each partner, the following results are considered to be the main project outcomes that dissemination activities should focus on:

- **Prototype of the ECO-CEMENT process/product** including the integration of the design, and manufacturing: based on the outcomes of WP2, WP3 and WP5. The WP4 is dedicated to develop the prototype as and a cost-effective process.
- **Systematic inventory of barriers and opportunities:** identification of blank spots and barriers in norms and standards, priorities and actions considered to hamper the implementation of ECO-CEMENT technology. Identification of requirements on future regulations and standards encouraging a successful implementation of the ECO-CEMENT technology.
- **Recommendation for standardisation:** in cooperation with standardisation bodies, international collaborations and platforms, proposals for the implementation of new or modified rules or regulations are set up.
- **Training Programme:** Development of dedicated courses inside the Universities and training activities on dedicated Industries. The development the Training Programme includes written materials and documents, theoretical and practical courses. The Training Programme will be dedicated to Universities and the Construction field.

4.4 Key messages

Considered to be a first priority when defining the communication policy, it is essential to establish key messages that need to be communicated in the various publications. The key messages have to be defined in terms that they will be understandable to each target group. These key messages should be included in all the project communications. Depending of each target group a more technical, commercial or political language can/ will be chosen.

ECO-CEMENT key messages are defined as follows:

- Use of cement industry waste, specifically solid alkaline waste, as raw material for the production of ECO-CEMENT.
- Application of a bio-mimetic process for the production of ECO-CEMENT.
- Energy saving, waste revalorization and reduction of emissions of ECO-CEMENT.

Dissemination activities cover all the range of actions that contribute to the availability of the project results to the potential stakeholders. Starting point for the development of a suitable dissemination plan is the identification of potential stakeholders who we consider to be impacted by the results of the

projects and who will benefit from the project's outcomes. The potential stakeholders can be classified into internal and external ones:

Internal stakeholders are the members of the project consortium:

- Employees as project staff and the staff of related departments as well as
- Managers like department heads and senior staff

External stakeholders are organisations and people outside the consortium:

Local Authorities & National/Regional Public Bodies are key players as policy makers, favourable legislative framework creation, public procurements, owners and promoters of related industry.

European Construction Associations, such as FIEC (European Construction Industry Federation), ENCORD (European Network of Construction Companies for Research and Development), ECCREDI (the European Council for Construction Research, Development and Innovation), Euroconstruct (Europe's Leading Construction Business Research Group), ECF (European Construction Forum), ECBP (European Council of Building Professionals)

National Associations such as SEOPAN (Spain), AITEC (Italy) and others.

European Technology Platforms as ECTP (European Construction Technology Platform), and national ones such as PTEC (Spain), PTIC (Italy) and others. These organisations should be aware of new products, technologies and tendencies that will be available for building construction and concrete and cement.

Civil Engineering Associations such as ECCE (European Council of Civil Engineers) and national ones

Related Materials, Manufacturing and Logistics Associations and Platforms, such as EUMAT (European Technology Platform on Advanced Engineering Materials and Technologies), MANUFUTURE (The Technology Platform On Future Manufacturing Technologies), EPOSS (Smart systems and logistics platform) and SUSCHEM (Sustainable Chemistry Technology Platform).

Research Communities through associations such as ENBRI (European Network of Building Research Institutes).

Clients and users: key actors providing their perspectives in the formulation and assessment of the project results in aspects such as, appropriate design adaptability for future requirements and value procurement through new business models.

European Standardisation Bodies such as CEN and National ones such as AENOR in Spain, DIN in Germany, UNI in Italy and others.

Certification Bodies: The European Organisation for Technical Approvals (EOTA)

Target groups identification

In the face of the above listed stakeholders, a number of different groups can be identified as target audience. The target group concerns those who will be directly positively influenced by the project's activities and outcomes. The consortium will ensure that the elaborated dissemination materials are customised to target audiences so that all activities can be tailored to the target groups' needs. For the purpose of this first draft, target groups are summarised in the Table 3.

