



**ECO-INNOVATION**  
WHEN BUSINESS MEETS THE ENVIRONMENT

**CIP Eco-innovation  
Pilot and market replication projects  
Call 2012**

Call Identifier: CIP-EIP-Eco-Innovation-2012

**Exploitation and replication plan to enhance  
integrated eco-innovation towards conventional  
horticulture and aquaculture industries in the EU  
D5.4**

**Ecoponics  
Contract ECO/12/332783/SI2.656985**

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Project website: <http://aquaponics.is/ecoponics/>**



The EcoPonics group has actively presented the results from the aquaponics pilot plants to end consumers but also directly to conventional horticulture and aquaculture industries. The results show that aquaponics is a sustainable food production system capable of producing high quality products in a combined system of aquaculture and hydroponics, saving energy, water and nutrients. Thus, the focus in the next phase will be to develop further the decoupled aquaponics technology and expand the current units built within EcoPonics and market the technology as well as the products. The group has been actively leading international collaboration on developing aquaponics i.e. through the COST Action EU Aquaponics Hub and the recently founded Association of Commercial Aquaponics Companies (ACAC). This work will continue after the end of EcoPonics.

One of the main challenges for future aquaculture is to minimize nutrients in the effluent water and make nutrient rich sludge into a valuable resource e.g. as fertilizer for plants or as feed for crayfish or insects (protein production). The requirements to aquaculture is increasing and more companies are voluntarily applying for sustainability certifications e.g. according to the Aquaculture Stewardship Council (ASC) standards. One of the main criteria for obtaining these certifications is to meet strict requirements concerning minimizing release of nutrients to the environment. Aquaponics and other Integrated Multi-Trophic Aquaculture (IMTA) methodologies are therefore of increased interest for today's aquaculture companies.

Horticulture companies are reaching out for organic fertilizers and find it interesting to use fish effluent water and sludge for their production. In some cases horticulture companies are also looking for new income possibilities including e.g. byproducts or tourism into their business.

One of the main results from the EcoPonics project are the pilot units based on modern methodologies from both Recirculating Aquaculture System (RAS) and hydroponics. This has resulted in an increased interest from technology providers as well as aquaculture and horticulture companies. This includes also surveillance systems where there is a need to join monitoring solutions from aquaculture and horticulture into one simple system. Breen has worked with Suña Isurki provider of Profilux monitoring and surveillance equipment. Together the companies have implemented a monitoring system for combined production of plants and fish.

The aquaponics modules implemented have been presented to horticulture, aquaculture and other businesses in Europe and around the world through presentations at conferences and seminars and with direct contacts to businesses and business associations. This work will proceed further after the project ends. Very few large or semi-large scale aquaponics units exist in Europe today but the interest is increasing not least from large industries. Breen, IGFF and Svinna have all been actively inviting stakeholders and the public to learn about aquaponics and the interest has been huge with visits from governmental entities, local authorities, public and private companies. Svinna and IGFF have received visits from several hundreds of people and as an

example Breen with the largest aquaponics facility has in 2015 and 2016 received visits from the following groups in total around 1,000 people from all over the world:

