



Experimental Awareness of CO₂ In Federated Cloud Sourcing FP7 – 318048

D6.2: 1st year Dissemination report

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WP6: Dissemination and Exploitation

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Executive Summary

The goal of this report is to describe the dissemination activities conducted in the first year of the ECO₂Clouds project. The deliverable presents the set of dissemination actions that have been performed and highlights the deviations from the plan described in D6.1. Dissemination Plan. In particular, the publications, in terms of conferences and journals articles and presentations and talks are listed. Moreover, the dissemination tools that have been designed and used in the first year of the project are described. The results of the dissemination activities are presented by evaluating the Key Performance Indicators (KPIs) listed in D6.1 These indicators include, for example, the number and impact of publications, the accesses to the online sources and the number of organized events.

Finally, the aim of D6.2 is also presenting a plan of the dissemination activities for the second year of the project. Such plan establishes a series of actions to be taken, assigns the partners responsible, and lists the expected results.

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1 Introduction

The ECO2Clouds project aims to design a solution for the deployment of applications on Cloud infrastructures able to optimize energy efficiency and minimize CO₂ emissions. In the first year, one of the main results of the project is the definition of a set of metrics able to evaluate the greenness and the performance of the cloud sites. The assessment and monitoring of such metrics drive the deployment of the applications on the virtual machines and the allocation of the virtual machines on the physical hosts. For this reason, an application controller and a scheduler have been designed with the aim to achieve optimal performance within agreed service level parameters, while keeping the energy usage and environmental impact as low as possible.

1.1 Purpose

The purpose of this deliverable is to provide a detailed description of the dissemination activities performed in the first year of the ECO₂Clouds project and of the dissemination plan for the second year.

In particular, this deliverable revises the dissemination plan presented in D6.1 and presents an updated version of the dissemination strategy. The results of the dissemination activities are also presented by evaluating the Key Performance Indicators (KPIs) listed in DOW. These indicators include, for example, the number and impact of publications, the accesses to the online sources and the number of organized events.

1.2 Document Organisation

The document is composed of the following sections:

- After this introduction section of the document, Section 2 presents a revision of the dissemination strategy presented in D6.1. Such revision takes into account the results achieved in the first year of the project. In fact, these results provide a better understanding of the value proposition and of the main innovations of the project.
- Section 3 analyzes the dissemination tools that have been designed and used in the first year of the ECO₂Clouds project.
- Section 4 describes the set of dissemination actions that have been performed in the first year of the ECO₂Clouds project. In particular, the publications, in terms of conferences and journals articles and presentations and talks are listed.
- Section 5 discusses the results of the dissemination activities assessing the KPI listed in the DOW. Such indicators aim to evaluate both the amount of dissemination activities performed and their impact.
- Section 6 presents the dissemination plan for the second year of the project.

2 Revision of dissemination strategy

This section aims to provide a summary of main dissemination actions undertaken in the first year of the project and to discuss the degree with which such actions are aligned with the ones planned in 6.1 dissemination plan.

2.1.1 Publications

As defined in 6.1 dissemination plan, during the first period of the first year of the project, the core ideas and motivation behind the project have been turned into concise presentations and short papers, which aimed to illustrate the technology's potential to interested stakeholders and early adopters. In the last six months of the first year, the innovative ideas, methods and models defined for the realization of the first prototype have been included in papers that have been submitted to international conferences and workshop.

The achieved results and the acquired knowledge in the first year will be used in the second year for refine the define methods and models and realize the final prototype. The innovative ideas and the results coming from the experiments performed by using the project case studies will be published in international conferences and journals.

Among all the activities listed on D6.1, the set of activities and actions taken for ensuring a wide visibility and identification of the project are:

- Design of the ECO₂Clouds brand (logo, colour scheme, document templates)
- Design of promotional materials such as leaflets, posters, project folder
- Participation in exhibitions, workshops, specialised international meetings, etc.
- Public relations, featured articles in magazines and e-journals

In every reporting period, submitted and accepted publications are provided according to the specified templates.

2.1.2 Academic, Scientific and Research Dissemination

As described in D6.1, academic dissemination focused and will focus on conferences, scientific workshops, academic papers and scientific magazines (online and printed). The publications of the first year aimed to communicate the main messages include the principal motivation of the project, the scientific approach and methodology, the results gained, the core innovation and the delivered technology. The intention is to spread information about the project widely and encourage feedback on complementary approaches. The aim is also to get in touch with companion initiatives and projects to share ideas and experiences to work towards common standards and results.

Annex A of 6.1 dissemination plan listed the key scientific communities we have identified for the results dissemination. In the first year, most of the papers have been published in “Energy efficiency and green IT” conferences and workshops. In particular, the papers has been submitted and accepted in conferences and workshops that have the same target and audience to the ones listed 6.1 dissemination plan. The project has been also presented in industry-focused venues such as Datacenter Dynamics (see Section 4).

The complete list of the papers submitted in M1-M12 is presented in Section 4.

2.1.3 Dissemination to potentially interested stakeholders

The project will also disseminate results in conferences more oriented towards industrial audiences, such as the Service Research Innovation Institute's global conferences, PoweredByCloud and the Cloud Computing Expo conferences. Also national conferences, workshops and events in the project partner countries will be addressed as well as National Computer Science and Engineering Associations aggregating professionals and managers operating in the eco and Cloud areas. Moreover, specific courses on the project's topics will be addressed in academic PhD courses.