Target Stakeholder Name	Address	Fist Contact Date	Responsible
CEMPC - Council of European Producers of Materials for Construction	8 Boulevard du Souverain - Vorstlaan 68 - B-1170 Brussels – Belgium Tel: +32 (0)2 645 52 07 – Fax: +32 (0)2 645 52 13 - Email: info@cepmmc.org	T12 -EcoCement Concept T30 – EcoCement Results	Neapolis
WBCSD CSI - Cement Sustainability Initiative	4 Chemin de Conches, Geneva, Switzerland - CH-1231 Tel +41 22 839 31 11 - Fax +41 22 839 31 31 - http://www.wbcSDcement.org	T12 - EcoCement Concept T30 – EcoCement Results	DWE
Euroconstruct - Europe's Leading Construction Business Research Group	Michael Weingärtler Telephone: (+43 1) 798 26 01- 483 e-mail: michael.weingaertler@wifo.ac.at	T12 - EcoCement Concept T30 – EcoCement Results	DWE
ECF – European Construction Forum	http://www.ecf.be/Content/Default.asp	T12 - EcoCement Concept T30 – EcoCement Results	DWE
CEMBUREAU - The European Cement Association	Rue d'Arlon 55 – Brussels, BE-1040, Tel: +32 2 234 10 11, Fax: +32 2 230 47 20 http://www.cembureau.be/about-cement	T12 - EcoCement Concept T30 – EcoCement Results	Essentium
ECTP - European	http://www.ectp.org/	T12 - EcoCement	DWE

Construction Technology Platform		Concept T30 – EcoCement Results	
ECP - European Concrete Platform	http://www.europeanconcrete.eu/	T12 - EcoCement Concept T30 – EcoCement Results	Solintel
EUCOPRO - European Association for Coprocessing	http://www.eucopro.org	T12 - EcoCement Concept T30 – EcoCement Results	DWE
ECRA - European Cement Research Academy GmbH	Tannenstrasse 240476 Duesseldorf, Germany Phone +49 (0) 211 23 98 38 0 -Fax +49 (0) 211 23 98 38 500, info@ecra-online.org	T12 - EcoCement Concept T30 – EcoCement Results	Solintel
OFICEMEN – Spanish Cement industry association	C/José Abascal, 53 28003 Madrid (34) 91.441.16.88 Fax: (34) 91.442.38.17 info@oficemen.com	T12 - EcoCement Concept T30 – EcoCement Results	Solintel
VDZ – German Cement industry association	Headquarter: Tannenstr. 2 40476 Duesseldorf Germany . Tel: +49 (0)211-4578-1 Fax: +49 (0)211-4578-296 info@vdz-online.de	T12 - EcoCement Concept T30 – EcoCement Results	IFAM
MPA - British Cement Association	Mineral Products Association Riverside House 4 Meadows Business Park Station Approach Blackwater, Camberley Surrey, GU17 9AB Email: mpacement@mineralproducts.org Tel: +44 (0) 1276 608700 Fax: +44 (0) 1276 608701	T12 - EcoCement Concept T30 – EcoCement Results	DWE

Table 4: Target stakeholder

4.5 Dissemination Management

A comprehensive dissemination plan will be developed. The promotion of results outside the consortium represents a core activity within the integrated Project. Due to strong interrelation with the Intellectual Property Rights, the overall dissemination plan is coordinated, maintained and controlled in close cooperation with the Exploitation Plan (developed In Task 6.63) and in case of having problems with IPR's also with the Steering Committee. Rules for publications are reported in the Consortium Agreement and the Contract.

The WP Leader is CNR-ICVBC, responsible for the Dissemination Plan. The Dissemination Leader is responsible for:

- Activation of partners and initiation of activities
- Monitoring of dissemination activities
- Evaluation of progress
- Resolving of difficulties
- Synchronisation of activities and partners

5 DISSEMINATION STRATEGY

The interpretation of “dissemination” for the ECO-CEMENT project is that a large audience beyond the consortium should be aware of the project, reuse and refine the results and give input during the project term. To show widely in the context of ECO-CEMENT means a systematic distribution of results and additional project information, in order to realise their full impact in the commercial world. This assures sustainability of the project and its outcomes.

