

INRES

***IN**sular regions cooperation for maximising the
environmental and economic benefits from the research in
Renewable Energy Sources*

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Director, Science & Technology Park of Crete, GR,

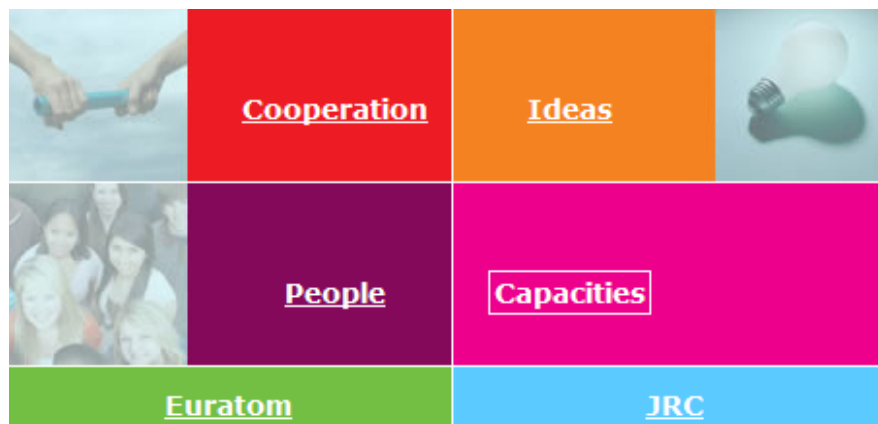
**4th International Scientific Conference
on Energy and Climate Change, 13-14 October 2011, Athens, GR**



The context



INRES is a *Support Action* under the Regions of Knowledge initiative (FP7 Capacities)



Call: FP7-REGIONS-2008-1

Topic: Regional contributions to the reduction of CO2 emissions

Duration: 36 months
April 2009 – March 2012

Budget: 982.036,00 €
EU contribution: 869,184.78 €

Capacities

Regions of knowledge

→ Find [calls](#) for this theme

Objectives

The 'Regions of knowledge' initiative aims to strengthen the research potential of European regions, in particular by encouraging and supporting the development, across Europe, of regional 'research-driven clusters', associating universities, research centres, enterprises and regional authorities.

- Capacities Home
- Research infrastructures
- Research for the benefit of SMEs
- Regions of knowledge
- Research potential of Convergence Regions
- Science in society
- Support to the coherent development of research policies
- International



European objectives



Two objectives for all European regions:

Strengthen their capacity for
investing in RTD and carrying
out research activities

