

Action E1: Project management and monitoring of the project progress

<i>Beneficiary responsible</i>	<i>Status</i>
ASA	On going

<i>Time schedule per Annex I</i>	<i>Starting date</i>	<i>End date</i>
36 Months	July 2014	June 2017

<i>Real time schedule</i>	<i>Starting date</i>	<i>End date</i>
17 Months	July 2014	On going

ASA as the Coordinating Beneficiary (ASA), is in charge of providing effective management of the project, and being the main link between the other beneficiaries and the Commission and the LIFE+ External Monitoring Team.

As specified on the Inception Report, the project associated beneficiaries (AGUA, ESAMUR and GRG) have been involved from the beginning of the project and have supported the Coordinating beneficiary from all points of view (technical, financial and dissemination). All details regarding implementation of this Action have been described in the above section 4 (Administrative part).

Description of the management system

The project management system of LIFE RENEWAT is structured basically under the development of Action E1: *Project management and monitoring of the project progress*.

In this sense, the operational management structure of the project is established taking into account: technical, financial and dissemination aspects of the project.

Action E1 is leaded by ASA being Mr. José Daniel GARCÍA ESPINEL the Project Coordinator.

The Management Board (MB) of LIFE RENEWAT has become one of the most important bodies of the consortium for decision making regarding the execution of the project activities and also for project monitoring and risk management. The MB is chaired by the Project Coordinator, and formed by the projects’ responsible of every participating institution:

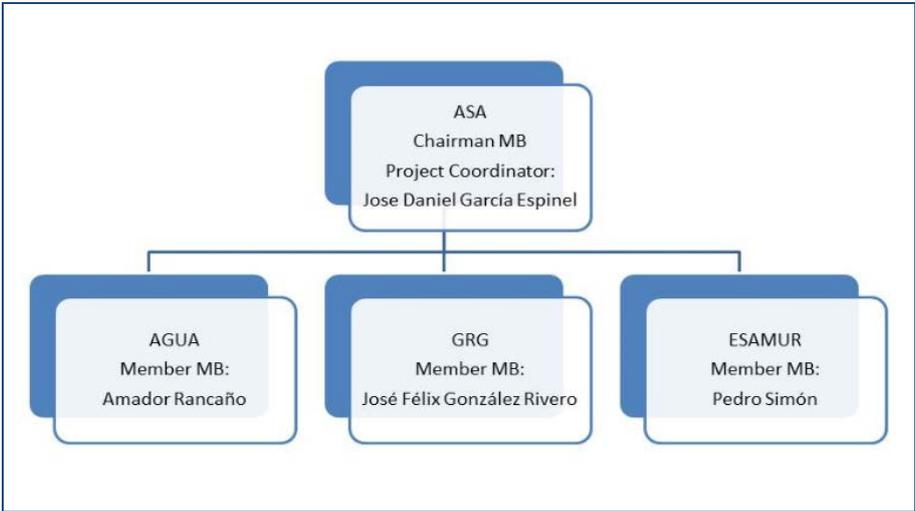


Figure 1: LIFE Renewat Management Board

Then, to facilitate the Project Manager and the MB the correct control and implementation of the project, Action E1 is divided into two tasks:

- Task E1.1 Project management
- Task E.1.2 Project monitoring

By task E1.1 several issues are taken into account: contractual, technical, financial and operational issues. Consequently, the project coordinator jointly with the MB discusses each aspect that may arise.

Besides, a project management guidelines deliverable was prepared and sent with the Inception Report. This guide has been set up as a powerful tool to facilitate operational, financial and organisational aspects of the project between partners.

Furthermore, by task E.1.2 the project is regularly monitored ensuring that deadlines for deliverables and milestones are met, including risk management. To this purpose, technical, financial and performance indicators for progress have been established and monitored.

The different actions of the project are divided coinciding with the different project phases of LIFE RENEWAT. These phases have been monitored consequently:

These phases have been monitored consequently:

A. Preparatory actions:

- *A.1 Parametrization of the potential input from renewable energy sources, and operational and aeration control consumption cost*

B. Implementation actions:

- *B.1 Design of the demonstrator*
- *B.2 Construction of the renewable energy power plants*
- *B.3 Integration of the high-efficiency aeration system in the biological reactor*
- *B.4 Adjustment of the mathematical model and algorithms for energy efficiency*
- *B.5 Integration of the new energy-efficiency elements in the control system software*
- *B.6 Demonstration action*
- *B.7 Validation of the demonstration*
- *B.8 Economical feasibility study*