5.1 Graphic Identity Guideline

A solid and coherent graphic identity is the base for communicating towards the outside world, this allow to the target audience easily identify and recognise the ECO-CEMENT project. Therefore it is crucial that all materials distributed by the project partners carry the corporate identity. The ECO-CEMENT team took into account the following principles in order to build a successful “brand”:

- **Attractive, meaningful title for the project:** Name of the project is essential. It will be the label, the brand that will be used in all communications. This name should catch people’s attention and communicate the central idea of the project. “ECO-CEMENT” fulfils these requisites: easy to remember, meaningful communicating to the key words ecology and cement.
- **Logo:** The first step to create a graphic identity is to design an effective logotype taking into account the concepts that ECO-CEMENT wants to communicate such as innovation, technology, precision. The Logo is the starting point for the rest of the elements of the graphic image (website, leaflet, power point...).

5.1.1 ECO-CEMENT Logo

The logo is the main graphic identity element. It will be used in all graphic material and documents related to the project. The logo has been designed as a part of WP7, considering three main aspects:

- **Symbol:** The logo should be clear, capture the attention and should communicate the main concepts of ECO-CEMENT. It has been decided to use a recycling symbol emphasizing the idea that the product valorises industrial wastes and hence, is sustainable.
- **Colour:** Colours have been used to get a professional image. Main colours used are different grades of green, as green communicates: environment protection and sustainability.
- **Font:** Word Art was used.



Figure 3: Colour graphic logo

5.2 Dissemination Tools

5.2.1 Project Presentation

An ECO-CEMENT Project Presentation will be part of the different dissemination tools designed to support the ECO-CEMENT dissemination efforts. This task includes a presentation template and a project presentation. The template is to be used in all events and meetings where ECO-CEMENT results and activities are presented. It has been designed following the graphic identity guidelines to facilitate the recognition of the project.

The ECO-CEMENT project power point presentation provides a general project overview, background information, objectives, rationale, partners and first results. This presentation will be updated during the course of the project.

5.2.2 Leaflet

The leaflet is a non-electronic dissemination material to be distributed during conferences, workshops and during general project events. The main objective of the leaflet is to provide our audiences with an attractive and written project overview with a summary of the main project objectives and characteristics. The ECO-CEMENT leaflet was prepared within WP7 activities. The first version is already available.

5.2.3 Project short paper

A project short paper document will be developed presenting at one glance general project facts, objectives, target groups and contact details. It further will follow the defined graphic identity of the project and serves as an additional dissemination material to support the project's dissemination activities. The short paper will also be made available on the ECO-CEMENT web site.

5.2.4 Poster

The main purpose of the poster is to catch the audience attention. To reach this objective, an eye catching poster will be designed. With regard to the layout and design, the poster will show the project's logo and the ECO-CEMENT colours emphasizing the link to the project's graphic. The ECO-CEMENT poster will include the following main items:

- The ECO-CEMENT idea - brief description of the subject project and its original idea
- The ECO-CEMENT scientific objectives
- The ECO-CEMENT technical objectives
- Breakthrough
- List of partnerships and contacts

This poster will be used in workshops, conferences and other events as a presentation of the project where the consortium partners participate or hold the event. It is complementary to the leaflets, since the latter provide more detailed information about ECO-CEMENT.

5.2.5 Website

The ECO-CEMENT website is one of the project's main dissemination tools which will be updated on a regular basis. The current version of the ECO-CEMENT website follows the project's graphic identity and presents a project overview, including objectives, project partners and the activities proposed within ECO-CEMENT.

The website was launched in April 2012 and will be subject to constant improvement and enhancement such as news, links, public deliverables etc. The address of the official project webpage is:

<http://www.eco-cement.eu>

During the course of the project, the structure and especially the content of the ECO-CEMENT web site will be subject to modification, update with news, downloads, videos of the demonstrators, etc. Currently, the Look of the ECO-CEMENT homepage appears as shown in Figure 3:



Figure 4: ECO-CEMENT Website

The Top menu of the ECO-CEMENT website carries the project's logo, emphasizing a useful and consistent graphic identity assisting the consortium to communicate the project messages more effectively.