Produce research strategies
that contribute
to regional economic
development

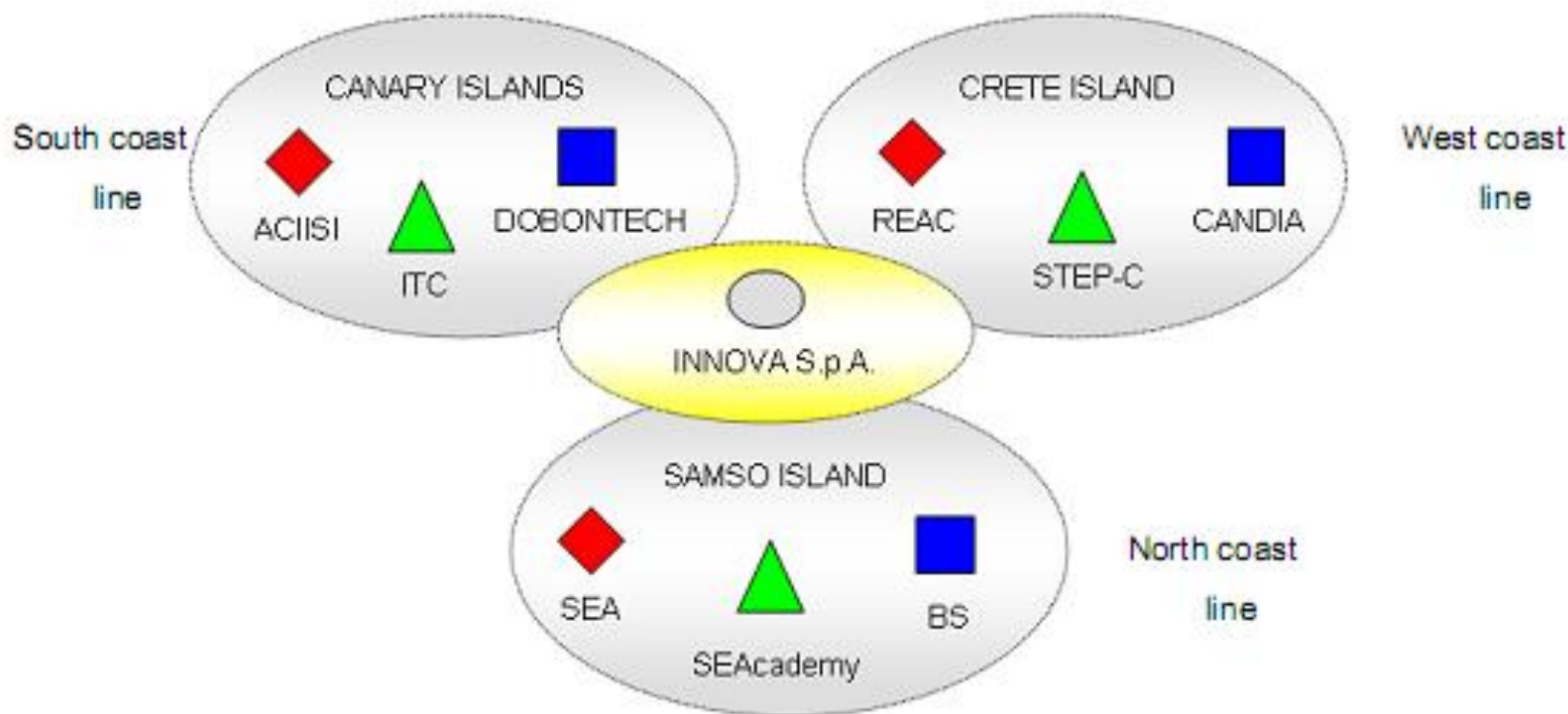
Through the development of (existing or new)
regional '**research-driven clusters**'
and their trans-national cooperation



INRES regional research driven cluster



Renewable energy clusters in Island regions



TRIPLE HELIX CONCEPT





Activities covered

- 1. Analysis** and integration of research agendas of regional clusters
- 2. Initiatives to improve integration:**
definition of ***joint action plans***
- 3. Dissemination**





INRES overall purpose



- Three European islands:
(Canary Islands, Crete and Samsø)
- Development of regional
renewable energy policies
- Mutual-learning-process
(Staff exchanges and inter-regional
workshops)
- Regional research-driven
clusters



INRES geographical area



INRES regions



Canary Islands (Spain)

El Hierro 100 % Renewable Energy project



Wind-hydro power station.

80% of the electricity demand

Totally isolated area.



Crete (Greece)