C. Monitoring of the impact of the project actions:

- *C.1 Monitoring of the environmental impact of the project*
- *C.2 Monitoring of the socio-economic impact of the project*

D. Communication and dissemination actions:

- *D.1 Dissemination of the project results*

E. Project management and monitoring of the project progress:

- *E.1 Project management and monitoring of the project progress*
- *E.2 Networking activities*
- *E.3 After LIFE+ Communication Plan*

LIFE RENEWAT lasts 36 months (since 01/07/2014 to 30/06/2017). Below, it is shown the current planning of the project:

It is also shown, organization chart of the project management team per partner:

ASA project team:



Figure 2ASA Project Team

AGUA project team:

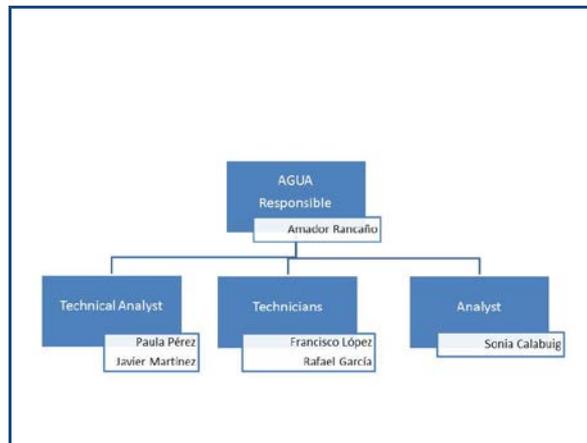


Figure 3AGUA Project Team

ESAMUR and GRG project teams:

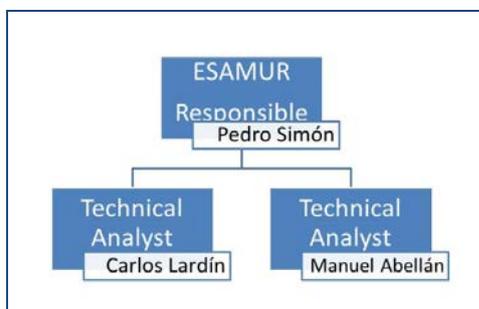


Figure 4: ESAMUR and GRG Project Teams

The project associated beneficiaries (AGUA, ESAMUR and GRG) are involved from the beginning of the project in project management supporting Coordinating beneficiary; no problems have arisen up to now.

LIFE RENEWAT webpage counts on a private area to make easier the communication and documents distribution between partners.

Since the start of the project several meetings have been carried out between partners to manage the execution in the detail of the actions and tasks of the project, not only from a technical view but also administrative. In the following table is shown the list of the main meetings held:

Nº	Date	Description
1	16/07/2014	Kick of Meeting was organised the first month of the in order to know the basic lines to be tackled during the project execution, explain the different responsibilities of the partners and to establish the communication channel of the project
2	10/09/2014	LIFE PROJECTS kick-off meeting. Jose Daniel García Espinel, Carlos Egea
3	1/10/2014	Technical meeting: ASA partner Visit to the demonstrator location
4	10/12/2014	ACCIONA S.A. (Carlos Egea Ruiz) and GRG (Juan Duñabeita and Jose Félix González Rivero). The purpose of this meeting was to show the water treatment plant to the Engineers from GRG in order to evaluate the feasibility of the different actions on the project location
5	16/12/2014	ACCIONA AGUA (Amador Rancaño Pérez), ACCIONA SA. (Jose Daniel García Espinel, Carlos Egea Ruiz and Andrés López-Aranguren) and ESAMUR (Pedro Simón, Manuel Abellán and Carlos Lardín). During this meeting the renewable energy hybrid systems technology was explained
6	21/01/2015	EMT First Mission took place at ARCHENA's facilities. All partners attended the meeting
7	15/04/2015	Monitoring and supervision meeting. All partners.
7	26/05/2015	Monitoring and supervision meeting to WWTP facilities. ASA, AGUA and ESAMUR
8	7-8/07/2015	Monitoring and supervision meeting to WWTP facilities. All partners
9	19-20/07/2015	GRG
10	13/10/2015	Mid Term Report preparation. Audio-conference
11	09/03/2016	Indicators Preparation Audio-conference
12	20/04/2016	2 nd Supervisión European Commission Visit preparation Audio conference.
13	05/05/2016	2 nd Supervisión European Commission Visit preparation data update Audio conf.