The top side of the website presents the main menu items including the basic functionalities of the site. The content of the different menu items is displayed in the centre of the site, the body part of every article/section published and presented on the page. The different menu items are:

- **Project**
 - Project objectives.
 - Project summary.
 - Project short description of Work packages.

- **Partners**
 - Contact, logo and links to partner's companies. It is expected to be implemented with the addition of the contact person plus a brief CV from each institution.

- **News & Events**
 - On this bookmark it will appear information about the project advance.

- **Download**
 - Site where flyers, posters and public information will be published.

- **Internal**
 - Hyperlink to the collaborative working space – AceProject.

- **Links**
 - Hyperlinks to other websites related to the project.

- **Newsletter**
 - Publication, where relevant information related to the project progress will be published each six months.

5.3 Dissemination Activities

All partners take part in and carry out dissemination activities and by these means, contribute to draw maximum attention beyond the project's consortium. They represent the project, when addressing external stakeholders from industry and academia. The respective selection of media or communication channels depends on the target group and desired dissemination activity (like create awareness or understanding). Therefore, the responsible partner will select the appropriate media type.

Dissemination material is strictly bound to IPR and has to be coordinated and confirmed in cooperation between the Project Coordinator, the Scientific and Technical Coordinator and the Dissemination WP Leader.

The following sections outline the dissemination activities to be carried out in the ECO-CEMENT project. The activities and vehicles/media to be used are based on Annex I to GA.

5.3.1 Direct proactive communications

ECO-CEMENT will take advantage of direct proactive communications to the targeted stakeholders mentioned above and the European Commission through newsletters every six months communicating the project progress, one-to-one communication, emailing and invitation to events to relevant ones.

5.3.2 Publications

The ECO-CEMENT partners will disseminate the project's results via a set of different publications. Apart from scientific publications, project documents will be prepared for communication particularly during events, and press releases will be send out to relevant media in different countries.

Scientific publications

ECO-CEMENT partners will publish the results (according to the IPR protection strategy) in the scientific literature, dedicated journals and magazines in the field of cement in targeted journals (Table 4) and own ECO-CEMENT newsletters. Project documents and posters will be prepared for communication particularly in events (conferences, workshops, seminars, etc.).

N°	Partner	Title	Category	Authors
1	IFAM	To be defined	PU	To be defined. This information will be updated during the project life.
2	CNR-ICVBC	To be defined	PU	To be defined. This information will be uploaded during the project life.
3	NEAPOLIS	To be defined	PU	To be defined. This information will be uploaded during the project life.

Table 5: Targeted journals

Press release

In order to undertake a successful and efficient external written communication with interested parties and to increase the public awareness and attention regarding the project, press releases will be sent to relevant media in each country. All ECO-CEMENT press releases ought to maintain the following recommendations:

- Heading: Including ECO-CEMENT key message
- Introductory paragraph: It is a short introduction about the objective of the press release (e.g. the project presentation, the presentation of a particular event...)
- Overview: short and understandable summary of the project
- Body text: well-structured text. The most important information should be at the beginning of the text. Divide the information into paragraphs under subtitles and provide as complementary information as possible (photographs, diagrams, tables and information about the partners)

ECO-CEMENT Newsletter

The ECO-CEMENT newsletter offers an appropriate means to carry out direct proactive communications to the targeted stakeholders and the European Commission. The ECO-CEMENT newsletter will be issued every six months and will provide:

- Presentation of the project
- Announcements of the project's progress
- Dates, details, comments regarding project related conferences, meetings, events or publications

- Project-related news
- Etc.

Publication of reports

ECO-CEMENT is an open project and we expect the research results to have an impact on the European construction sector. Therefore, our intention is to openly publish many of the Deliverables, which are scheduled to be public (Table 6). Those publications are an important mean of dissemination. They will be realised paper-based and as far as possible as PDF-files in the download area of the website. Academia and research partners (and where appropriate the industrial partners) will publicise outcomes of the project.

