

# ECQBASE

Enhanced oil recovery with storage

By Roman Berenblyum, NORCE during ACT Knowledge Shearing workshop, Athens, 6-7th November

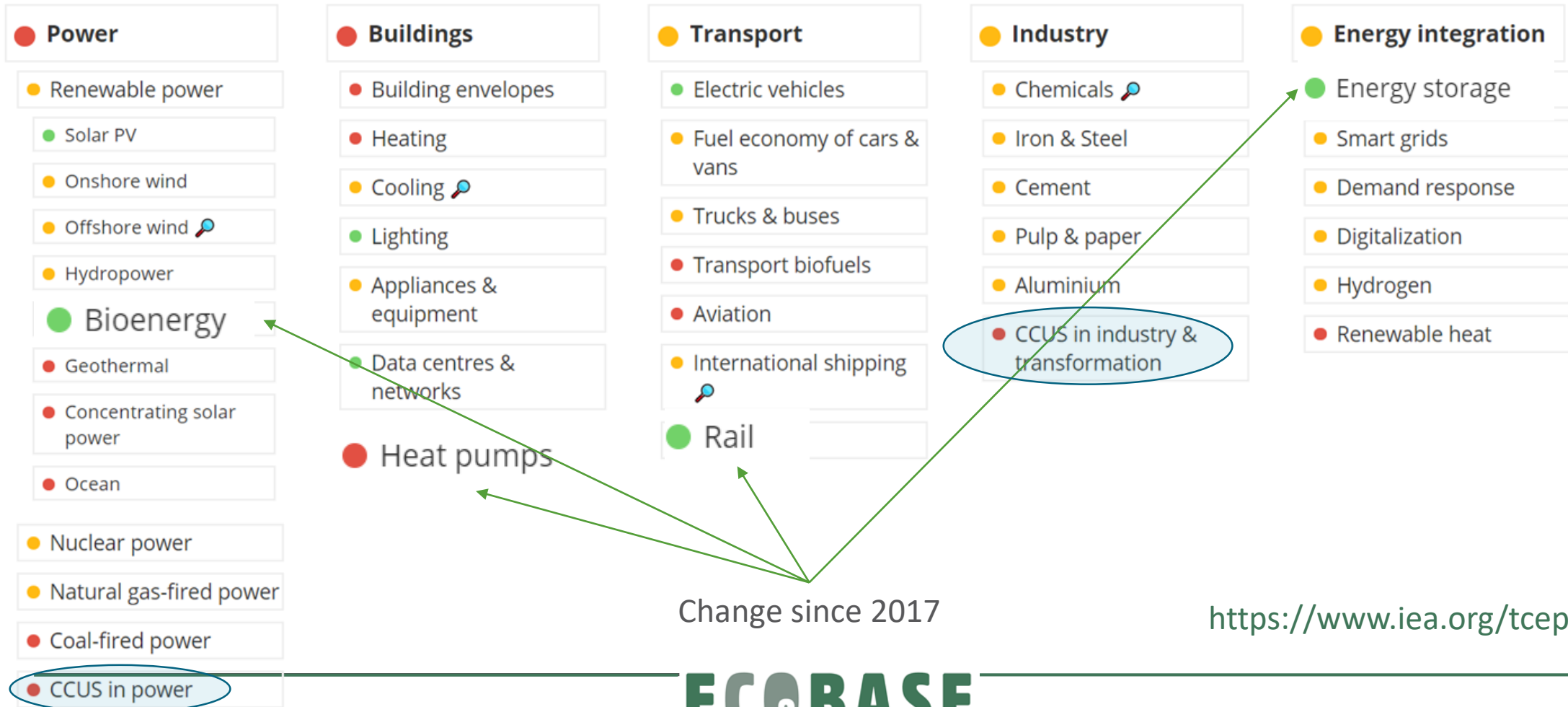


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ECQBASE

# Why are we all here?