<b>DATE</b>	<b>GROUPES / ENTITIES / COMPANIES...</b>	<b>No. OF PEOPLE</b>	<b>ORIGIN</b>
26/01/2015	Txileko arduradunen bisita / Visit from Chile	8	Chile
29/01/2015	Ecuadorreko Delegazioaren bisita / Visit of the delegation of Equator	8	Equador
30/01/2015	Finlandiarren bisita / Visit from Finland	10	Finland
04/02/2015	Barzelonako Unibertsitatea/ University of Barcelona	22	Spain
11/02/2015	Vetibac Chile / Vetibac Chili	10	Chile
11/02/2015	Ongi etorri ingurumena eta Lurralde Politika / Visit from the Basque Government	3	Spain / Basque Country
26/02/2015	Ongi etorri Katalunia / Visit from Catalunya	22	Spain
27/02/2015	Ongi etorri Ikaslan, Hetel, Aice	32	Spain / Basque Country
11/03/2015	Welcome Namibia	10	Namibia
11/03/2015	Txiletar ikasleak (Tartanga)/ Students from Chili	14	Chile
23/03/2015	Zuzendaritza kontseilua (Sailburu ordetza+kontseilaritza) / Gouvernement Basque	9	Spain / Basque Country
23/03/2015	EPA Berritzegune Nagusiko Orientatzaile bisita	7	Spain / Basque Country
20-24/04/2015	Poland Group	10	Poland
29/04/2015	Delegation from Northern Ireland	3	Northern Ireland
07/05/2015	Ogasun eta fiantza saileko bisita / Gouvernement Basque	5	Spain / Basque Country
10/06/2015	Urteurrena / Aniversary	50	Spain / Basque Country
15/06/2015	Urteurrena / Aniversary	100	Spain / Basque Country
19/06/2015	Bavierako bisitaldia / Visit from Baviera	7	Bavaria
29/06/2015	Pontificia Universidad Católica de Chile / University of Chili	8	Chile
15/07/2015	Ongi etorri Tianjineko ikasleak / Students from Tianjin	9	Tianjin
04/09/2015	EJ-ko kanpo ekintza bilera / Gouvernement Basque	8	Spain / Basque Country

08/09/2015	Jon Maya bisita	2	Spain / Basque Country
09/09/2015	Tecnalia, Tecnologia de los alimentos / Visit from Tecnalia	5	Spain / Basque Country
11/09/2015	Venentin Garcia/Roberto San Nicolas	2	Spain / Basque Country
14/09/2015	Bidemedia		Spain / Basque Country
16/09/2015	Cederna Garalur		Spain / Basque Country
18/09/2015	Albaola		Spain / Basque Country
22/09/2015	Finja		Sweden
22/09/2015	Ipar Irlandako Delegazio baten bisitaldia / Visit of the delegation of North Ireland	6	North Ireland
24/09/2015	Impact Hub		
29/09/2015	Croeso i DDIRPRWYAETH O GYMRU – Delegación de Gales / Visit of the delegation of Wales	10	Wales
29/09/2015	Gaizka Aranguren		Spain / Basque Country
01/10/2015	Arabia Saudi	9	Arabia Saudi
01/10/2015	Mejekarren Bisita / Visit from Mexico	8	Mexico
02/10/2015	Argentina Responsable de Universidad / University of Argentine	1	Argentine
02/10/2015	Universidad Federico Santamaria de Chile visita / Visit from university of Chili	6	Chile
06/10/2015	Bioetxe		Spain / Basque Country
06/10/2015	Albaola		Spain / Basque Country
5-7/10/2015	Ipar Irlandako Delegazio baten bisitaldia / Visit of the delegation of North Ireland	7	North Ireland
15/10/2015	Fermin Olabe (Nafarroako Gobernua) / Government of Navarra		Spain / Basque Country
16/10/2015	Bidemedia		Spain / Basque Country
26/10/2015	Lycée St-Joseph, Hasparren	2	France

05/11/2015	Frantzesen bisita	4	France
05/11/2015		1	
12/11/2015	Ethazi gela	3	Spain / Basque Country
16/11/2015	Tianjin bisitaldia	8	Tianjin / China
18-19/11/2015	Usach-eko irakasle baten bisita	1	Chile
20/11/2015	Bisita Delegación Territorial de EDUCACIÓN (Almería)	6	Almería / Spain
23/11/2015	Frantzia (apprentis d'auteuil)	1	France
23/11/2015	Bisita DUOC (Chile)	3	Chile
27/11/2015	Confebask	11	Confebask Spain / Basque Country
04/12/2015	Bidasoako Irakasle ta ikaasle	30	Basque Country
09/12/2015	Delegación	3	Valencia / Spain
09/12/2015	Delegación	3	Baleares /Spain
09/12/2015	Easotik bisita	5	Spain / Basque Country
11/12/2015	Kataluña eta Kantabria	12	Cataluña y Cantabria
11/12/2015	Kataluña	2	Cataluña / Spain
15/12/2015	City of Glasgow College	5	Scotland, UK
16/12/2015	Najera	41	La Rioja /Spain
16/12/2015	Elizbarrutiko ikastetxeak	19	Bizkaia /Basque Country
17/12/2015	Northink College. Welcome to Tknika	3	Cape Town / South Africa
<b>TOTAL</b>		<b>574</b>	