Table 1Renewat main meetings

In addition, technical visits took place during 2015 to the WWTP facilities in order to follow the construction of the pilot plant and solve the incidences that may occur related to Action B2, B3, B4 and B5.

There has been continuous communication between all the beneficiaries of the project (ASA, AGUA, ESAMUR, and GRG) regarding project managing. This communication has been carried out through e-mail and phone calls, apart from the technical meetings mentioned before. All the beneficiaries have reviewed and agreed the Project Management Guidelines, and have actively participated on drafting of this report.

Finally, it is important to mention that since the start of the project, not problems regarding management issues has happened. The project is smoothly running.

The partnership Agreement was signed by all partners on 13th of October 2014 and submitted with the Inception Report.

Evaluation of the management system

Management Board was constituted and confirmed since the kick off meeting as the main body responsible of decision making. Furthermore, all management activities are coordinated so as to implement the Project Management process. Since the very beginning, this management process has been followed without any problem by all partners. Regular meetings when needed so as to review tasks progress as well as to plan the following steps have allowed the partners to obtain an updated framework of the project implementation, general progress and next actions.

Although, some actions have been modified from the foreseen planning, the project management has facilitated the implementation ensuring the achievement of the expected results of those actions.

Except of these mentioned changes, no substantial problem has raised. GRG has been involved in action B2 to ensure the improvement proposed by the provider. Each partner has a specific role in the different actions of the project. Besides, the good communication between partners has also provided a success in the conclusion of the different tasks and actions. Furthermore, the Management process includes a monitoring process (Task E.1.2 of Action E1) to review periodically the implementation of the project.

So, we are able to indicate that the management system adopted has been generally successful.

The partnership Agreement is also a reference document that has served all partners in the management of the project. Roles and obligations of partners or financial obligations, constitutes important articles to be followed by beneficiaries.

To summarize, at this stage of the project, no problems were encountered in the management of LIFE RENEWAT, and no significant deviation was made from the arrangement in the partnership agreement.

Finally, we would like to mention that ACCIONA SA as Coordinating Beneficiary exercises his responsibility keeping the contacts with the EC and the external monitor, and informing partners about specific requests and communication to/from EC. In this sense, frequent contacts with our External Monitor (Raquel Navarrete) that monitor the activities and solve doubts arisen during this period.

We had a First monitoring visit in January 2015. During the visit we received specific recommendation concerning financial issues and LIFE Programme requirements. The Inception Report was done in March 2015 and approved by the EC, see Annex 7.2.10.

EC communications and requests.

During the first 17 months of project execution, different communications and requests have been received from the EC. The communications with the EC have been the following. In Annex 7.1.3 a list of communications and requests can be found.

- Spanish LIFE Kick-Off Meeting

The EC invited two members of LIFE-RENEWAT, Carlos Egea and Jose Daniel Garcia Espinel, to the Spanish LIFE Kick-Off Meeting. Carlos and Jose Daniel assisted the meeting.

- External Monitoring Visit.

The External Monitoring Team visited Archena the 21st January 2015. Along with the EMT mission, the Commission send a list of requests to be implemented and taken into account for the Inception Report preparation.

- Inception Report

The Inception Report was accepted by the Commission. However, the EC requested to include and complete with relevant information the following core content pages: Description of the project, Update on the progress, News, Documents, Photo gallery, Links, Contacts and Date of the last update.

All the requested information was completed, as can be seen in the different LIFE RENEWAT website sections.

- Changes to the template for financial reporting

During June 2015, the Commission notified the templates changes for the financial reporting. All the changes have been implemented in the present MidTerm Report.

- Midterm Report

The Midterm Report was accepted by the Commission. However, the EC requested to include and complete with relevant information the following core content pages: Description of the project, Update on the progress, News, Documents, Photo gallery, Links, Contacts and Date of the last update.

All the requested information was completed, as can be seen in the different LIFE **RENEWAT website sections**.