● On track ● More efforts needed ● Not on track 🔍 One to watch



Change since 2017

<https://www.iea.org/tcep/>

# CCS worldwide needs a boost!

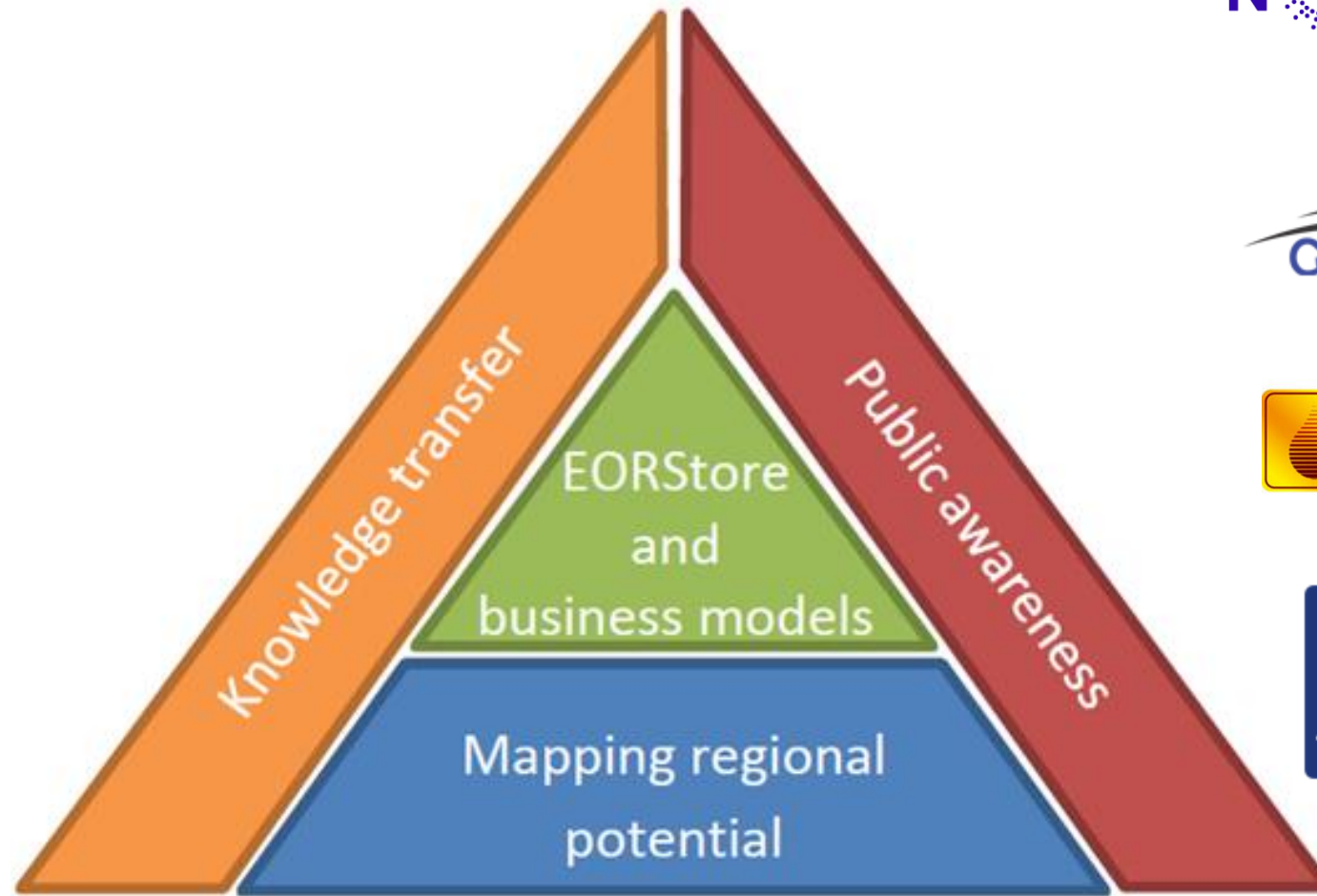
CO<sub>2</sub>-EOR has the most significant commercial potential among utilisation methods leading to permanent storage.