Regarding standards relating to Grid and Cloud Computing, as indicated in the DoW, one must acknowledge that ECO₂Clouds is not going to play the role of creator of new standards but rather one of consumer. ECO₂Clouds will use existing standards and will actually benefit from those that are already used within the framework of the BonFIRE project. This makes sense since ECO₂Clouds and BonFIRE will be in close touch and will benefit from one another.

On the other hand, the project will aim to interact with standardisation bodies with specific activities, disseminating results of the research and experimental results of the project and of the organized workshops.

Some prominent standardisation bodies and consortia in the scope of ECO₂Clouds are detailed in D6.1 Dissemination Plan:

- **Open GRID Forum (OGF)** <http://www.gridforum.org>: **Green Grid** <http://www.thegreengrid.org>:
- The **OpenDataCenterAlliance** <http://www.opendatacenteralliance.org>: The **European Telecommunications Standards Institute (ETSI)** <http://www.etsi.org>.

Another recent group that is being considered as a dissemination target is the **Joint Coordination Group on Green Data Centers (JCG GDC)**, established between CEN-CENELEC-ETSI.

Applied dissemination will focus on typically shorter and more generic communication items (web coverage, flyers, press releases, whitepapers, exhibition stands, magazines and websites focused on software developers). The key messages revolve around what ECO₂Clouds will be able to do, the benefits it will confer, the conditions under which it can be used and how and when users can become involved. The intention is to identify potential collaborators and experimenters, potential partners for exploitation and users, and in general to gather feedback from different communities both public and private.

2.1.4 Dissemination within FIA and BonFIRE

The project actively participates and contributes to the collaboration activities organised at Future Internet Research and Experimentation (FIRE Conference and Workshops), Future Internet (FI Assembly) and ICT programme (ICT Conference) levels. The objective is to provide input to common activities and receive feedback,

contribute advice and guidance and receive information relating to FIRE community building as well as tools and platforms and ICT programme implementation, standards, policy and regulatory activities, relevant national or international initiatives, etc.

The project will contribute to community support like the FIRE portal and community-building activities like joint workshops, schools, training, etc. By initiative of interested projects, thematic Clusters and Working Groups might be proposed; the project will actively participate and contribute to the relevant activities.

The project will submit proposals to Future Internet Assembly books, submitting proposals for chapters describing the goals of the project first, and advancements of the project during its duration.

2.1.5 Organisation of Workshops

As described in D6.1, the plan is to organize two workshops by the project with the goal to involve all stakeholders to exchange ideas and get feedback on research directions in ECO₂Clouds.

The goal of the first workshop, to be held as *Special Session on Energy Efficient Systems* at IEEE SMC 2013 conference (Manchester, 13-16 Oct 2013) is to exchange and disseminate ideas and also to create consensus on concepts and to get feedback on initial results of the project, involving other projects, informing representatives of standardization bodies and other organizations.

The preparations for the first event (*Special Session on Energy Efficient Systems*) are currently underway. The call-for-papers generated good response with 10 paper submission from around the world. Out of 10 submissions, 6 were accepted by the programme committee for presentation at the special session. This event falls outside of the reporting period (and so is “future work”) but it corresponds to the first planned workshop and disseminates results of the first year.

During this first year another event has also been organized: the *EuroEcoDC workshop* co-located with the Third International Conference on Cloud and Green Computing (CGC) (September 30, 2013, Karlsruhe, Germany). The EuroEcoDC workshop is co-organized with two other European Projects **All4Green** (www.all4green-project.eu/) and **CoolEmAll** (www.coolmall.eu). The main goal of this workshop was to present and discuss European initiatives concerning energy-efficiency in data centers, including both infrastructure- and software-oriented solutions. The workshop featured a keynote speech by André Rouyer (JCG GDC), as well as several academic and industry papers related to the three organizing projects (All4Green, CoolEmAll and ECO₂Clouds). There were three presentations related to the ECO₂Clouds project: (i) a general presentation about the project, (ii) the presentation of a paper that compares the approaches adopted in CoolEmAll and ECO₂Clouds projects, and (iii) the presentation of a paper about a methodology for optimizing an energy-aware application design and deployment.

Another workshop will be organized by the end of the project aimed at discussing the impact of the mechanisms ensuring efficiency of federated Cloud infrastructures and the use of eco-metrics. This will be possibly linked to an existing conference, as previously done (in a fruitful way) in other similar-sized projects, due to pooling resources in the organisation and marketing of the event. Depending on the feedback received from the communities over the course of the project, this workshop will be

focussed on coupling industry participation with scientific presentations (industry/academic peer reviewed papers, for example). Also in this case, involvement of other projects and standard organizations will be sought, to disseminate ideas and reach a wide consensus on our technological and research directions.

3 Description of dissemination tools produced in M01-M12

In this section we illustrate the main channels for general dissemination and the marketing collateral materials that will be developed for the project.