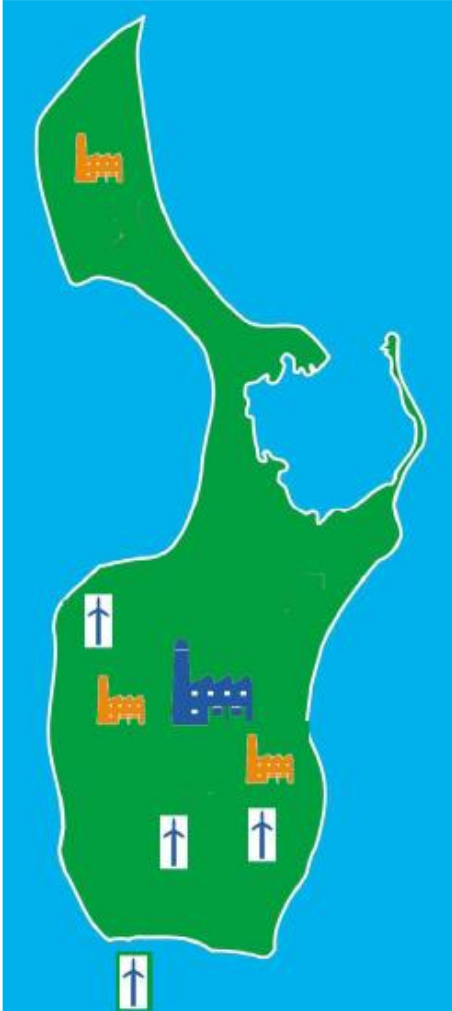
INRES regions



Samsø (Denmark) The energy self-sufficient island

- 112 km²
- Population: 4.000
- Activities: farming, tourism, renewable energy

Most important factor of success 100% RES project: local ownership!