The objective of ECO-BASE is to develop detailed and integrated roadmaps for CCUS, including EORStore, in South-East Europe.

Key technical milestones are:

- Inventory and mapping of sources and sinks in SEE and the establishment of regional source-sink clusters and CCUS roadmaps.
- Optimized EORStore methodology for the most promising cases: from inventory to revenue streams. Preparation for piloting and generalized lessons learned.
- Synthesis, guidelines and further plans

# Project structure



NORCE

TNO

GeoEcoMar

PARL

PICOIL  
INFO  
CONSULT

ΕΘΝΙΚΟ  
ΜΕΤΣΟΒΙΟ  
ΠΟΛΥΤΕΧΝΕΙΟ

CO<sub>2</sub>  
club  
ROMANIA

Accelerating  
CCS  
Technologies

ECQBASE

# Mapping regional potential (M1-18)

- Inventory of sources and sinks (from inventory to creation of database or expansion of existing ones)
- EOR roadmaps per country (clustering and matching sources and sinks, ecological and legal aspects, creating roadmaps)
- EORStore case study definition (optimization window and routine, defining the cases for in-depth study)

# EORStore and Business models (M15-30)

- Business cases for site development plans (modelling, risk assesment, monitoring, leagal issues, revenue streams)
- Synthesis of development plans (synthesis of case studies, best practices and guidance)

# Knowledge Transfer

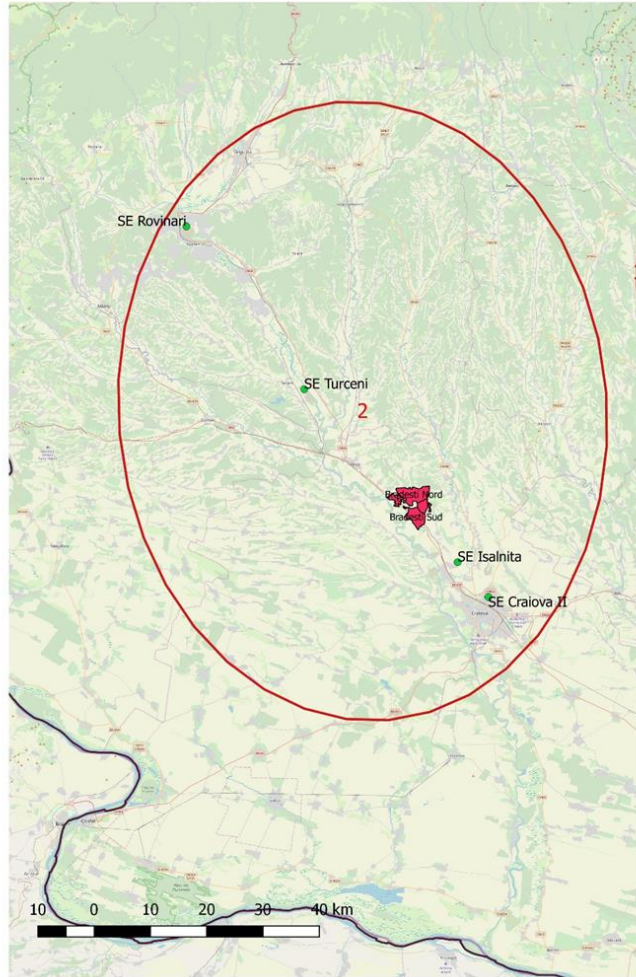
- Internal meetings (part of the meeting should be open for various stakeholders)
- Dissemination and outreach
- Courses (Collaboration with Sotacarbo summer school; **legal and regulatory workshop in Romania**, Sep. 2019; CO2EOR course in Turkey, 2020)

# Public awareness

- Public acceptance analysis for selected CCUS chains
- Liasing with ENOS H2020 project
- Liasing with ALIGN-CCUS project
- **Organising public events** (from public awarness research to organising public awarness events)



# Key project outcomes - Romania



36% of countries electricity production (coal)