Del no.	Deliverable name	WP N.	Dissemination level	Delivery date
D1.1	Governance Structure, Communication Flow and Methods. Quality Plan.	WP1	PU	Month 3
D1.2	First Year Progress Report.	WP1	PU	Month 12
D1.3	Second Year Progress Report.	WP1	PU	Month 24
D1.4	Final Report	WP1	PU	Month 36
D2.2	By-products and wastes from general industry for Eco-Cement production.	WP2	PU	Month 10
D2.3	KIPs ECO-CEMENT project.	WP2	PU	Month 10
D3.5	Bioreactor Design	WP3	PU	Month 20
D5.1	Description of LCA Methodology. Indicators	WP5	PU	Month 27
D5.2	Assessment of environmental impact data	WP5	PU	Month 33
D5.3	Total environmental scores. Benefits of Eco-Cement	WP5	PU	Month 34
D6.1	Market and Impact Analysis	WP6	PU	Month 36
D7.1	Awareness and Dissemination Plan.	WP7	PU	Month 6
D7.2	Design and set up of the operational basic structure for project website and extranet.	WP7	PU	Month 3
D7.3	Publication of results on architecture and construction brand making magazines.	WP7	PU	Month 30
D7.4	Workshops, conferences and congress.	WP7	PU	Month 34
D7.5	Liaison to other EU projects, National and EU Technology Platforms.	WP7	PU	Month 34
D.7.6	Guideline for the assessment of policy instruments	WP7	PU	Month 8
D.7.7	Final sets of policy briefs	WP7	PU	Month 36

Table 6: List of public deliverables

5.3.3 Demonstrations

The partners will elaborate and present a set of demonstrators for validating and summarizing the achieved project's result.

- **The Pilot Case Study** will be used not only for validation of results, but also as a place to organise meeting to show the achieved results. Eco-Cement workshop will be hosted by NEAPOLIS by M30. During this workshop the process will be demonstrated with the contribution of IFAM and CNR-ICVBC

5.3.4 Educational and training courses

The ECO-CEMENT partners will elaborate different courses tailored to two different target audiences:

- **Educational courses** for students inside the Universities.

- **Training courses** for professionals. Several training methods, such as: theoretical courses regarding the knowledge generated in the project, and practical courses during the implementation and assembling of the whole ECO-CEMENT system, will be carried out, mainly during the demonstration phase.

5.3.5 Events

One of the most important dissemination parts is the dissemination that will be achieved through scientific and technical presentations in international conferences, congresses, exhibitions fairs and workshops. Conferences are important to be held, since it is an efficient way to announce and present the ECO-CEMENT project and its concrete results of research to a wide audience. Attending selected events and workshops will allow the consortium to create awareness and attract potential stakeholders. The consortium members will present the project concept in a number of different events as indicated below:

- **ECO-CEMENT own events:**
 - 1 specific workshop will be organised in the ECO-CEMENT project.

Workshops			
Date/ Place	ECO-CEMENT Partner organizer	Topic	Status
M30/University of Neapolis Paphos (Cyprus)	NEAPOLIS	Eco-Cement practicalities and demonstration of the process	Planning

Table 7: List of the workshops done an planned

- The details for the organisation of this workshop are still to be defined and will be presented in the next version of this deliverable.
- ECO-CEMENT international conference: Conference to be organised by the project coordinator in Madrid (Spain) at month 34 of the project
- **Presentation of ECO-CEMENT concept and breakthroughs in possible external events:**
 - European and Worldwide congresses: ECTP conference (annually)
 - International exhibition fairs in construction, such as:
 - Batimat (France)
 - Bau (Germany)
 - Construmat (Spain)
 - CeBIT (Hannover, annually)
 - SAIE (Italy annually)

- o Participation in conferences: ECO-CEMENT will be represented in a number of international conferences of relevance to the research area. Presenting the ECO-CEMENT project within conferences will lead to a wide awareness level. Targeted conferences can be found in the tentative events calendar below.