3.1 On line dissemination tools

3.1.1 Project Website

The project web site www.eco2clouds.eu is our main dissemination tool for the project. The home page is shown in **Error! Reference source not found.**

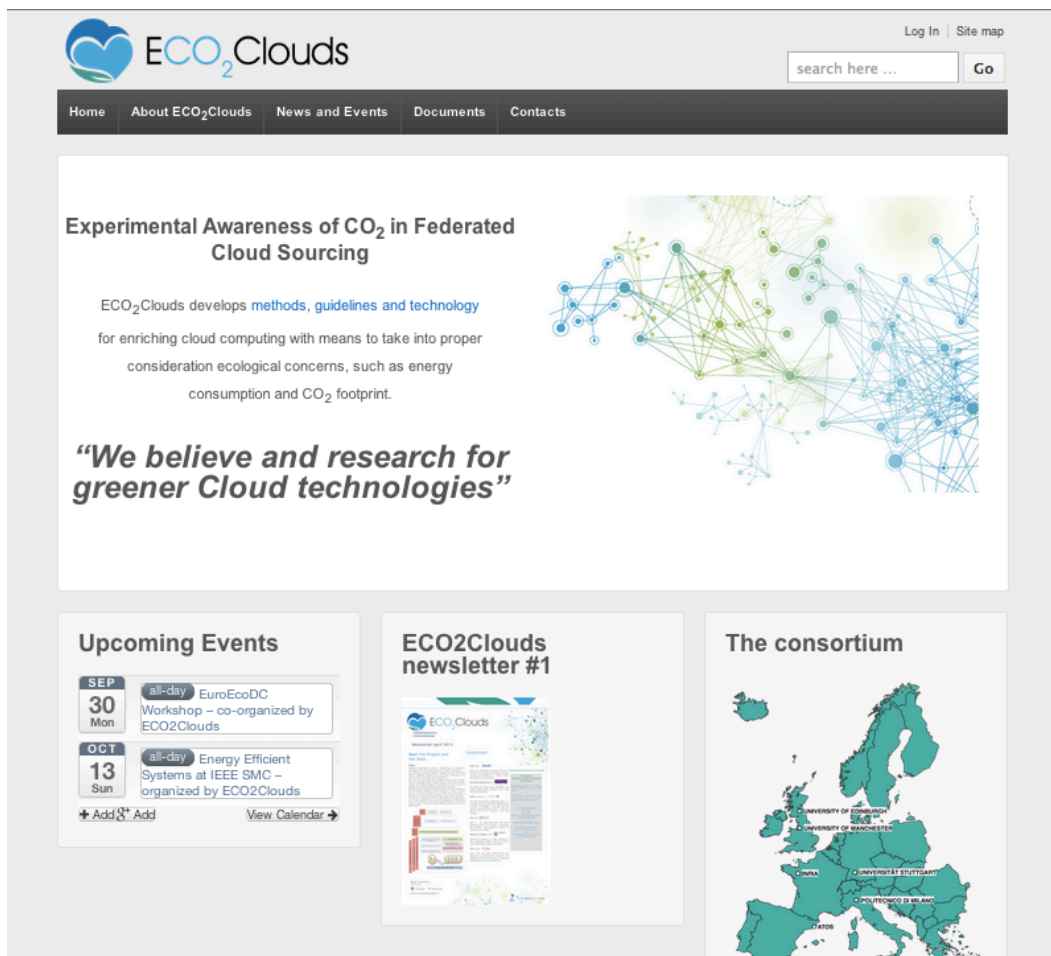


Figure 1 - ECO2Clouds Web site

The web site has been redesigned in the fourth quarter of the project in order to improve the content organization and navigability. Currently, the Web site consists of five main public sections and one private area. The public sections contain:

- Description of the project: goals, timeline, consortium, details about the data centers used in the experimentation phase, achievements.
- Initiatives and events: description of the events organized by the project

- Documents: newsletters, deliverables and scientific publications.

During the second year of the project the web site will be continuously populated and upgraded.

The project team is also investigating the possibility to set up another web site more oriented to product marketing purposes. The home page of such website can be similar to the one depicted in Figure 2.



Figure 2 - Product Marketing Web site

3.1.2 Social networks: Twitter and Facebook

The dissemination plan for the first year also included the dissemination of the project results through social networks. In fact, at the beginning of the project a Twitter account named ECO₂Clouds has been created together with a Facebook page (available at <http://www.facebook.com/ECO2Clouds>). During the first year, the two accounts have been scarcely used since research and implementation work of the first phase was still on going and the project team is analysing how the project team could effectively use them effectively. Currently, Twitter has been selected as the preferred dissemination channel and in the second year we will study how we can exploit it to communicate all the final results achieved in the project.

3.2 Off line dissemination tools

3.2.1 Newsletters/Posters

A newsletter for the project is published every six months starting from M6 (March 2013). To advertise the project in the first months of the project, a poster was produced and distributed during events in which project partners have participated so far.

Newsletters will be sent out using various channels to reach a wider audience (ICT news channels or industry publications). We will promote the newsletter through posting the newsletter availability announcement on the project's web site; announce the newsletter on the LinkedIn contacts' network and using our Twitter account; all partners will send the newsletter internally in their organizations and network of contacts; and industrial partners or influencers in the project who might have relevant

blogs will promote it on their blogs, etc.

3.2.2 Logo

The logo has been designed from the draft logo initially presented with the proposal, including a stylized reference to clouds, environment (a green leaf) and a positive attitude towards environmental impact (the heart).

3.2.3 Factsheet

A preliminary factsheet has been produced containing a quick explanation of the project main facts and it is intended to be used for all partners on dissemination actions. In general, factsheets will be produced with the release of public deliverables (upon approval by the commission).