At the same time, the following planned Milestones have been achieved:

Milestone	Foreseen Deadline	Effective Deadline
Demonstrator design is completed (B1)	31/12/2014	19/12/2014
Dissemination elements have been produced (D1)	31/12/2014	19/01/2015
Parameterization is completed (A1)	31/12/2014	19/12/2014
Signed consortium agreement (E1)	31/12/2014	15/10/2014
Approved Inception Report (E1)	30/03/2015	10/06/2015
All equipment is correctly installed and working (B3)	30/06/2015	02/07/2015
The solar and wind power facilities are concluded and validated (B2)	30/06/2015	30/06/2015
Implementation of the Nitrogen control algorithm in the Plant SCADA is completed (B4)	31/07/2015	30/07/2015
Algorithm included in the WWTP SCADA, and change is effective in the process control for the aeration stage (B5)	30/09/2015	24/09/2015
Approved Midterm Report	31/01/2016	13/05/2016

And the next Key deliverables have been submitted:

<u>Action Related</u>	<u>Name of the Deliverable</u>	<u>Delivery Date</u>
<u>E 1</u>	<u>Project Management Guidelines</u>	<u>31/08/2014</u>
<u>D 1</u>	<u>Project corporate image</u>	<u>31/08/2014</u>
<u>D 1</u>	<u>Communication and dissemination plan</u>	<u>30/09/2014</u>
<u>D 1</u>	<u>Project Website</u>	<u>30/09/2014</u>
<u>D 1</u>	<u>Noticeboards and updates (posters)</u>	<u>31/12/2014</u>
<u>D 1</u>	<u>Project brochure in English and Spanish</u>	<u>31/12/2014</u>
<u>A 1</u>	<u>Report on the parameters and data of the energy sectors of the WWTP (demand and operational patterns)</u>	<u>31/01/2015</u>
<u>A 1</u>	<u>Report on the parameters of the potential energy input from renewable sources and the design of the better energy mix</u>	<u>31/01/2015</u>
<u>B 1</u>	<u>Technical specifications and plans for the demonstrator, including the RES facility, efficient aeration system, control system software and the mathematical models and algorithms</u>	<u>31/01/2015</u>
<u>E 1</u>	<u>Inception Report</u>	<u>01/03/2015</u>
<u>B 2</u>	<u>Report on Final validation report of the solar power facility</u>	<u>30/07/2015</u>
<u>B 2</u>	<u>Report on Final validation report of the wind power facility</u>	<u>30/07/2015</u>
<u>B 3</u>	<u>Consumption graphs previous to the installation of the high efficiency equipment</u>	<u>31/07/2015</u>
<u>B 3</u>	<u>Electric energy consumption report</u>	<u>31/07/2015</u>
<u>B 3</u>	<u>Equipment maintenance reports, to show maintenance costs compared to the previous ones</u>	<u>31/07/2015</u>
<u>B 4</u>	<u>Report on the output of Nitrogen compounds</u>	<u>31/08/2015</u>
<u>B 5</u>	<u>Consumption report for the aeration stage</u>	<u>30/10/2015</u>
<u>B 5</u>	<u>Corrective maintenance Report (in case of failure) in aeration equipment</u>	<u>30/10/2015</u>
<u>E 1</u>	<u>Mid-term Report</u>	<u>01/12/2015</u>
<u>B 6</u>	<u>Report on the first six months demonstration phase</u>	<u>31/03/2016</u>
<u>E 1</u>	<u>Progress Report</u>	<u>01/08/2016</u>
<u>B 6</u>	<u>Report on the demonstration action</u>	<u>30/09/2016</u>
<u>B 8</u>	<u>Economic feasibility study</u>	<u>31/10/2016</u>
<u>B 7</u>	<u>Validation report</u>	<u>30/11/2016</u>
<u>D 1</u>	<u>2 demo videos in English and Spanish</u>	<u>31/12/2016</u>
<u>E 2</u>	<u>Networking activities report</u>	<u>31/05/2017</u>
<u>E 3</u>	<u>After LIFE Dissemination Plan</u>	<u>30/06/2017</u>
<u>C 1</u>	<u>Environmental Impact Assessment Report</u>	<u>30/06/2017</u>
<u>D 1</u>	<u>Final dissemination report</u>	<u>30/06/2017</u>
<u>C 1</u>	<u>Historic Graphs shown in data portal access</u>	<u>30/06/2017</u>
<u>D 1</u>	<u>Layman's report</u>	<u>30/06/2017</u>
<u>C 2</u>	<u>socio-economic impact Assessment Report</u>	<u>30/06/2017</u>
<u>E 1</u>	<u>Final Report</u>	<u>31/07/2017</u>

Table 2 Key deliverable list

*In red Deliverables not submitted yet.

Action E2: Networking activities

<i>Beneficiary responsible</i>	<i>Status</i>
ASA	On going

<i>Time schedule per Annex I</i>	<i>Starting date</i>	<i>End date</i>
24 Months	July 2015	June 2017

<i>Real time schedule</i>	<i>Starting date</i>	<i>End date</i>
5 Months	July 2015	On going

Action E2 related with Networking activities started in July 2015 and it will last till the project ends. This networking will permit to exchange experiences and establish synergies with positive repercussions. In case that some projects are detected treating similar problems, it may be contemplated to create a European network on the topic involving all partners and high number of stakeholders for looking common solutions to the demanded questions.

