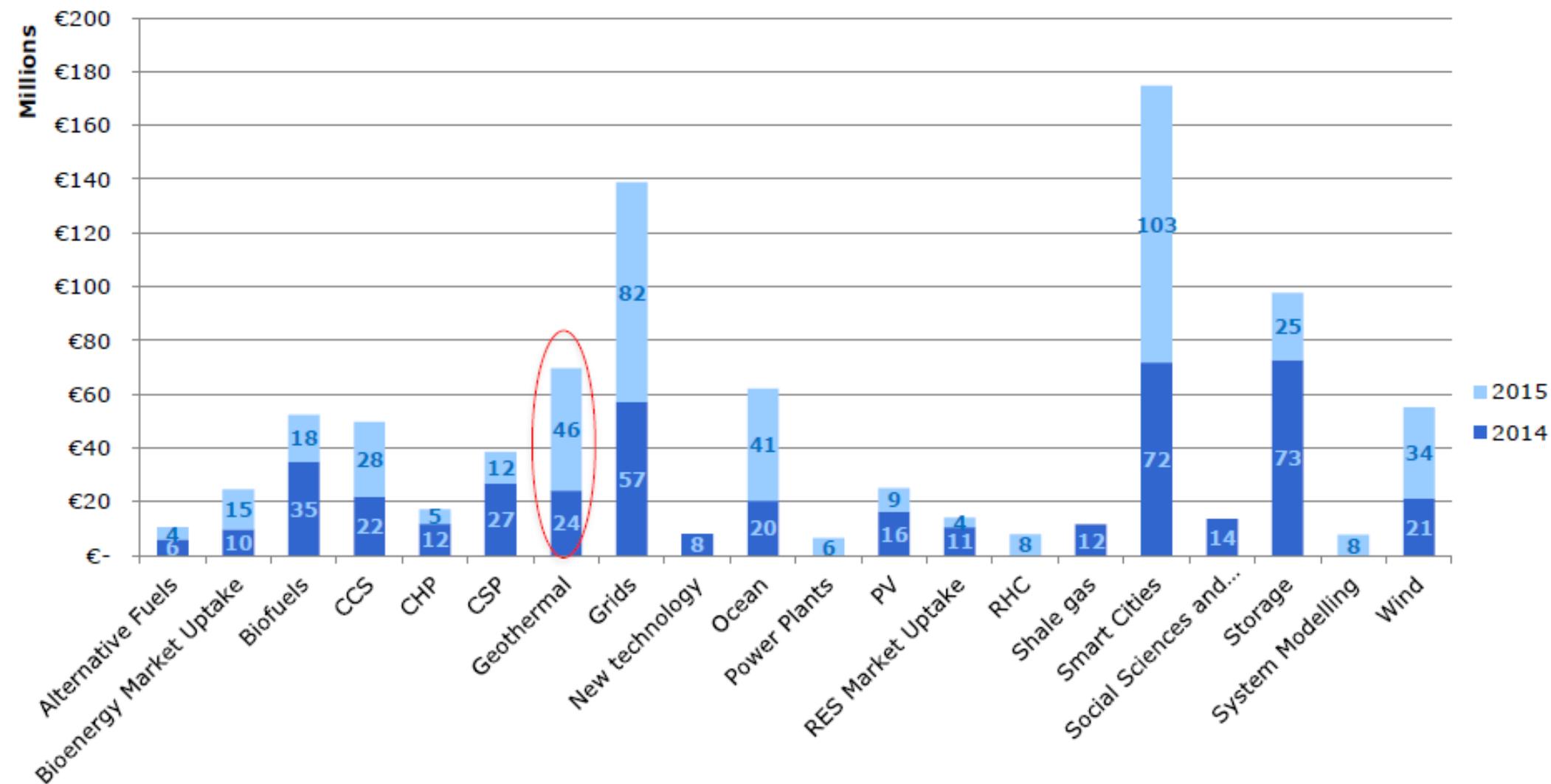


INEA-Managed H2020 Energy Projects - Budget per Topic Area (116 projects , € 894 Million total)



Ongoing EU-projects

Project	EC Contr. (M€)	Total Cost (M€)	Funding
DESCRAMBLE	6.8	15.6	H2020
Thermodrill	5.4	5.8	H2020
CHPM2030	4.2	4.2	H2020
GeoWell	4.7	4.7	H2020
SURE	5.9	6.1	H2020
DeepECS	20	44	H2020
DESTRESS	11	25	H2020
GEOTeCH	7.1	9	H2020
Cheap-GSHPs	4.8	5.8	H2020
IMAGE	10.1	13.3	FP7
Geothermal ERA NET	2.0	2.4	FP7
InnoDrill		3	Norway
SUM	82.2	138.7	