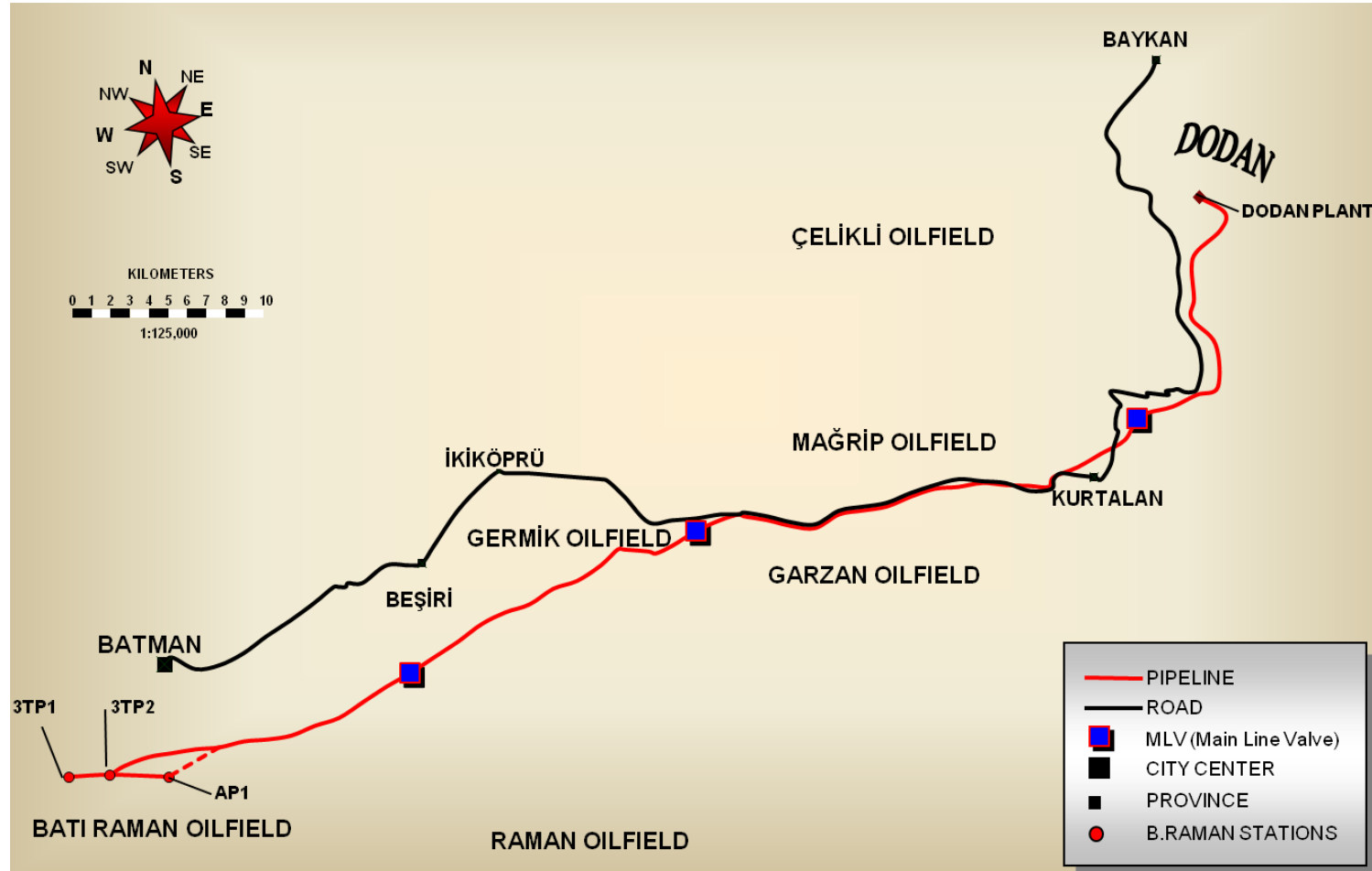
Isalnita and Craiova to Bradesti structure