Table 8 presents a tentative calendar presenting the events the ECO-CEMENT partners aim to assist. This calendar will be updated during the course of the project and be included in future versions of the Awareness and Dissemination Plan.

PARTICIPATION AT CONFERENCES AND CONGRESSES				
N°	PARTNERS	TITLE	LOCATION	DATE
1	CNR-ICVBC	Techno Heritage International Congress on Technology for the Conservation of Cultural Heritage (http://www.technoheritage.es/pdf/first%20circular.pdf)	Santiago de Compostela (Spain)	October 02-05, 2012
2	IFAM – To be defined	BAU 2013 – World's leading Trade Fair for Architecture, Materials, Systems (http://www.bau-muenchen.com/en/Home)	Munich (Germany)	January 14-19 2013
3	To be defined	European Geosciences Union ERE2 – CCS – Carbon Capture and Storage ERE4 – Landscape and Land Use ERE3.4 – Natural stone research and Heritage stone designation (http://meetingorganizer.copernicus.org/EGU2013)	Vienna (Austria)	April 07–12 2013
4	To be defined	IEEE- IAS/PCA 55 th Cement Industry Technical Conference (http://www.ieeezcaconference.org/OrIFL13.asp)	Orlando -FL (USA)	April 14–18 2013
5	To be defined	2nd Global CemTrader Conference on cement and clinker, supplementary cementitious materials (SCMs), coal & petcoke and logistics (http://www.globalcement.com/conferences/global-cemtrader/introduction)	London (UK)	May 9-10 2013
6	IFAM – CNR ICVBC	FEMS 2013, The 5th Congress of European Microbiologists (http://fems.kenes.com/)	Leipzig, (Germany)	July 21-25, 2013

7	To be defined	SAIE 2013 International Building Exhibition (http://www.saie.bolognafiere.it/it/)	Bologna (Italy)	October 2013
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Table 8: Tentative Events Calendar

5.3.6 Other activities

- **Clustering activities**

During the course of the project, the ECO-CEMENT partners will carry out clustering activities with European related projects from FP7 (Environment, Transport, ICTs), Eureka (EUREKABUILD, PRO-FACTORY, LOGCHAIN) and the related European and National Technology Platforms.

- **Via Technology Transfer**

Offers through Innovation Relay Centres (IRCs) network and other European market places, by offering technology Transfer possibilities for industries but specifically for SMEs.

5.3.7 Planned dissemination activities per partner

The following table gives an overview of the dissemination activities planned by the different partners. During the course of the project these dissemination activities will be updated in the next versions of this deliverable.

Partner	Country	Planned dissemination activity
ESSENTIUM	ES	Attendance to national conferences, international events and presentation of the project concepts to the government and policy makers
IFAM	DE	Scientific papers in relevant journals, participation in project related conferences and events
SOLINTEL	ES	Attendance to national conferences, international events and presentation of the project concepts to the concrete industry
CNR-ICVBC	IT	Scientific papers in relevant journals, participation in project related conferences and events
DWEcoCo	IRE	Attendance to national conferences, international events and presentation of the project concepts to waste-suppliers promoters
NEAPOLIS	CY	Scientific papers in relevant journals, participation in project related conferences and events

Table 8: Planned dissemination activities

6 EVALUATION OF THE ECO-CEMENT DISSEMINATION TOOLS AND ACTIVITIES

In order to assess whether the ECO-CEMENT communication and dissemination strategy is efficient, we have defined a number of basic quality check parameters, which should allow evaluating the impact of the different dissemination tools and activities deployed and carried out. During the course of the project these parameters can be adapted or modified according to the project's evolution. The following table indicates the parameters identified:

Media/Action/Method	Feedback quality check parameter	Objectives
Website / Portal	Number of unique visitors and n° of visits during last 12 month period Average time on site	We can consider a good result obtaining a number around 2000 visits per year, with at least 40% of user spending more than 5 minutes on the site.
Flyers / leaflet / brochures	Number of flyer / leaflet / brochure distributed	During the project's life we plan to organize 2 specific events during which we plan to distribute an average of 50 -100 brochures.
Paper / Journals	Number publications	During the whole project, we plan to release a number between 3 and 6 publications of different kinds.
Conference presentations	Number of attending people (registered / estimated)	We plan to present the project to a unique major event during the project's duration.
Conference posters	Number of attending people (registered / estimated)	During the project's life we plan to publish 3 posters.
Training courses	Number of attending people (registered / estimated)	Estimate not available at the moment.
Workshops	Number of attending people (registered / estimated)	During the project's time we plan to organize 1 specific workshop.
Demonstrations	Number of attending people (registered / estimated)	During the project's time we plan to organize a demonstration in conjunction with the workshop
Clustering activities	Number of contacts / collaboration established	The consortium will carry out clustering activities with European related projects from FP, Eureka, and the related European and National Technology Platforms.

Table 9: Dissemination evaluation criteria

7 CONCLUSION

This deliverable has presented the overall dissemination plan to be applied for the ECO-CEMENT project. This Awareness and Dissemination plan is the basis of a widespread dissemination of the overall picture and the results of ECO-CEMENT, also beyond the project's end. This plan will function as a guide for the consortium partners and at the same time will provide common tools that require the participation of all.

Based on the objectives for dissemination and the generic dissemination activities creating awareness, understanding and action, the defined dissemination activities are aimed to enhance public awareness and ensure the involvement of targeted stakeholders in order to raise awareness of the work, activities and outcomes of the ECO-CEMENT project. Besides, the activities to be carried out provide information to the scientific community and disseminate the mere existence of the project to the research stakeholders.

The ECO-CEMENT partners will use a variety of dissemination tools/activities to reach all relevant audiences. These include attend conferences, events, workshops, website, leaflets, publish articles and papers, send press releases, present the project's via virtual or mobile demonstrators, hold training and educational courses etc.

Our stance regarding dissemination is that an effective dissemination plan should be "dynamic" in its nature, meaning that it is subject to changes based on newly available data. In this respect, further opportunities will be explored and measures will be taken by all consortium members to collaborate in other activities and disseminate know-how. This way the ECO-CEMENT dissemination plan is considered a constantly evolving process which comprises the update of the project's activities, the gathering of publishable results from the rest of the partners, and any other important activities reinforcing the efforts to disseminate the project's outcomes.



8 REFERENCES

- [1] European Commission, DG Education and Culture: Dissemination and exploitation of results, Glossary of terms. July 2006.

9 Annex I: ECO-CEMENT PROJECT PUBLICATION

ECO-CEMENT LEAFLET

Project Details
 Project co-funded by the European Commission
 Project cost: 2.2 million euros
 Starting date: March 2012
 Project Duration: 3 years

Objectives

- ❖ To investigate the use of cement industry wastes, specifically solid alkaline industrial wastes, as raw materials for the production of Eco-Cement.
- ❖ To investigate the biomimetic process for the production of Eco-Cement.
- ❖ To test the Eco-Cement technology with a pilot-scale trial.
- ❖ To evaluate the potential for energy saving, waste revalorization and reduction of emissions of Eco-Cement.

Why does it matter?
 This technology can reduce GHG emissions from cement manufacturing by up to 11%, and reduction of 27% in production cost compared to traditional cement.

Sustainable Cement industry
 Waste valorization of the cement industry using bioreactor for production of new cement.

Novel bio-mimetic technology for enzyme-based microbial carbonate precipitation through the revalorization of industrial waste as raw materials, in order to produce eco-efficient environmental cement.

Coordinator: ESSENTIUM
www.eco-cement.eu
 Contact: Laura Sánchez
lsanchez@essentium.com

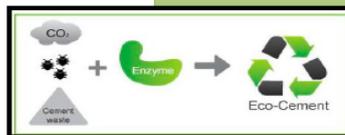
PARTNERS

Project Summary

About 5% of global carbon emissions originate from the manufacturing of cement. According to IEA, cement production generates an average world carbon emission of 0.81 kg CO₂ per kg cement produced. Cement related emissions are expected to increase by 260% throughout the 1990-2050 period. As consequence, the global production of cement in 2030 is projected to grow to a level roughly 5 times higher than its level in 1990, with close to 5 billion tones worldwide. Emissions of the global cement sector alone are very likely to surpass the total amount of CO₂ emissions of the EU before 2030. As well, Industrial waste is now global concern, causing environmental and economic harm. Industries are rapidly trying to find a solution, searching for optimal ways to manage waste and to change the most common practices as landfill or incineration. Industrial waste is very heavy burden for the environment, where a significant proportion of this industrial waste is attributable to construction and demolition waste.