ASA is the beneficiary responsible for the implementation of this action, but all beneficiary partners will collaborate together for establishing a great network with other LIFE projects.

As stated in the proposal, some indicators of progress were set: It will be expected to contact 5 projects related with RENEWAT and 10 projects involved on the European Network.

The following European projects LIFE12 and LIFE13 are being developed by ACCIONA Agua, which is also a partner on this project. Therefore, there is great contact with these project's responsible and therefore networking activities are being done easily.

1. BRAINYMEM

- Project Name: "Advanced-control MBR for wastewater reclamation"
- Project Code: LIFE13 ENV/ES/000160
- Contact person: Juan Baron juan.baron.segarra@acciona.com
- Webpage: <http://life-brainymem.com/>

2. OFREA

- Project Name: "Reutilización eficiente de agua en zonas costeras mediante desalinización avanzada"
- Project Code: LIFE12 ENV/ES/000632
- Contact person: Juan Baron juan.baron.segarra@acciona.com
- Webpage: <http://www.life-ofrea.com/>

LIFE RENEWAT webpage includes a section called "Our LIFE" that includes a reference to those projects: <http://life-renewat.com/en/renewat-nuestros-life.aspx>



Figure 5 LIFE Renewat networking section



Figure 6 LIFE Renewat networking section

On the other hand, Brainymem webpage includes a reference to LIFE RENEWAT: <http://life-brainymem.com/>

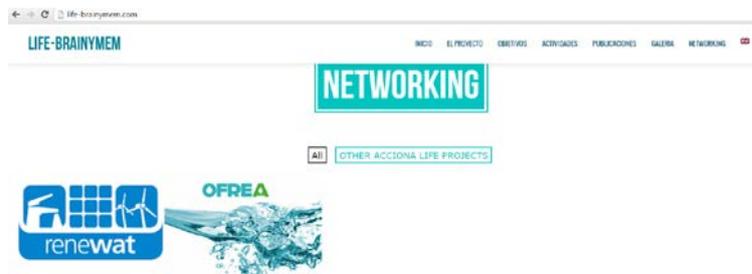


Figure 7 LIFE Brainymem networking section

In addition, the following LIFE projects has been already identified and referenced on RENEWAT webpage:

3. WaterReuse
 - Project Name: ***“Improving water management efficiency at industries with organic load”***
 - Project Code: *LIFE12 ENV/ES/000184*
 - Contact person: Miguel Ayuso waterreuse@ctnc.es
 - Webpage: www.waterreuse.eu

<http://www.watereuse.eu/index.php/es/networking>

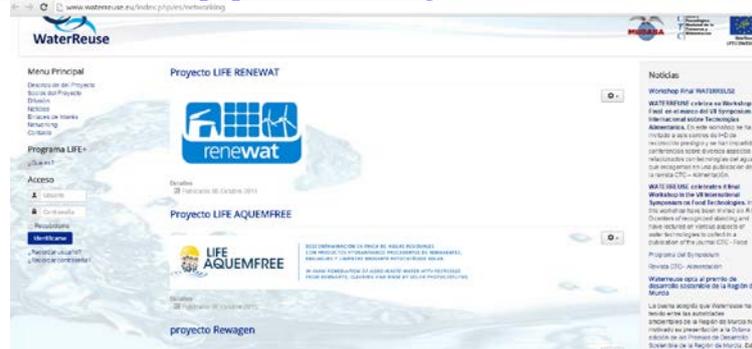


Figure 8 Waterreuse networking

The following 5 projects have been selected as the ones which have more similarities or similar project theme than RENEWAT and within next month the infographic generated for networking will be send to their contact person. The idea is to fully understand their project, send them all information required from RENEWAT, visiting their project and inviting them to visit our WWTP:

4. LIFE RELEACH

- Project Name: “Decreasing the environmental impact of waste management: An innovative leachate treatment using recovered membranes.”
- Project Code: LIFE13 ENV/ES/000970
- Contact person: Juanjo Martí, international@ctm.com.es
- Webpage: <http://releach.ctm.com.es/en>

5. MEMORY

- Project Name: “Membrane for Energy and water recovery”
- Project Code: LIFE13 ENV/ES/001353
- Contact person: Frank Rogolla mdstorchg@fcc.es
- Webpage: <http://www.life-memory.eu/>