3.2.4 Folder

A project folder has been designed to contain project information and fact sheets. The aim of the folder is to act as a visible advert of ECO₂Clouds that can be distributed during an event organized or hosted by ECO₂Clouds partners. Figure 3 reports the structure of the folder.

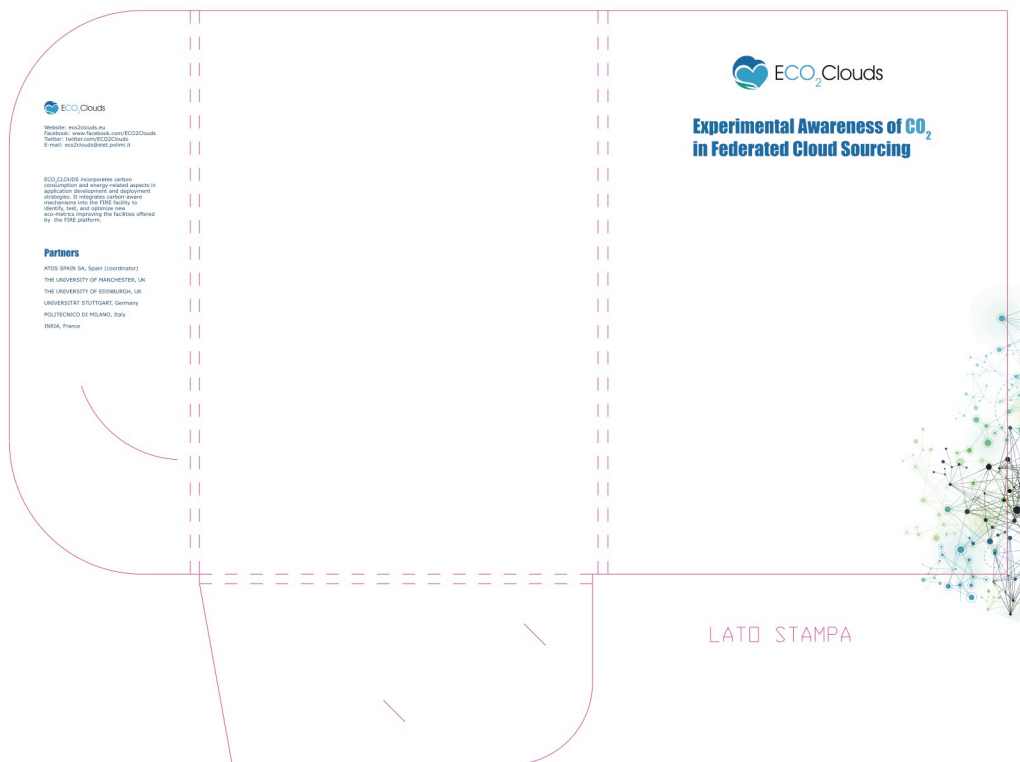


Figure 3 - ECO₂Clouds folder

4 Reporting of dissemination activities in M01-M12

This section aims to list the dissemination activities performed in the first year of the project. In particular, the publications, in terms of conferences and workshops articles and presentations and talks are listed.

4.1 Conferences and events

During the first year of the project, the partners did presentations to illustrate the core ideas and motivation behind the project in several public events and to interested stakeholders and early adopters. The attended conferences and events are listed in Table 1.

Event Date	Event Place	Event Name	Target Audience	Scope	Partners involved	Type of participation	Reference to Project Objectives in the Workplan
16/10/12	Brussels	IoS Collaboration Days	Industrial, Academic	International	ATOS	Speaker	General dissemination
18/10/12	Rennes	COST 804-805 meeting	Academic	International	INRIA	Speaker	General dissemination
7/11/12	Ghent	FIRE Engineering Workshop	Industrial, Academic	International	ATOS	Speaker	General dissemination
15/11/12	London, UK	Datacenter Dynamics	Industrial	International	POLIMI	Speaker	General dissemination
4/12/12	Cannes, France	ETSI conference – Cloud Standards coordination	Industrial	International	POLIMI	Attendee	Energy efficiency in cloud computing
28/01/13	Luxemburg	Green Days	Industrial, Academic	International	INRIA	Attendee	General dissemination
18/03/13	Leogang, Austria	Meeting of Datacenter Directors	Industrial	National	HLRS	Speaker	General dissemination
22/03/13	Stuttgart, Germany	Green Morning (Internal Meeting)	Industrial	National	HLRS	Speaker	General dissemination
26/03/13	London, UK	Cloud Computing and Virtualization for Public Sector and Enterprise 2013	Industrial	National	UNIMAN	Attendee	Energy efficiency in cloud computing and potential for EOC2Clouds solution
08/04/13	Vibo Valentia, Italy	COST 804 School on Energy efficiency in large scale distributed systems	Academic	International	POLIMI	Speaker	General dissemination
12/04/13	Sindelfingen, Germany	Partner Meeting SCC - STAHLGRUBER Communication (SME)	Industrial	National	HLRS	Speaker	General dissemination

