

Horizon 2020

Feilim O'Connor European Commission DG Energy 05.06.2019 – Sustainable Places

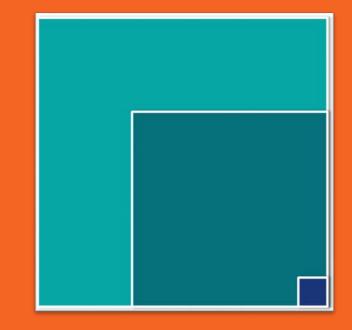


European Commission Every EU citizen enjoys the benefits that the EU brings for less than one cup of coffee a day

> EU-28 Gross National Income EUR 15 887 billion

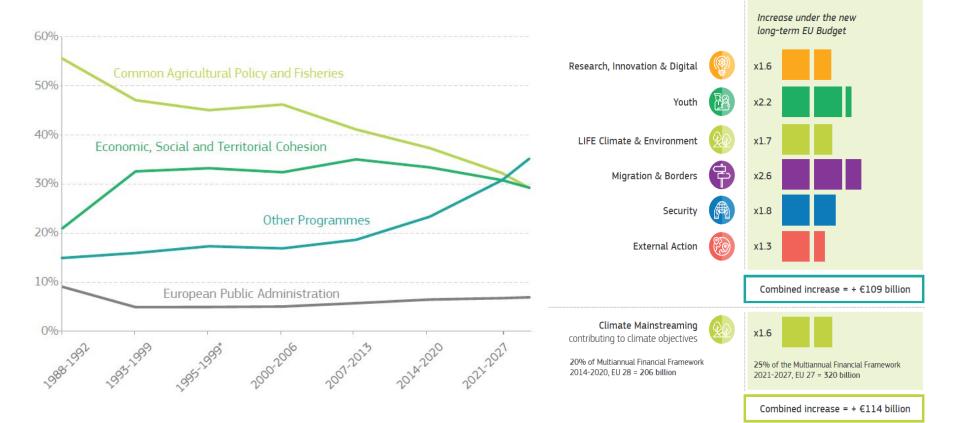
EU-28 Member States Public Expenditure EUR 7 249 billion

> EU annual budget EUR 145 billion



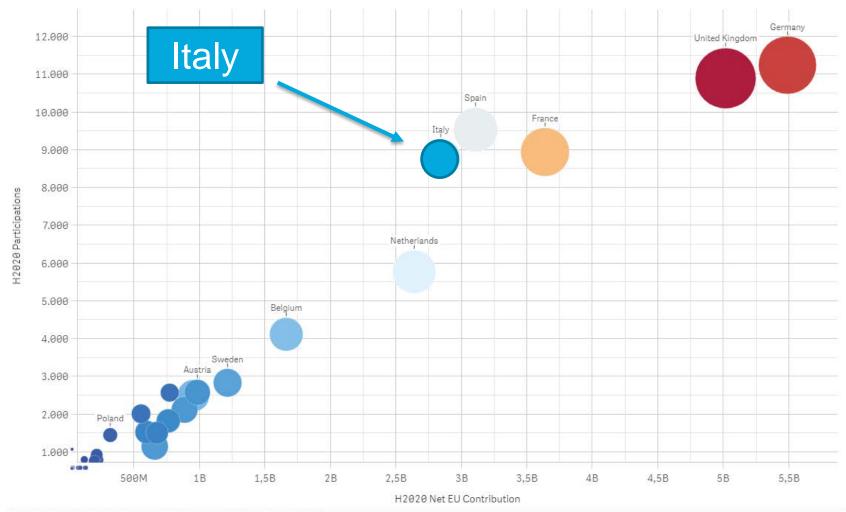
The next long-term EU budget:

Evolution of main policy areas in the EU



CLEAN ENERGY FOR ALL EUROPEANS

Participations vs Net EU Contribution by Country



Size and colour: Leading, Coordinating role of a country - EU Contribution (EURO)



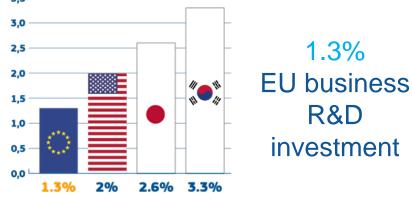
While benefiting from world–class research and strong industries...

Our knowledge and skills are our main resources.

- \rightarrow 7% of the world's population
- \rightarrow 20% of global R&D



 \rightarrow 1/3 of all high-quality scientific publications



...Europe fails to transform leadership in science into leadership in innovation and entrepreneurship







8 funding opportunities ('calls') in 5 minutes

> Islands Smart Cities Smart Airports Consumer Engagement and Demand Response TSO-DSO DC – AC/ DC

T H E 100 L A R G E S T E U I S L A N D S[']