INRES project phases



PHASE 1. ANALYSIS

RES - STATE
OF THE ART

SWOT

REGIONAL
RES MAP

BEST
PRACTICES

PHASE 2. CROSS-LEARNING AND MENTORING

REGIONAL
WORKSHOPS

INTER-
REGIONAL
LEARNING
EVENTS

EUROPEAN
RES MAP

PHASE 3

**JOINT
ACTION
PLAN**



INRES phase 1: analysis



PHASE 1. ANALYSIS

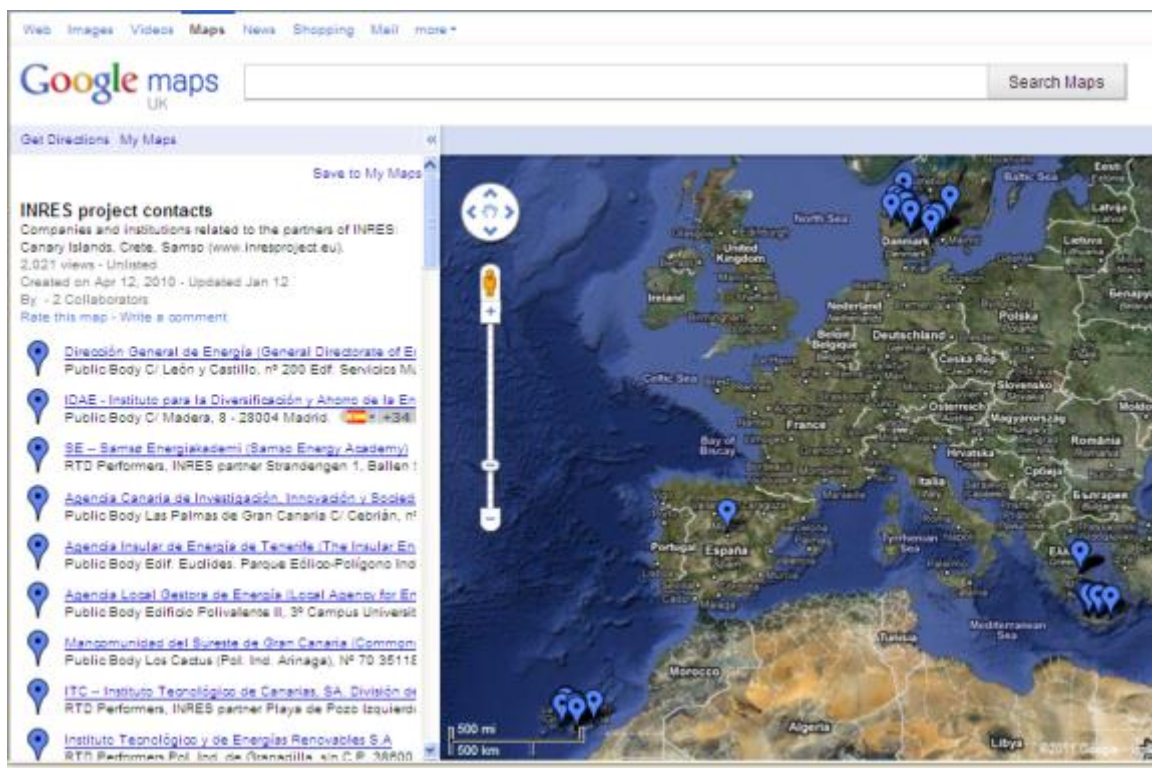
RES - STATE
OF THE ART

SWOT

REGIONAL
RES MAP

BEST
PRACTICES

Regional RES map





INRES phase 1: analysis



Common SWOT

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">▪ Strong knowledge creation infrastructure and highly skilled personnel (CI + Crete)▪ Strong adoption of highly innovative technologies<ul style="list-style-type: none">- CI: system integration/ engineering of existing technologies for off-grid and grid connected systems- Crete: mainly in hotels- Samsø: 'off the shelf' technologies▪ International research cooperation activities	<ul style="list-style-type: none">▪ Poor linkage between research entities and enterprises (CI + Crete)▪ Low level of financial resources for conducting RTD activities in the RES sector (CI and Samsø: especially from private side)▪ Low innovation commitment of companies due to small company size and insufficient internal research base▪ No international orientation of companies and low growth caused by island boundaries
OPPORTUNITIES	THREATS
<ul style="list-style-type: none">▪ Availability of EU RTD funds for research and investment in RES (CI: also regional/ national level; Crete: also national level)▪ Surplus of well educated researchers (Samsø: outside the island)▪ Favourable environmental conditions for RES technology applications	<ul style="list-style-type: none">▪ Bureaucracy barriers▪ Brain drain (CI: especially of the research community)▪ High investment costs and long period of returns for investment in RES technologies



INRES phase 1: analysis



Recommendations for a future positive RES

Canary Islands	Crete	Samsø (Central Denmark)
Political framework		
<ul style="list-style-type: none"> ▪ Favourable legal and regulatory framework for enterprises <ul style="list-style-type: none"> • More incentives for(private) R&D • Simplification and unification of administrative procedures for RE installations ▪ Creation of an energy tariff and regulatory electric system independent from Continental Spain ▪ Introduction of financial support schemes to help final users purchase renewable energy systems ▪ Improved regional territorial planning for energy infrastructure ▪ Abolish cups and call for tenders for grid connected renewable energy systems ▪ Allow net metering for RES systems ▪ Integration and coordination of energy policy at EU level ▪ Mayors signing the Pact of Islands under ISLE-PACT 	<ul style="list-style-type: none"> ▪ Favourable legal and regulatory framework for enterprises and individuals ▪ Improved regional territorial planning for energy and environmental infrastructures ▪ More incentives for public and private R&D ▪ Implementation of regional policies for R&D and energy concerns ▪ Integration and coordination of energy policy at EU level ▪ Mayors signing the Pact of Islands under ISLE-PACT 	<ul style="list-style-type: none"> ▪ Favourable legal and regulatory framework for enterprises <ul style="list-style-type: none"> ▪ More (regional)/national fund allocation to RES sector ▪ Implementation of regional policies for R&D and energy concerns ▪ Direct approach from SEA to Municipal board ▪ Integration and coordination of energy policy at EU level ▪ Mayors signing the Pact of Islands under ISLE-PACT



INRES phase 1: analysis



Recommendations for a future positive RES development

Canary Islands	Crete	Samsø (Central Denmark)
<i>Innovation, technology transfer and education</i>		
<ul style="list-style-type: none">▪ Creation of public/ private Technological Centre in the RES field for better exploitation of the regional TT potential▪ Increased collaboration between research and industry (e.g. RICAM)▪ Better adaptation of university curricula to island needs▪ Training on RES for companies' staff, graduates, and municipal officers▪ Protection of IPR	<ul style="list-style-type: none">▪ Better exploitation of regional TT potential▪ Better adaptation of university curricula to island needs▪ Training on RES for companies' staff, graduates, and municipal officers▪ Protection of IPR	<ul style="list-style-type: none">▪ Training of companies' staff, graduates, and municipal officers▪ Creation of energy academies at international level▪ Protection of IPR