Large interest from power producer as ETS significantly reduces their income

Oil industry still need to be convinced

No infrastructure for CCS

# Key project outcomes - Turkey



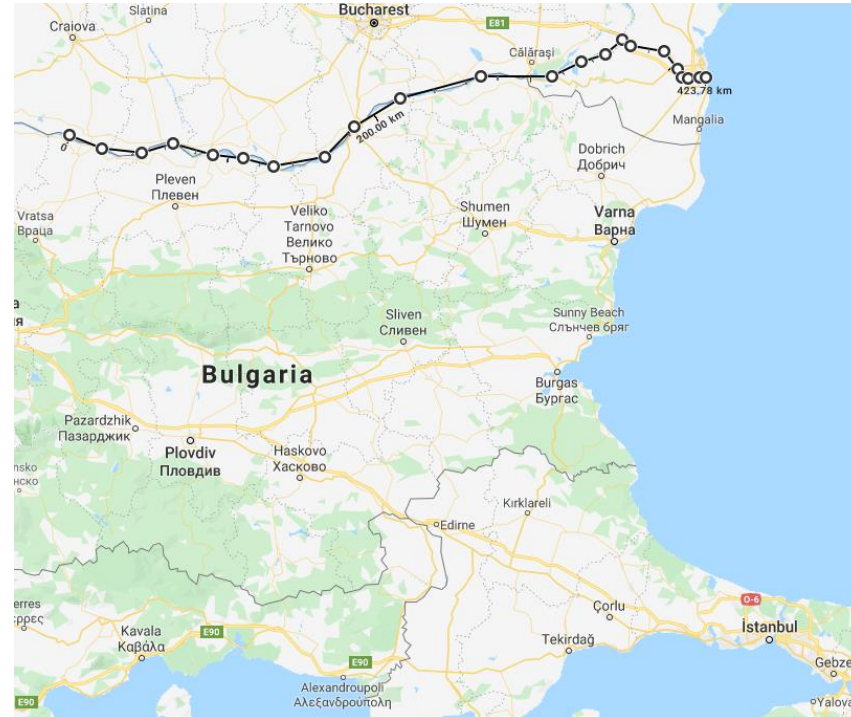
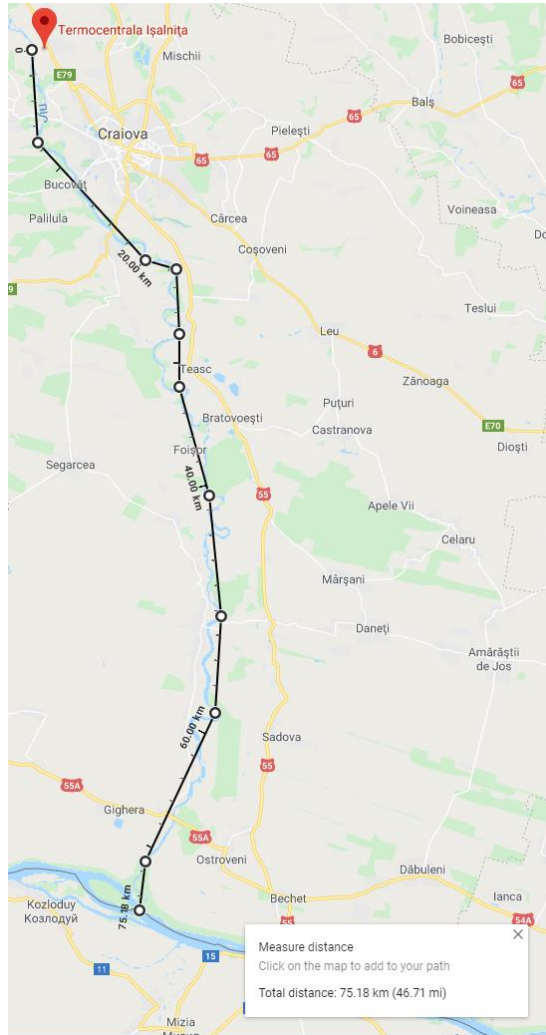
Ongoing CO<sub>2</sub>EOR using natural depleting sources (Dodan)