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Cephalonia	Madeira			Menorca	La Palma	Fasta Åland	Islay	Corfu	Bornholm		Orkney	Lemnos
781 km2	765 km2	7	45 km2	702 km2	786 km2	785 km 2	612 km2	592 km2	588 km2	541 km2	523 km2	478 km2
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39	40		41	42	43	44	45	46	47	48	49	50
Samos	Pico	N	laxos	Arran	Krk		Zakynthos	Brač	Terceira	Isle of Wight	Andros	Thassos
477 km2	446 km2	43	0 km2	428 km2	406 km2	406 km2	402 km2	395 km2	382 km2	380 km2	580 km2	379 km2
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Kythira	Korčula	Icaria	São Jorge		Elba	Skyros	Yell	Muhu		Hailuoto Karlō	Tinos	Fehmarn
278 km2	276 km2	254 km2	246 km2	246 km2	224 km2	223 km2	215 km2	198 km2	196 km2	195 km2	194 km2	185 km2
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77	78	29	80	81	82	83	8.4	8.5	80	87	8.8	89
Vårmdön	Samothrace	Oléron	Faial	Texel	Milos	Marie-Galante		Kea Tzia	Achill	Hoy	Flores	Kalimnos
181 km2	178 km2	174 km2	173 km2	161 km2	160 km2	158 km 2	161 km2	149 km2	148 km2	144 km2	143 km2	135 km2
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Föglö 132 km2	Alonissos 130 km2	Rømø 129 km2	Amorgos	Bute 122km2	Laesø 118 km2	Dugi otok 114 km2	Fårð 113 km2	Samsø 112 km2	Unst 109 km2	Rhum 108 km2		@feilimoc

100 km *no more than 1 bridge, or fixed link to the Europeut mainland

Islands

"Rapid relief Islands" LC-SC3-ES-11



From zero to hero islands

- 90% fossil \rightarrow 90% Clean
- 5,000 100,000 people
- Local Energy Communities

2-3 Million Euro

Islands

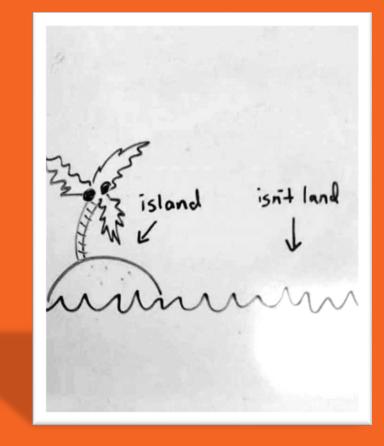
"Energy Islands" LC-SC3-ES-3

- Local energy systems
- Isolated regions
- 4 impact criteria (solutions, communities, strategies, replication)

5-6 Million

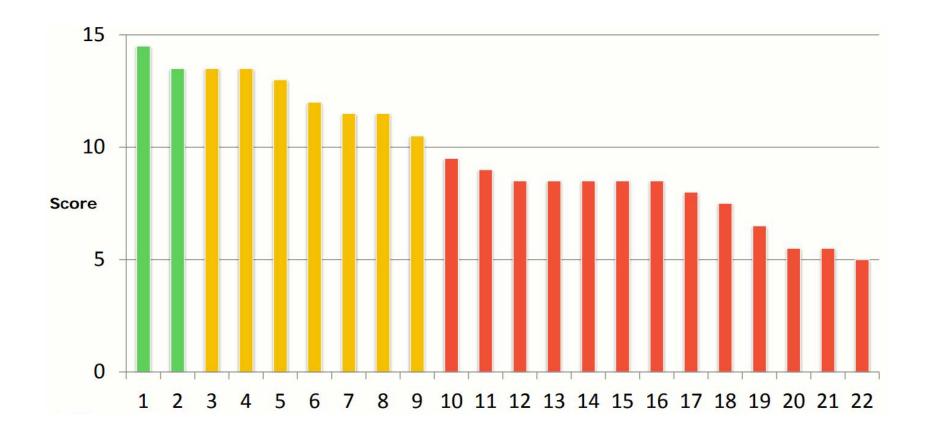
Islands

"Geographical Islands" LC-SC3-ES-4



5-7 Million

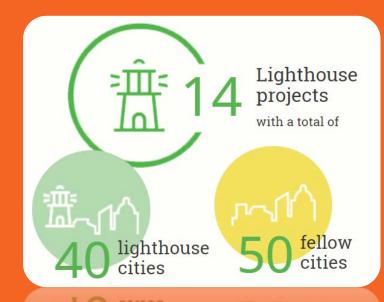
ES-4-2018 "Energy Islands





Smart Cities and Communities

Lighthouse cities



The well-established "Smart City call" for pioneering how cities can integrate solutions

- Positive Energy Districts
- Only Innovative solutions
- "Lighthouse" and "fellow"

15-20 Million(6-8 Million per Lighthouse)

Smart Airports

LC-SC3-SA-1-2020 "lighthouse airport"



Encouraging airports to blend biofuels

- **<u>Bio</u>**-kerosene at the airport
- 2 parts (local and remote blending)
- Fuelcosts = 30% of overall
- 2-3% as a starting point
- 1 lighthouse and 2 "fellow airports"

Consumer Engagement and Demand response

LC-SC3-EC-3

The Consumer / Prosumer nexus

- Demand response innovations
- Households
- Grid operator incentives
- Cooperatives and peer-to-peer (IoT, AI, Blockchain)

4-6 Million Euro

TSO - DSO Consumer large scale demonstration

LC-SC3-ES-5

The grid perspective

 One project that demonstrates the setting-up of markets and digital platforms



20-22 Million Euro

DC – AC/ DC

LC-SC3-ES-10

Hybrid grid that's modular, resilient and brings together high RES

- Demonstration activates of DC grid architecture (in at least 2 MS, or AC)
- Test in isolated and interconnected modes
- MV-LV
- (Cyber)security
- Reducing inertia issues

7 Million Euro



Thank you for your time

#HorizonEU

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European Commission