INRES phase 1: analysis



Recommendations for a future positive RES development

Canary Islands	Crete	Samsø (Central Denmark)
<i>RES penetration</i>		
<ul style="list-style-type: none">▪ Internationalisation of companies▪ Enhanced dissemination of research know how among companies▪ Research stronger focused on island characteristics (boosting wind energy exploitation)▪ Implementation of offshore wind energy▪ Promotion of small wind energy installations (< 100 kW)▪ Promotion of BIPV installations (Building Integrated PV)	<ul style="list-style-type: none">▪ Collective representation of companies and better internal organisation (in progress)▪ Internationalisation of companies▪ Dissemination of research deliverables and know how among companies▪ Promotion of small installations for wind, solar and PV energy▪ Installation of helio-thermic systems▪ Green buildings	<ul style="list-style-type: none">▪ Transportation: improved exploitation of biogas through ferries▪ Implementation of a second offshore wind farm▪ Solar energy (in combination with heat district plants) and pushing of the PV sector▪ Replacement of oil furnaces by heat pumps▪ Fossil free island▪ “Satellite” Island (increase international networking)▪ Training and education



INRES phase 2: cross-learning and mentoring



PHASE 2. CROSS-LEARNING AND MENTORING

**REGIONAL
WORKSHOPS**



**INTER-
REGIONAL
LEARNING
EVENTS**



**EUROPEAN
RES MAP**



INRES phase 2: cross-learning and mentoring



Four regional workshops, 2010 - 2011

Crete



Samso



Οι ανανεώσιμες πηγές σε επιχειρήσεις της Κρήτης

ΗΡΑΚΛΕΙΟ.- Εσπερίδα - συζήτηση με θέμα «Οι επιχειρήσεις της Κρήτης στους τομείς των Ανανεώσιμων Πηγών Ενέργειας και της Εξοικονόμησης Ενέργειας» θα πραγματοποιηθεί την Τετάρτη 10 Μαρτίου στις 17.00 στην αίθουσα της Περιφέρειας Κρήτης (Πλατεία Κουντουριώτη, Λιμάνι).

Απευθύνεται στις παντός είδους κρητικές επιχειρήσεις που δραστηριοποιούνται

στους σχετικούς τομείς: μελετών και κατασκευών, βιοτεχνίες ηλιακών θερμοσίφωνων και λεβήτων πυρηνόξυλου, εγκαταστάτες φωτοβολταϊκών, ηλιακών, αιολικών κλπ, εμπόρους συστημάτων εξοικονόμησης ενέργειας, μεγάλους χρήστες (π.χ. ξενοδοχεία, βιομηχανίες) κ.α.

Η συζήτηση θα επικεντρωθεί στις μελλοντικές προοπτικές των παραπάνω επιχειρήσεων και στην ενίσχυση τους.