25/04/13	Munich, Germany	Meeting at LRZ - Leibniz-Rechenzentrum	Industrial	National	HLRS	Speaker	General dissemination
26/04/13	Goettingen, Germany	Meeting at GWDG	Industrial	National	HLRS	Speaker	General dissemination
01/05/13	Edinburgh, UK	Meeting with Zheng Wang, PDRA School of Informatics, University of Edinburgh	Academic	National	EPCC	Speaker	Energy efficiency in cloud computing and potential for EOC2Clouds solution
28/05/13	Karlsruhe, Germany	Meeting at KIT	Industrial	National	HLRS	Speaker	General dissemination
22/07/13	Milano, Italy	Cloud communities Day	Industrial, Academic	National	POLIMI	Speaker	General dissemination
30/09/13	Karlsruhe, Germany	EuroECODC workshop	Academic	International	POLIMI, HLRS	Speaker	Optimizing energy consumption in a federated cloud infrastructure

Table 1 - Conferences and events list

4.2 Publications

The publications of the first year present the first results of the projects. The papers have been submitted and accepted in some international conferences and workshops. Details of such publications are listed in Table 2 and Table 3.

4.2.1 Papers for international conferences/workshop

Date	Submitted At	Title (include link to publication)	Target Audience	Partners involved	Reference to Project Objectives in the Workplan
15/7/13	Second International Workshop on Requirements Engineering for Sustainable Systems (RE4SuSy)	Using Intelligent Agents to Discover Energy Saving Opportunities within Data Centers	Academic, Industrial	Alexandre Mello Ferreira and Barbara Pernici (POLIMI)	Optimizing energy consumption in a federated cloud infrastructure
30/09/13	EuroEcoDC workshop - CGC 2013	Energy-Aware Process Design Optimization	Academic, Industrial	Cinzia Cappiello (POLIMI), Pierluigi Plebani (POLIMI), Monica Vitali (POLIMI)	Optimizing energy consumption in a federated cloud infrastructure
30/09/13	EuroEcoDC workshop - CGC 2013	Improving Energy Efficiency in Data Centers and federated Cloud Environments	Academic, Industrial	Eugen Volk, Axel Tenschert, Michael Gienger, Ariel Oleksiak, Laura Sisó and Jaume Salom (HLRS)	Optimizing energy consumption in a federated cloud infrastructure

Table 2 - Papers published in international conferences and workshops

4.2.2 Other publications

Date	Submitted At	Title (include link to publication)	Target Audience	Partners involved	Reference to Project Objectives in the Workplan
Autumn 2012	EPCC news	Energy efficient cloud computing	Academic	EPCC	General dissemination
01/06/13	HLRS inside	ECO ₂ Clouds project description	Academic	HRLS	General dissemination

Table 3 - Other Publications

4.2.3 Future work

This section contains the papers that have been submitted in the first year of the project but that will be presented in the conferences in which they have been accepted in the second year period.

Date	Submitted At	Title (include link to publication)	Target Audience	Partners involved	Reference to Project Objectives in the Workplan
09/10/13	eChallenges 2013	Cloud Federation Monitoring for an Improved Eco-Efficiency	Academic, Industrial	Axel Tenschert, Michael Gienger (HLRS)	Energy Metrics, Monitoring and application characteristics
14/10/13	IEEE SMC 2013	Energy Efficient and CO₂ Aware Cloud Computing: Requirements and Case Study	Academic, Industrial	Usman Wajid (UNIMAN), Barbara Pernici (POLIMI), Gareth Francis (EPCC)	Requirements for energy aware and CO ₂ friendly cloud computing
14/10/13	IEEE SMC 2013	Monitoring and Assessing Energy Consumption and CO₂ Emissions in Cloud-based Systems	Academic, Industrial	Cinzia Cappiello (POLIMI), Sumit Datre (POLIMI), MariaGrazia Fugini (POLIMI), Michael Gienger (HLRS), Paco Melia (POLIMI), Barbara Pernici (POLIMI), Pierluigi Plebani (POLIMI), Axel Tenschert (HLRS),	Energy Metrics, Monitoring and application characteristics
14/10/13	IEEE SMC 2013	Optimizing Energy Efficiency in the Cloud Using Service Composition and Runtime Adaptation Techniques	Academic, Industrial	Usman Wajid, Cesar Marin, Anthony Karageorgos (UNIMAN)	Energy aware application deployment on cloud
12/2013	Green Days	ECO ₂ Clouds presentation	Academic, industrial	INRIA	Energy Metrics, Monitoring and application characteristics

5 Assessment of impact

Progresses in dissemination are monitored through the use of key performance indicators (KPIs) that have been defined in D6.1 and listed also in Table 1. Such indicators cover all forms of dissemination and in particular emphasize the results gained rather than the quantity of activities realised.

Key Performance Indicators					
Tool	Type	Success Indicators	Coverage	Current Value	Comment
The web site, together with associated social media , is one of the main ways to disseminate information about the project and will be populated with results from the research and from the experimentation within the project.	Quantitative	>7000 accesses per year	World wide, general and specialised target	2316 visits 1124 visitors Average number of visited pages = 5.4 Average duration of the visit = 3 min and 10 sec	
		>300 downloads		0	The first deliverable will be published on line in November 2013 Sw downloads are not planned
Project flyer and factsheets	Quantitative	3 versions	World wide	1	
Press echoes (from all over Europe) This shows the relevance of the project to public.	Quantitative	8	EU	0	Planned in the second year
On-line magazines and newspapers	Quantitative	4	World wide	0	Planned in the second year
Newsletter The newsletter will target the stakeholders and interested potential users of the platform.	Quantitative	4	EU	2	