<b>DATE</b>	<b>GROUPES / ENTITIES / COMPANIES...</b>	<b>N. OF PEOPLE</b>	<b>ORIGIN</b>
12/01/16	CIFP USURBIL	9	Spain / Gipuzkoa
12/01/16	CIFP BIDASOA	12	Spain / Gipuzkoa

14/01/16	Urnietako Salesianoak	4	Spain / Gipuzkoa
14/01/16	Led y spa	3	Spain / Gipuzkoa
18/01/16	Papresa	2	Spain / Gipuzkoa
19/01/16	IES Itsasmendikoi FRAISORO	6	Spain / Gipuzkoa
25/01/16	Gipuzkoa Garaile	4	Spain / Gipuzkoa
25/01/16	Comité de dirección i-Sare	6	Spain / Gipuzkoa
27/01/16	Espace Project (EU)	18	Europe
27/01/16	IRUNGO LA SALLE	17	Spain / Gipuzkoa
27/01/16	CEINPRO	2	Spain / Gipuzkoa
27-28/01/2016	Lanbide ikastaroa eta bisita	25	Spain / Gipuzkoa
28/01/16	Visita Consejeros Estado	28	Spain
28/01/16	EAEko LHaren aurkezpena	28	Spain / Basque Country
02/02/16	MURGIAKO ESKOLA	3	Spain / Basque Country
03/02/16	ITSAS MENDIKOI PASAIA	4	Spain / Basque Country
03/02/16	MONTE ALBERTIA	3	Spain / Gipuzkoa
04/02/16	Tabakalera bisita	5	Spain / Gipuzkoa
10/02/16	Tknika bisita	25	Spain / Gipuzkoa
15/02/16	EHU bisita	2	Spain / Gipuzkoa
17/02/16	DON BOSCO	14	Spain / Gipuzkoa
18/02/16	Eibarreko orientatzaileen bisita	12	Spain / Gipuzkoa
18/02/16	Tknika zentroa ezagutzea	14	Spain / Gipuzkoa
19/02/16	Elorrieta-Erreka Mari ikastetxeko ikasle talde bat	14	Spain / Basque Country
02/03/16	EASO	17	Spain / Gipuzkoa
03/03/16	Universidad de la Frontera Chile	4	Chile

07/03/16	Minesota	5	EEUU
15-16/03/2016	Alcoy (Alicante) ikastetxeko bisita	3	Spain
16/03/16	MIGUEL ALTUNA	9	Spain / Gipuzkoa
22/03/16	GAIA bisita	15	Spain / Gipuzkoa
07/04/16	Txiletar ikasleen bisita / Students from Chile	50	Chile
08/04/16	Toulouseko institutu baten zuzendariaren bisita / Director of VET centre of Toulouse	4	France
20/04/16	Lasarteko orientatzaileen bisita	6	Spain / Gipuzkoa
20/04/16	Bisita Erasmus-Portugal	3	Portugal
25/04/16	Yrkesakademin i Österbotten ikastetxeko bisita, Vaasa, Finlandia	1	Finland
05/05/16	Ner group bisita	6	Spain / Gipuzkoa
06/05/16	Gipuzkoako Aldundiko bisita – Diputación Foral de Gipuzkoa	3	Spain / Basque Country
17/05/16	Holandako Groningen Alfa Colleague	2	Hollande
02/06/16	Bisita Don Bosco ikasle talde bat	12	Spain / Gipuzkoa
	<b>TOTAL</b>	<b>394</b>	

We are aware of several aquaponics systems that have been set up after visits to our facilities and we have received requests for information and on designing and implementing aquaponics systems from different places in the world. Our Aquaponics Guidelines published in 2015 is available online and has been downloaded more than 2,000 times which shows the emerging interest in aquaponics worldwide.

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