Drilling, Stimulation, Completion, Monitoring

most of them presented in Utrecht 8.3.16,
a Joint Geothermal Project Meeting organized by Thomas Reinsch
OPPORTUNITY TO SHAPE THE EUROPEAN GEOTHERMAL FUTURE

SURE: Novel Productivity Enhancement Concept for a Sustainable Utilization of a Geothermal Resource

coordinated by GFZ ; start: 1 March 2016, 42 months, 10 partners

Focus: Investigation and testing of the Radial Water Jet Drilling technology for increasing the performance of geothermal wells with low productivity across different spatial and temporal scales. → **SP 3**

GOWELL: Innovative materials and designs for long-life high-temperature geothermal wells

coordinated by Iceland GeoSurvey (ÍSOR); start: 1 February 2016, 36 months, 8 partners

Focus: Development of reliable and cost effective technologies for design, completion and monitoring of high-temperature geothermal wells to accelerate the development of geothermal resources. → **SP 3, 4**

DESTRESS: Demonstration of soft stimulation treatments of geothermal reservoirs

coordinated by GFZ ; start: 1 March 2016, 48 months, 16 partners

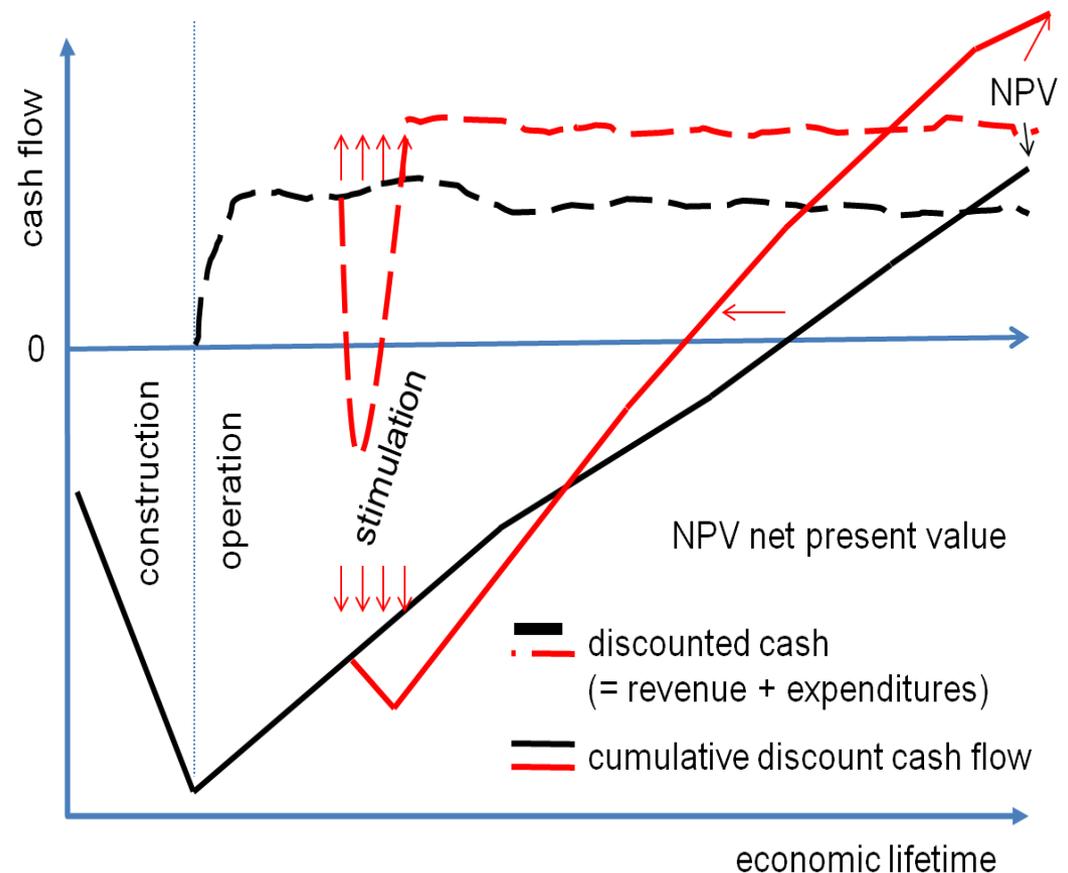
Focus: Development of site specific concepts to enhance the productivity of low permeable geothermal reservoirs to actively make reservoir conditions profitable. → **SP 3, 5**