Canaries

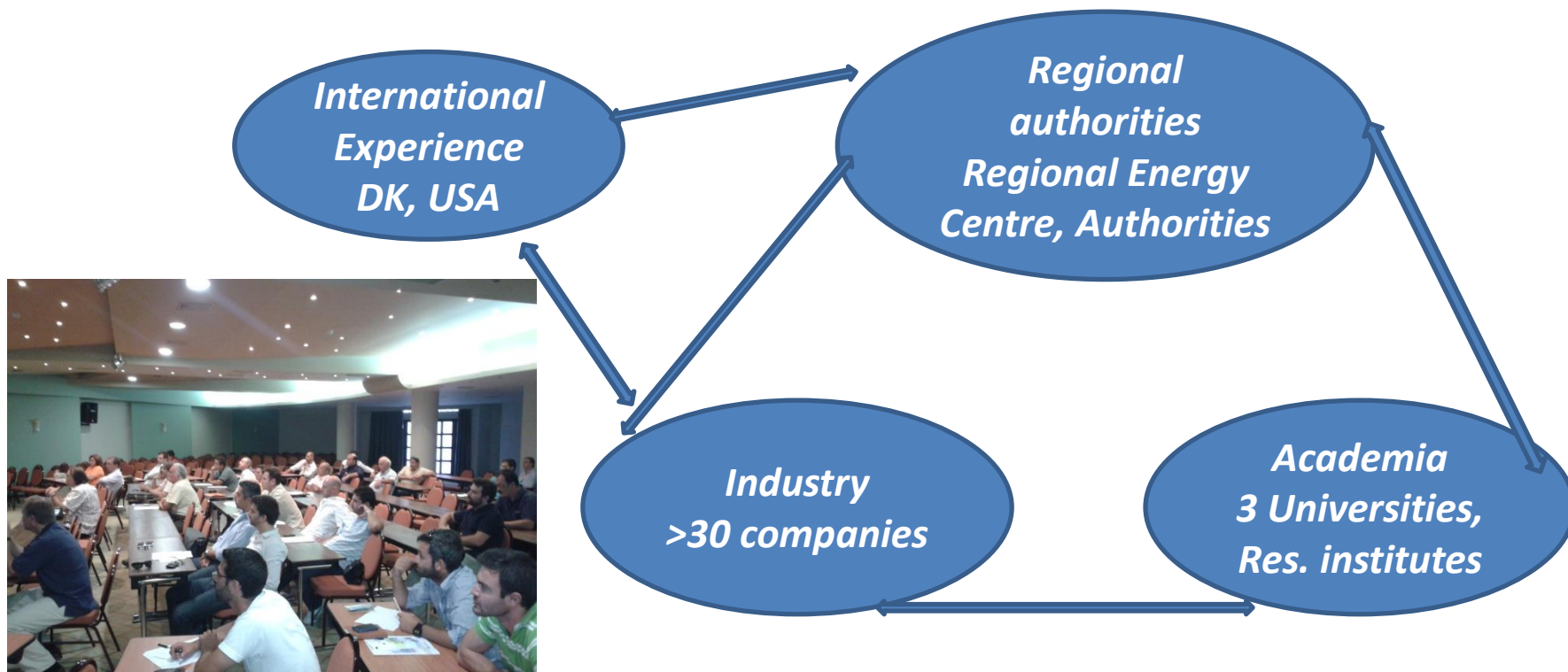




INRES phase 2: cross-learning and mentoring



Regional workshop “RES: Industry-Academia cooperation, Chania, Crete, Sept. 16, 2011