Key Performance Indicators					
Tool	Type	Success Indicators	Coverage	Current Value	Comment
Scientific papers and white papers	Quantitative	10	World wide	3	4 are already accepted for conferences scheduled in the second year
Numbers of conferences and expositions The participation to conferences, expositions and other events indicates the interest in the various topics which are covered by ECO ₂ Clouds.	Quantitative, Qualitative in terms of participation	10	World wide, specialised target	17	
Focused workshop The Consortium foresees the realisation of a focused event especially designed for potential ECO ₂ Clouds users and researchers.	Quantitative	2	World wide	1	one conference special session is already planned for the second year of the project
Cooperation with other initiatives Cooperation with other European and international initiatives and in particular with FIRE initiatives, are necessary to disseminate the ECO ₂ Clouds results and to promote the exploitation of the services and tools.	Quantitative	≥ 3	Europe	3 projects - CoolEmAll, All4Green for the EuroEcoDc workshop (30/09/13) and MODAClouds in Cloud Community Day event (22/07/13)	

Table 4 - Dissemination KPIs

The KPI assessment (see Table) shows that the dissemination activities have been overall performed as planned. Looking at the web site visit trends it is possible to state

that the visibility of the project is rising. Most of the visitors are located in the countries of the project partners (Italy, UK, Germany, Spain and France). The top ten locations also include United States, India, Belgium, Australia and China (see Annex 2).

The dissemination of the results in the second year aims to further increase the visibility of the ECO₂Clouds activities. The relevance of such results will be measured through the number of press echoes and articles on on-line magazines and newspapers.

6 Dissemination plan for next period M13-M24

6.1 Objectives

The period M13-24 is the second period of the project in which there will be a further consolidated version of the final results, innovations have been achieved, and research has been carried out.

In this period, besides continuing with our efforts to impact and transfer knowledge to the scientific community, actions will be concentrated on addressing potential adopters of ECO₂Clouds results, and therefore “Exploitation Marketing” will take a leader role in the dissemination roadmap. During this period the project dissemination and results transfer types should be carried out intensively to support and help exploitation marketing. Almost at the end of the project’s life, we should concentrate our efforts on translating ECO₂Clouds’ Value Proposition messages try to build support for the project sustainability once the present project is finished.

6.2 Specific and detailed action plan for second reporting period (M13-M24)

In this second period, project dissemination will continue with a series of specific dissemination actions that aim to diffuse the first results and innovative approaches of the project and make impact by transferring knowledge to scientific community. For the second year, most of the WPs intend to submit papers to conferences and journals. However, it is important to recall that this is a *plan* and that depending on the deadlines and relevant findings these actions may –or may not- take place. We have set an ambitious plan where:

- all the WPs shall publish results,
- all deliverables marked as “public” will be published and accessible on the project web,
- all publications and events will be clearly announced on social media and on our website.

Specific targeted events identified at this time are detailed in the following table:

Name, date and location of the event/journal	Target Group ¹	Objective ²	What material/topic will be disseminated ³	Partner involved ⁴
FIRE-Horizon	BonFIRE	Participation		ATOS,

¹ Which type of audience will attend the event

² Why ECO₂Clouds will be present at this event, what is the objective

³ Clarify if you will present a paper, organise a tutorial/workshop, have a booth and which type of material will be distributed

⁴ Who is the person and partner that will attend the event

2020, Ghent, October. 24, 2013	providers	in Conferences/ Events		UNIMAN, POLIMI
eChallenges (Dublin, 09 Oct 2013)	Broad technical audience	Participation in Conferences	paper	HLRS
<i>Special Session on Energy Efficient Systems</i> at IEEE SMC 2013 conference (Manchester, 13-16 Oct 2013)	Broad technical audience	Participation in Conferences	paper	UNIMAN, HLRS, POLIMI, EPCC
FIA event (planned in 2014)	Related projects, BONFire providers	Project presentation	Presentation of ECO ₂ Clouds	UNIMAN, ATOS, POLIMI
E2DC (planned in 2014)	Researchers		paper	
ECO ₂ Clouds Workshop (planned in Sept. 2014)	Broad technical audience	Dissemination and discussion of results	Workshop organized by ECO ₂ Clouds	UNIMAN

Table 5 - ECO₂Clouds dissemination events in Y2

6.3 Individual partners detailed dissemination plan

6.3.1 ATOS

ATOS has helped in the creation of dissemination plan and several dissemination materials, such as the creation of the Poster that was used for FIA 2013 event, and the newsletters produced during this year. ATOS will continue to contribute by taking advantage of its internal and external dissemination channels. ATOS plans for the future include:

- ATOS will continue contributing to the creation of scientific papers and conference presentations.
- Releasing a Press Release in the following months to promote ECO₂Clouds project and ATOS participation in the project highlighting the role of energy and carbon footprint optimization, and involvement on Programs like Zero Carbon program already in place.
- Producing a White Paper from the business perspective describing the project results and value.
- Moreover, now that the project is more mature, the dissemination of the project results from more commercial perspective gains relevance, therefore ATOS will actively participate on this task. Atos is responsible for creating the design of the website that is planned (as an exploitation path) to be used as the entry point for non-scientific-community users, with a product marketing approach.

- ATOS will participate according to exploitation intentions on reaching some stakeholders by trying to reach them and validate ideas and possible exploitation paths as described on the exploitation deliverable.