→ **SP 3, 5**

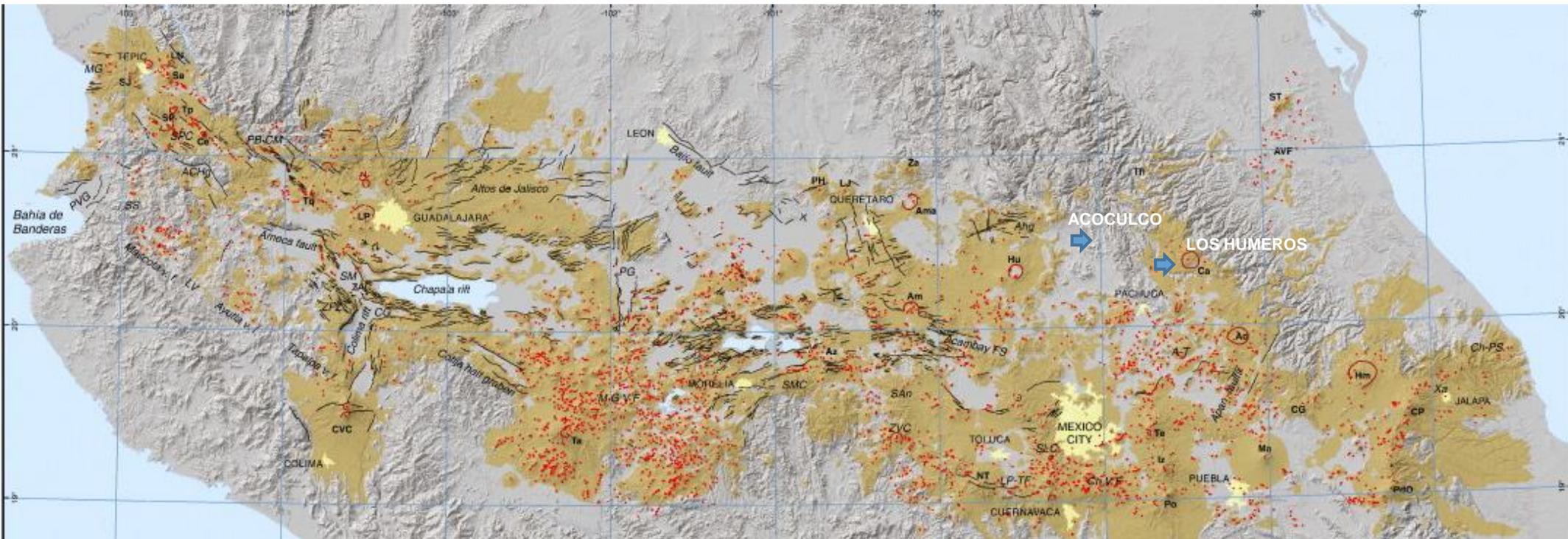
Business case of technical solution from DESTRESS

- Stimulation leads to more thermal flow from the formation and higher cash flow; → invest in stimulation treatment for economically viable projects
 - Industrialization of geothermal energy needs a systematic and safe technique to create efficient EGS
 - Issues of public acceptance and all market and regulatory barriers including financing and other supply-side issues of relevance influence the business
- DESTRESS addresses
- Relevant key factors and impacts
 - Advances in the Technology Readiness Level
 - Risk reduction
 - Regional approaches
 - Socio-economic and environmental aspects

Cash flow and net present value of an EGS project



GEMex - Cooperation in Geothermal energy research Europe-Mexico for development of hot enhanced (hot-EGS) and super-hot geothermal (SGHS) systems