***1st International Conference: “Bioinspired Materials for Solar Energy Utilization,
Chania 12-17 Sept. 2011***



INRES phase 2: cross-learning and mentoring



Three inter-regional workshops

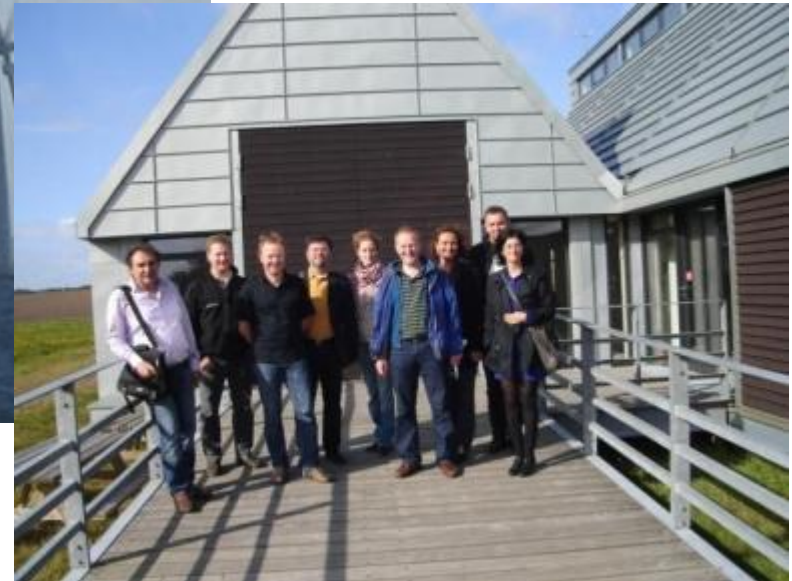




INRES phase 2: cross-learning and mentoring



Study visits: Samsø, September 2009 -2010 and May 2011





INRES phase 2: cross-learning and mentoring



Study visits: Crete, April 2010

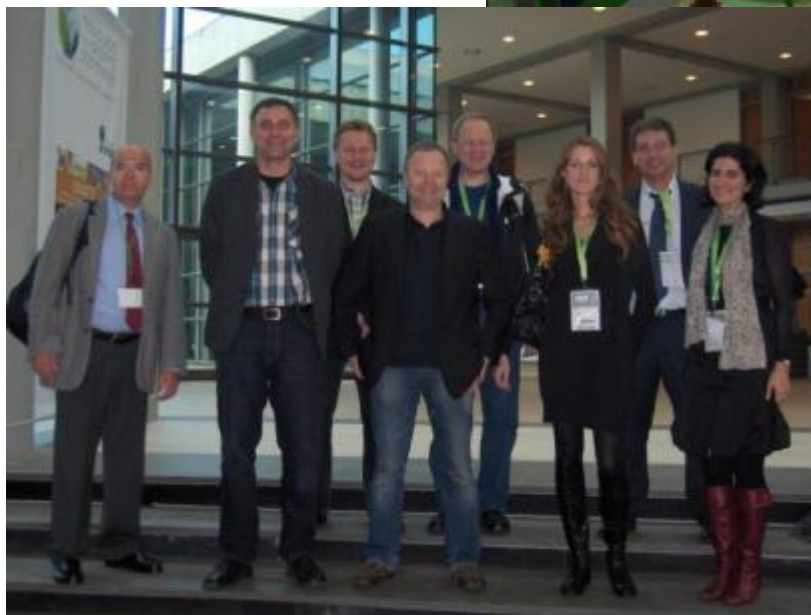




INRES phase 2: cross-learning and mentoring



Study visits: Ecomondo 2010, Rimini (Italy) Nov. 2010





INRES phase 2: cross-learning and mentoring



Study visits: Gran Canaria, March 2009, Tenerife and El Hierro, February 2011





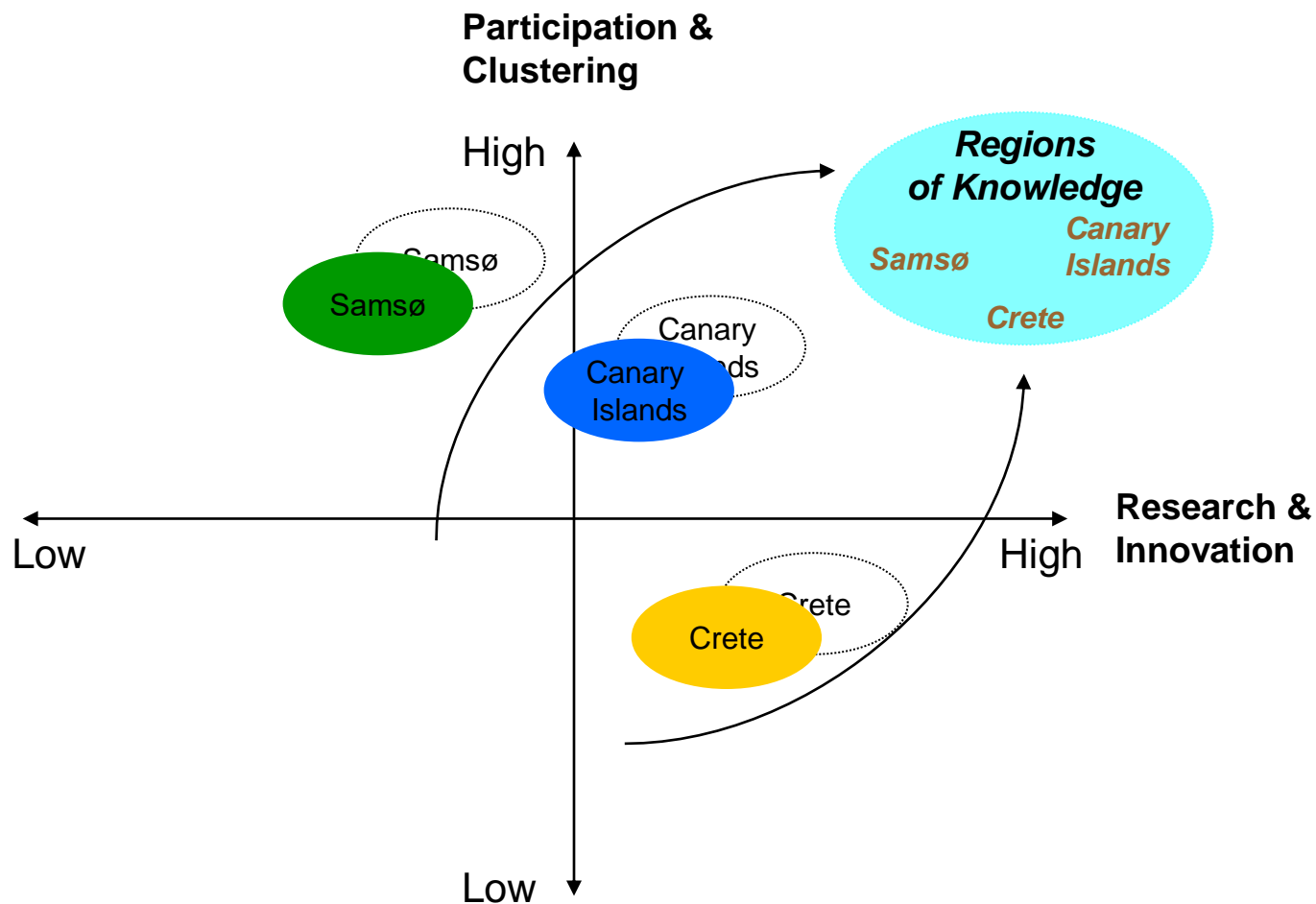
INRES phase 3: Joint Action Plan



**PHASE
3**

**JOINT
ACTION
PLAN**

Knowledge based economy parameters





INRES phase 3: Joint Action Plan



PHASE 3

JOINT ACTION PLAN

Action lines identified