Infrastructure in-place

Sources near to pipeline

Key stakeholders inactive

# Key project outcome - Synergy



100km by river to Danube  
550km by Danube to Black Sea  
2000 km by the Sea  
**550km by land**



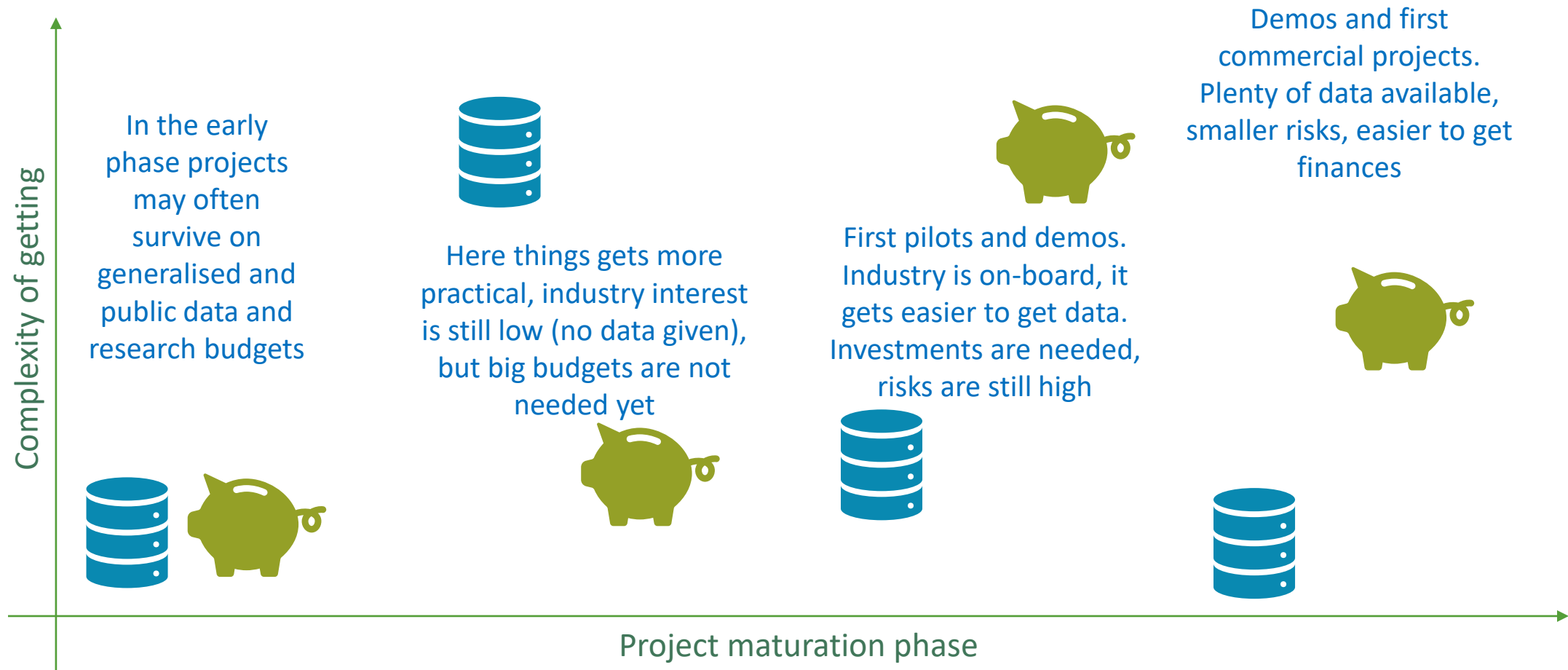
# ECOBASE approach

From early focus on subsurface aspects (because this is what we did before)