6.3.2 UNIMAN

As described in D6.1, UNIMAN is responsible for organizing two workshops at the end of each development cycle of the project. In this respect, UNIMAN has already taken the initiative to organize the first workshop as *Special Session on Energy Efficient Systems* at IEEE SMC conference (Manchester, 13-16 OCT 2013). IEEE SMC conference provides an international forum for both researchers and practitioners to report and discuss latest innovations and trends in the fields of system engineering, cybernetics and human-machine systems.

The experience gained from organizing the special session at IEEE SMC 2013 conference will help UNIMAN to organize the second event at the end of project. Where the aim of the first event (Special Session on Energy Efficient Systems) was to provide a platform for researchers and practitioners to discuss state of the art and exchange ideas about energy efficiency and reducing CO₂ footprint of ICT applications, systems as well as underlying infrastructure; the second event will focus on disseminating the results of ECO₂Clouds project and projecting their relevance and usefulness for academic, research as well as industrial domains.

In addition to event organizing, UNIMAN's dissemination activities for the upcoming period (M12-M24) include dissemination of the project results by scientific publications and participation in relevant conferences.

6.3.3 EPCC - UEDIN

EPCC at the University of Edinburgh (UEDIN) will continue to contribute to the dissemination activity through its existing communication channels. In the coming year a follow-up to the December 2012 ECO₂Clouds article will be published in the EPCC newsletter. This will be distributed both in the UK and abroad. In addition, further blog posts will be produced to publicise progress on the project. Further, EPCC will continue to contribute to scientific papers and conference presentations.

6.3.4 USTUTT

HLRS, which is part of the University of Stuttgart (USTUTT) will increase its dissemination activities within the second year of the project. The availability of first results (e.g. the monitoring infrastructure and the ECO₂Clouds scheduler) will provide a valuable basis for the further dissemination activities and the direct interaction with the target groups (customers, other centres, researchers, collaboration partners, students).

The dissemination mechanisms are planned on a wide field, reaching from Green IT Seminars, over the embedding of the Green Topic into lectures, the publication of conference and journal papers, presentations at selected events and live demonstrations to interested audience.

In the first year the green topic was embedded in the lecture "Simulation on High Performance Computers" in the engineering faculty of the University of Stuttgart. This will be extended by further ECO₂Clouds results. Furthermore the seminar series "Green

Morning” will be continued, reporting updates of the ECO₂Clouds achievements.

ECO₂Clouds will as well provide the basis for master, bachelor and diploma thesis which were already advertised as offer to the university students.

The information on the HLRS webpage will be updated as well as the flyer material which was developed internally for spreading at core events such as Supercomputing (SC 13/14) and the International Supercomputing (ISC 14).

Participation in related conferences such as the 4th international conference on Cloud and Green Computing (CGC 14, tba) or a potential follow-on to the International Conference on Energy-Aware High Performance Computing (Ena-HPC) is envisaged and will lead to respective publications.

As the “green topic” is getting more and more important also for industrial customers of the centre, HLRS will continue its activities to have bilateral discussions with those customers and to provide them early access to ECO₂Clouds potentials, also to get feedback on additional requirements.

Finally, HLRS aims to undergo within the next years the EMAS (The European Eco-Management and Audit Scheme) certification and will in this context collaborate closely with the Academy for Nature Preservation and Environmental Protection of Baden-Württemberg, also presenting activities in the domain of eco-efficient resource usage.

6.3.5 POLIMI

POLIMI will contribute to the dissemination activity by spreading results and useful knowledge through scientific papers and presentations oriented to both academic and industrial communities.

As described in 6.1, POLIMI is also responsible for the project Website and manages the project social channels (i.e., Twitter and Facebook) through which news, main project activities and results are also publicised. Dissemination will be also achieved through seminars and lectures in teaching activities by participating researchers (e.g., in the Service Technologies course, involving about 30 students during the project). Two PhD theses are developing on the subject.

6.3.6 INRIA

Inria will contribute to dissemination activities through its existing channels. In particular, ECO₂Clouds is mentioned in presentations related to the testbed strategy of Grid'5000 and in the second year of the project, Inria's publications to its different partners will be solicited to describe the results of the project. In addition, Inria will continue to contribute to scientific papers and conference presentations.

Annex 1 – Paper references

- Axel Tenschert, Michael Gienger - Cloud Federation Monitoring for an Improved Eco-Efficiency – Proceedings of eChallenges 2013
- Usman Wajid, Barbara Pernici, Gareth Francis - Energy Efficient and CO₂ Aware Cloud Computing: Requirements and Case Study – Proceedings of IEEE International Conference on Systems, Man and Cybernetics (SMC 2013)
- Cinzia Cappiello, Sumit Datre, MariaGrazia Fugini, Michael Gienger, Paco Melia', Barbara Pernici, Pierluigi Plebani, Axel Tenschert - Monitoring and Assessing Energy Consumption and CO₂ Emissions in Cloud-based Systems - Proceedings of IEEE International Conference on Systems, Man and Cybernetics (SMC 2013)
- Usman Wajid, Cesar Marin, Anthony Karageorgos - Optimizing Energy Efficiency in the Cloud Using Service Composition and Runtime Adaptation Techniques - Proceedings of IEEE International Conference on Systems, Man and Cybernetics (SMC 2013)
- Cinzia Cappiello, Pierluigi Plebani, Monica Vitali - Energy-Aware Process Design Optimization – Proceedings of EuroEcoDC workshop 2013.
- Eugen Volk, Axel Tenschert, Michael Gienger, Ariel Oleksiak, Laura Sisó and Jaume Salom- Improving Energy Efficiency in Data Centers and federated Cloud Environments - Proceedings of EuroEcoDC workshop 2013.
- Alexandre Mello Ferreira and Barbara Pernici - Using Intelligent Agents to Discover Energy Saving Opportunities within Data Centers- Proceedings of Second International Workshop on Requirements Engineering for Sustainable Systems (RE4SuSy).