6. FACTORY MICROGRID

- Project Name: “Membrane for Energy and water recovery”
- Project Code: LIFE13 ENV/ES/000700
- Contact person: Miguel Angel Carrero miguelc@jofemar.com
- Webpage: <http://www.factorymicrogrid.com/es/>

7. ZAESS

- Project Name: “Demonstration of a low cost and environmentally friendly Zinc Air Energy Storage System for renewable energy integration”
- Project Code: LIFE13 ENV/ES/001159
- Contact person :Ángel Galindo Carbajo agalindoc@trsa.es
- Webpage: <http://www.zaess.eu/?lang=es>

8. LIFE Coop 2020

- Project Name: “LIFE Coop 2020: pilot for rural smart grids through optimisation of energy use and innovative renewable biomass sources”
- Project Code: LIFE13 ENV/ES/001513
- Contact person : Ángel Galindo Carbajo, agalindoc@trsa.es
- Webpage: <http://coop2020.eu/>

During the project duration there has been some contact with the following European projects for networking. There are many projects not related with RENEWAT, but it will be published their LOGO in our webpage so people can access to their webpage if interested.

An infographic is currently being prepared for sending it to each selected project responsible and inviting them to establish a network

9. BIOBALE

- Project Name: “ *Development of a cogeneration demonstration plant from biomass forest bales*”
- Project Code *LIFE13 ENV/ES/000923*
- Contact person Rosa Patricia, patricia@tuinsa.com
- Webpage: <http://biobale.com/>

10. INTEGRAL CARBON

- Project Name: “ *Desarrollo e implementación integrada de fotobiorreactores de captura de gases de efecto invernadero en agroindustria*”
- Project Code *LIFE13 ENV/ES/001251*
- Contact person Jordi, transferubu@ubu.es, igonzalez@bpeninsular.com
- Webpage: www.integralcarbon.eu

11. TL-BIOFER

- Project Name: “ *Nutrients and regenerated water recycling in WWTPs through twin-layer microalge culture for biofertilizers production*”
- Project Code *LIFE13 ENV/ES/000800*
- Contact person Inmaculada González igonzalez@bpeninsular.com
- Webpage: www.life-tlbiofer.eu

12. REWIND

- Project Name: “ *Profitable small scale renewable energy systems in agrifood*”
- Project Code *LIFE13 ENV/ES/000280*
- Contact person Javier Carroquino, javier.carroquino@unizar.es
- Webpage: <http://www.liferewind.eu/>

13. Aquemfree

- Project Name: “ *In-Farm remediation by solar photocatalysis of agro-waste water with pesticides from remnants, cleaning and rinse*”
- Project Code *LIFE13 ENV/ES/000488*
- Contact person Miguel Ángel Fernández miguela.fernandez4@carm.es
- Webpage: www.life-aquemfree.eu .

14. GREEN TIC

- Project Name: “ *Reducing CO2 footprint of Information and Communication Technologies*”
- Project Code *LIFE12 ENV/ES/000222*
- Contact person lifegreentic@patrimonionatural.org.
- Webpage: <http://mihuellatic.lifegreentic.eu/>

15. REGENERA LIMIA

- Project Name: “Development of demonstrative solutions to reduce the water contamination of agrarian origin in the Limia basin”
- Project Code: LIFE13 ENV/ES/000227
- Contact person: Alberto de Anta Montero, adeanta@chminosil.es
- Webpage: <http://regeneralimia.org/>

16. ECOdigestion

- Project Name: “Automatic control system to add organic waste in anaerobic digesters of WWTP to maximize the biogas as renewable energy”
- Project Code: LIFE13 ENV/ES/000377
- Contact person: Gloria Fayos, avsa.idi@aguasdevalencia.es
- Webpage: <http://ecodigestion.com/>

Summarizing RENEWAT project beneficiaries will do some kind of networking with at last the 16th projects stated before during the project duration.

Action E3: After LIFE+ Communication Plan

<i>Beneficiary responsible</i>	<i>Status</i>
ESAMUR	Not Started

<i>Time schedule per Annex I</i>	<i>Starting date</i>	<i>End date</i>
3 Months	April 2017	June 2017

<i>Real time schedule</i>	<i>Starting date</i>	<i>End date</i>
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The Time schedule per Annex I, is referred to the elaboration of the After LIFE Communication plan.

The after LIFE communication plan will be created taking into account Common Provisions of Life+ Program.