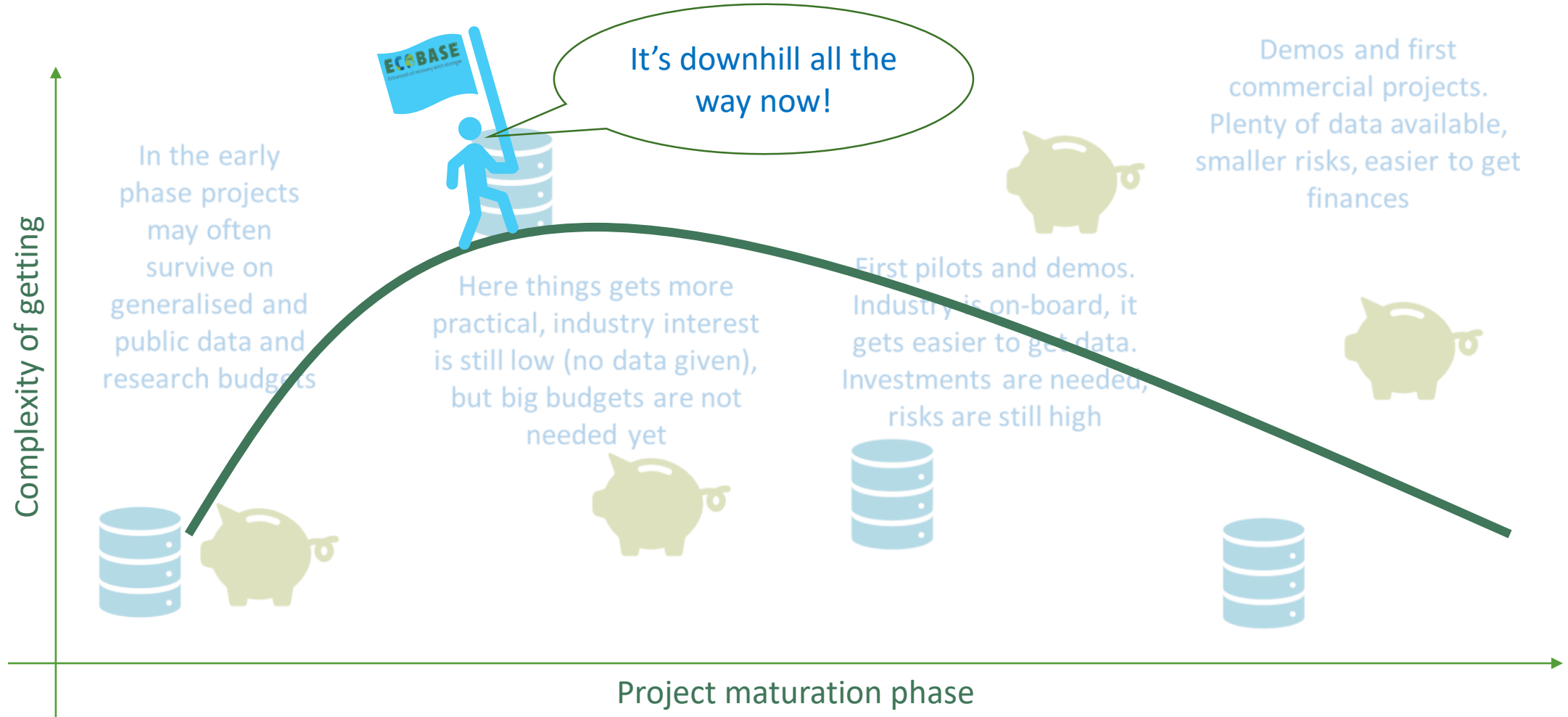
Through painstaking change of lack of data and identifying bottlenecks

To key focus on «closing a chain» for a first of a kind business case (incentives, legislation, stakeholder engagement)

# Where are we and the road ahead



# Where are we and the road ahead



# Outreach

EORStore workshop @ Sotacarbo **summer school**

Social science **working group** @ ACT+ projects

**Open Seminar** with stakeholders Romania

Public opinion investigation **exercise** in planning

**Stakeholder dialog events** Romania and Turkey, March-April 2020

# Future plans

First-of-a-kind scalable pilots in stakeholder countries

Dependent upon **outcome** of on-going evaluations

Dependent upon **dialog** with stakeholders

Extension to new regions

Dependent on **pilots** happening

Dependent on the **interest**



# Acknowledgements

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