EU_MEXICO JOINT PROPOSAL

10€ FUNDS from EC

9 universities

11 Research institutions

2 Geological Surveys

EGEC

IGA

Participant No *	Participant organisation name	Country
1 (Coordinator)	Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum - GFZ	Germany
2	Íslenskar Orkurannsóknir - ÍSOR	Iceland
3	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek - TNO	Netherlands
4	Università degli Studi di Bari "Aldo Moro" - UNIBA	Italy
5	Universiteit Utrecht - UU	Netherlands
6	RWTH Aachen - RWTH	Germany
7	Consiglio Nazionale delle Ricerche - CNR	Italy
8	Technische Universität Darmstadt - TUDA	Germany
9	Bureau de Recherche Géologique et Minières - BRGM	France
10	Institutt for Energiteknikk - IFE	Norway
11	Centre for Renewable Energy Sources - CRES	Greece
12	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS	Italy
13	Uni Research AS - CIPR	Norway
14	Università degli Studi Roma Tre - UROMA3	Italy
15	Agenzia Nazionale per le Nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile - ENEA	Italy
16	Scuola Superiore di Studi Universitari e di Perfezionamento Sant' Anna - SSSA	Italy
17	Karlsruher Institut für Technologie - KIT	Germany
18	National Environmental Research Council - NERC	UK
19	Hochschule Bochum - HBO	Germany
20	Università degli Studi di Torino - UNITO	Italy
21	Państwowy Instytut Geologiczny - PIG	Poland
22	European Geothermal Energy Council - EGEC	Belgium
23	Helmholtz Zentrum für Umweltforschung - UFZ	Germany
24	IGA Service GmbH - IGA	Germany

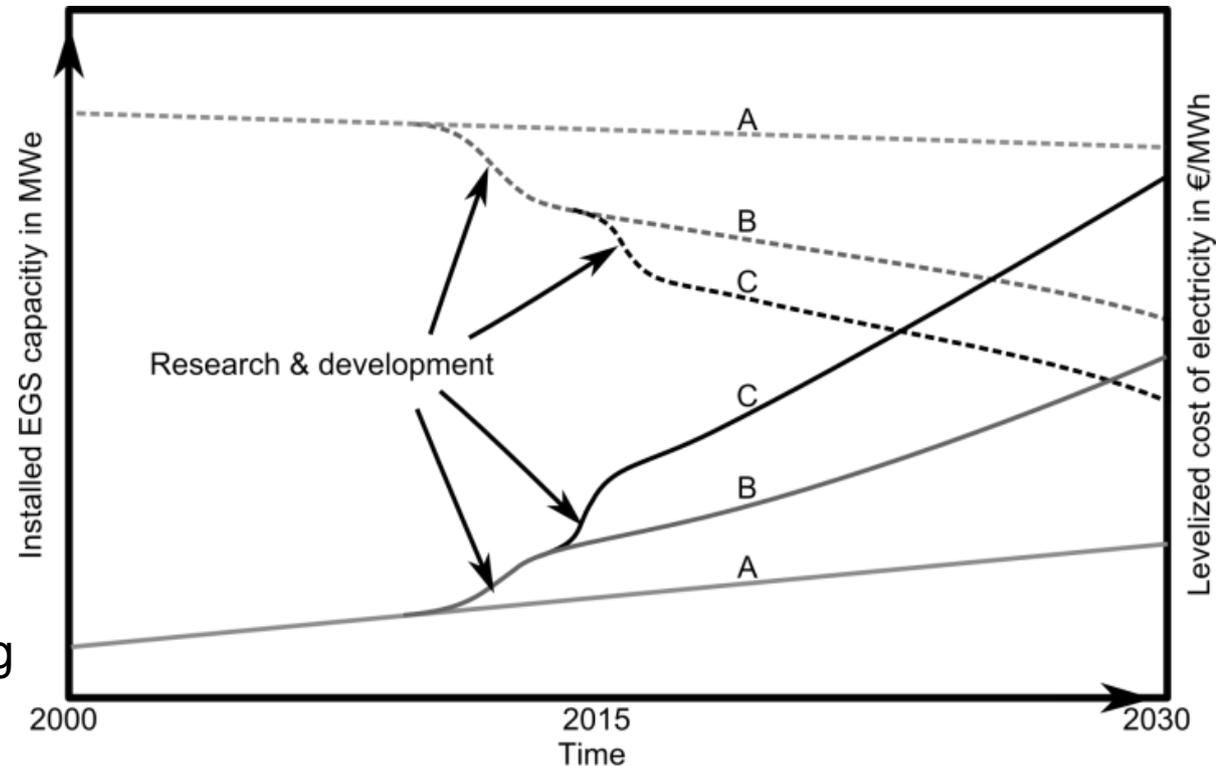
Research is well funded in H2020 → progress in technology can be expected

Knowledge and technology transfer needs to be organised

→ EERA JPGE Expectation from ETIP

→ Clearly defined stakeholder groups in ETIP
as contacts for and partners in projects resp. EERA JPGE

for accelerating the deployment of geothermal energy in Europe



- A: business as usual
- B: Improvements in Exploration
- C: Improvement in Reservoir Engineering