- *Topic 1: Policies addressing legal and financial incentives to encourage RES solutions in islands.*
- *Topic 2: Measures to encourage R+D+I for advanced technological RES solutions in islands.*
- *Topic 3: Community awareness and capability activities.*

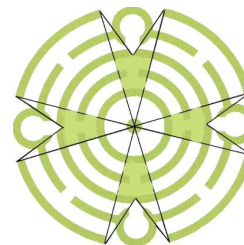


INRES outcomes



Dissemination activities:

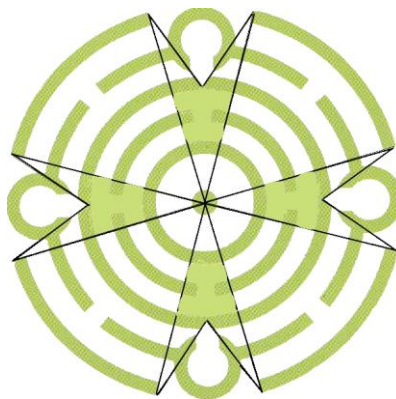
- Online database of [INRES publications](#) (papers, posters, leaflets and presentation)
- INRES presentation at **EU FUNDING FOR RESEARCH AND INNOVATION IN THE OUTERMOST REGIONS**, Azores (September 2010)
- INRES presentation at **WIRE 2010 Project conference** (March 2010)
- INRES presentation at Martinica workshop on EU funds (Video)



***INRES logo
symbolizes an agora,
where people meet to
discuss, trade, and
make arrangements
for the future.***

***WIRE 2010
Granada, ES***





INRES

Thank you!

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<http://www.inresproject.eu>