Annex 2 – Web site Analytics



[Go to this report](#)

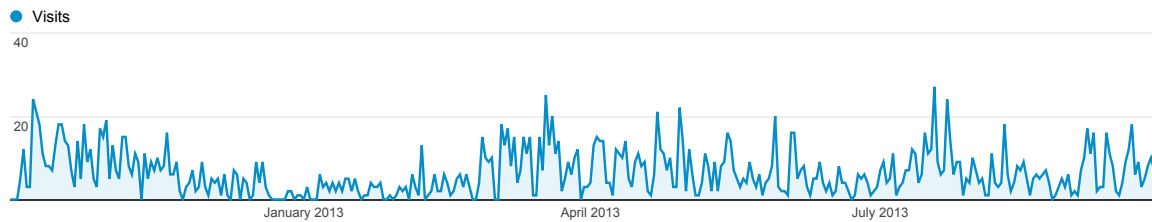
eco2clouds - <http://www.eco2clouds.polimi.it/>
eco2clouds

Audience Overview

Oct 1, 2012 - Sep 25, 2013

100.00% of visits

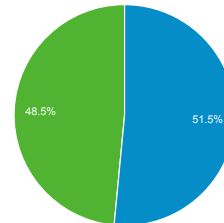
Overview



1,124 people visited this site

Visits 2,316	Unique Visitors 1,124	Pageviews 12,510
Pages / Visit 5.40	Avg. Visit Duration 00:03:10	Bounce Rate 4.75%
% New Visits 48.49%		

Returning Visitor (Blue) New Visitor (Green)



Language	Visits	% Visits
1. en-us	1,339	57.82%
2. en-gb	189	8.16%
3. es	166	7.17%
4. fr	109	4.71%
5. it-it	101	4.36%
6. it	100	4.32%
7. de-de	70	3.02%
8. de	39	1.68%
9. es-es	39	1.68%
10. zh-cn	30	1.30%

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eco2clouds - http://www.eco2clouds.polimi.it/
eco2clouds

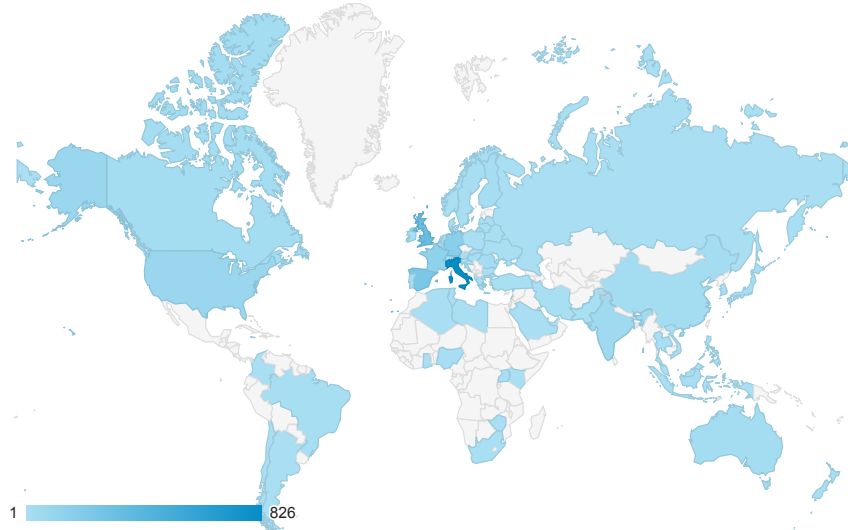
Oct 1, 2012 - Sep 25, 2013

Location

100.00% of visits

Map Overlay

Site Usage



Country / Territory	Visits	Pages / Visit	Avg. Visit Duration	% New Visits	Bounce Rate
	2,316 % of Total: 100.00% (2,316)	5.40 Site Avg: 5.40 (0.00%)	00:03:10 Site Avg: 00:03:10 (0.00%)	48.49% Site Avg: 48.49% (0.00%)	4.75% Site Avg: 4.75% (0.00%)
1. Italy	826	6.61	00:03:48	23.49%	7.63%
2. United Kingdom	337	4.27	00:03:10	42.73%	5.93%
3. Spain	238	7.16	00:03:02	35.29%	2.94%
4. Germany	168	4.22	00:03:44	63.69%	2.38%
5. France	135	4.46	00:03:53	74.81%	0.00%
6. United States	80	3.14	00:01:08	80.00%	0.00%
7. Belgium	57	4.28	00:01:16	57.89%	3.51%
8. India	55	5.73	00:03:05	92.73%	1.82%
9. Canada	32	2.81	00:00:06	59.38%	0.00%
10. China	31	3.68	00:02:47	70.97%	0.00%

Rows 1 - 10 of 71

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