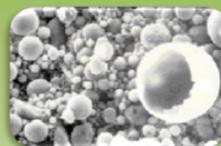
To mitigate these threats ECO-CEMENT will allow recovering valuable resources from industry, capturing CO₂ and transforming both products into ecological cement that can be used in construction or novel environmental applications.

Based on the nature's way of creating natural formations through bacterial contribution to carbonate precipitation, the main objective of ECO-CEMENT is to develop a novel bio-mimetic



technology for enzyme-based microbial carbonate precipitation through the revalorization of industrial waste as raw materials, in order to produce eco-efficient environmental cement. The Bio-mimetic Technology will convert industrial waste, mainly cement waste and others by-products, into high strength, ecological cement using microbial carbonate precipitation via urea hydrolysis.

Internal studies suggest that the combined use of industrial waste and the implementation of Eco-Cement technology can reduce GHGE from cement manufacturing by up to 11% and 20% reduction of construction waste.

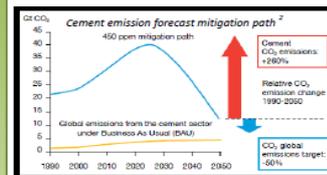


Crystal formation on the surface of *B. subtilis* cells by SEM microscopy

Concept

Increased public awareness of the threats posed by global warming has led to greater concern over the impact of anthropogenic carbon emissions on the global climate. The current level of carbon dioxide (CO₂) in the atmosphere is approaching 380 ppm¹ (particles per million). Without drastic market, technological, and societal changes CO₂ concentrations are projected to increase to over 800 ppm by the end of the century.

Since the pre industrial revolution, both changes in land-use patterns and the intensity of our development activities have had a notable impact on atmospheric CO₂ concentrations. The largest source of anthropogenic carbon emissions is from fossil fuel combustion, and energy consumption is rising due to our growing economy's demand for fuel. Non-energy related industrial activities also produce a significant quantity of process-related CO₂ emissions through the transformation of raw materials. Of these, cement manufacturing and iron and steel production are the most carbon intensive.



¹ "Impact of Anthropogenic CO₂ on the CaCO₃ System in the Oceans" Feely, Sabine (2004).
² "Energy use in the cement industry in North America: Emissions, waste generation and pollution control 1999 -2011", Commission for environmental cooperation, 2nd North American symposium of Assessing the Environmental effects of Trade, May 2003.

10 ATTACHMENT

10.1 Deliverable review report

Date		Venue	
Reviewer			
Company			

10.2 Technical result of the deliverable

Deliverable covers the topic specified in the title					
Yes		Partly		No	

Technical contents are relevant to ECO-CEMENT and to the WPs					
Yes		Partly		No	

Presented results in the deliverable are of high value					
Yes		Partly		No	

Technical sound of the deliverable					
Good		Regular		Bad	

Described work in the deliverable follows a clear methodology					
Good		Regular		Bad	

Please add your comments on the content and the technical results of the deliverable. Please comment the problems, if any.

Comments:

10.3 Length, structure and presentation of the deliverable

Adequate length of the deliverable					
Good		Regular		Bad	

Deliverable organization is appropriate					
Good		Regular		Bad	

Presentation of the deliverable clear and concise					
Good		Regular		Bad	

Please add your comments on the length, the structure and the presentation.

Comments:

10.4 Rating for the deliverable

Please provide a rating for this deliverable from 5 (excellent) to 1 (very poor): ____

Deliverable is							
Accepted		Accepted with revisions		Rejected unless modified as suggested		Rejected	

Comments: