



The Geological Surveys of Europe

EuroGeoSurveys



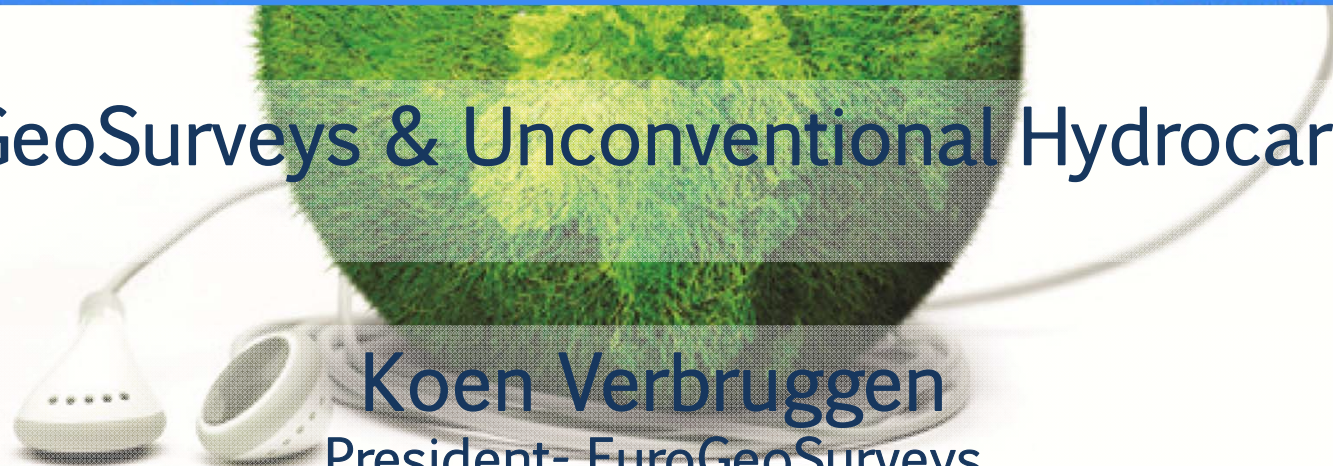
UNCONVENTIONAL HYDROCARBONS
The Polish experience in the European dimension
The Silken Berlaymont, Brussels • 17 September 2015

Organised by  Under the auspices of the Polish Ministry of Environment  MINISTERSTWO ŚRODOWISKA

Financed by  National Fund for Environmental Protection and Water Management

Supported by  EUROGEO SURVEYS
European Geoscience for Society
The Geological Surveys of Europe

EuroGeoSurveys & Unconventional Hydrocarbons



Koen Verbruggen

President- EuroGeoSurveys

Director- Geological survey of Ireland

40 Years Listening to the Beat of the Earth

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37 Geological Surveys

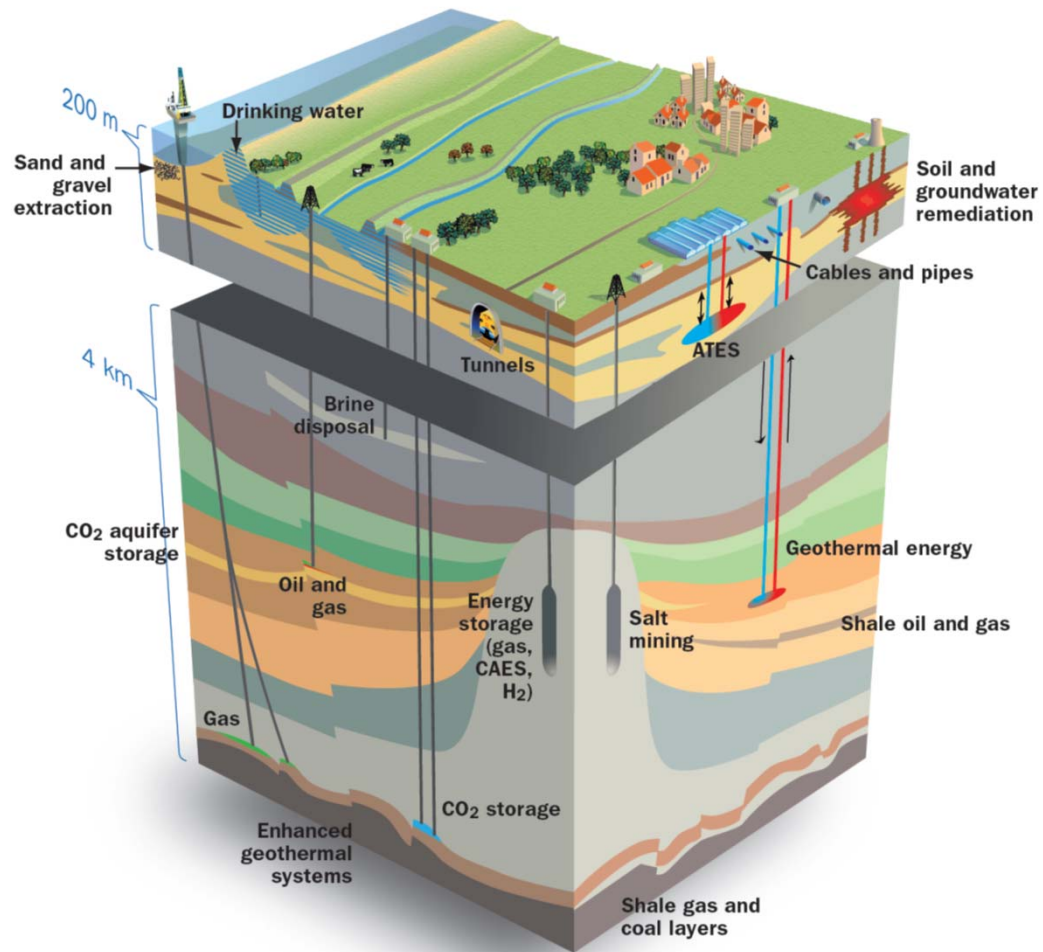
Work force of
SEVERAL THOUSANDS

Over 1 billion euro
annual turnover

Albania
Austria
Belgium
Bosnia & Herzegovina
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
FYROM
Germany
Greece
Hungary
Ireland
Italy
Kosovo
Latvia

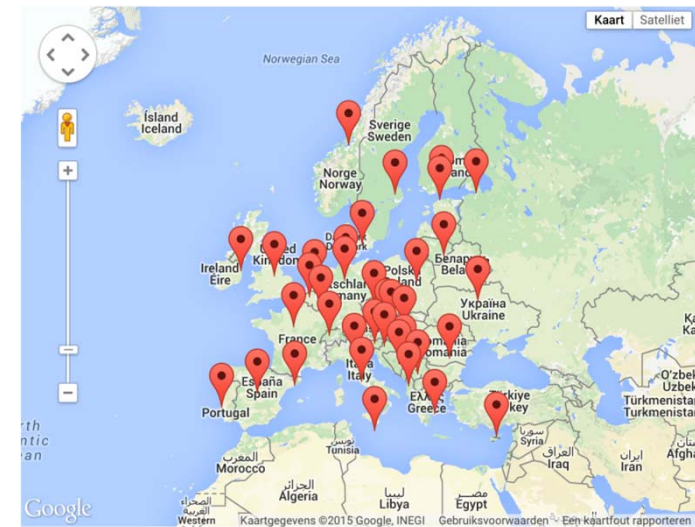
Lithuania
Luxembourg
The Netherlands
Malta
Norway
Poland
Portugal
Romania
Russian Federation
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Ukraine
United Kingdom

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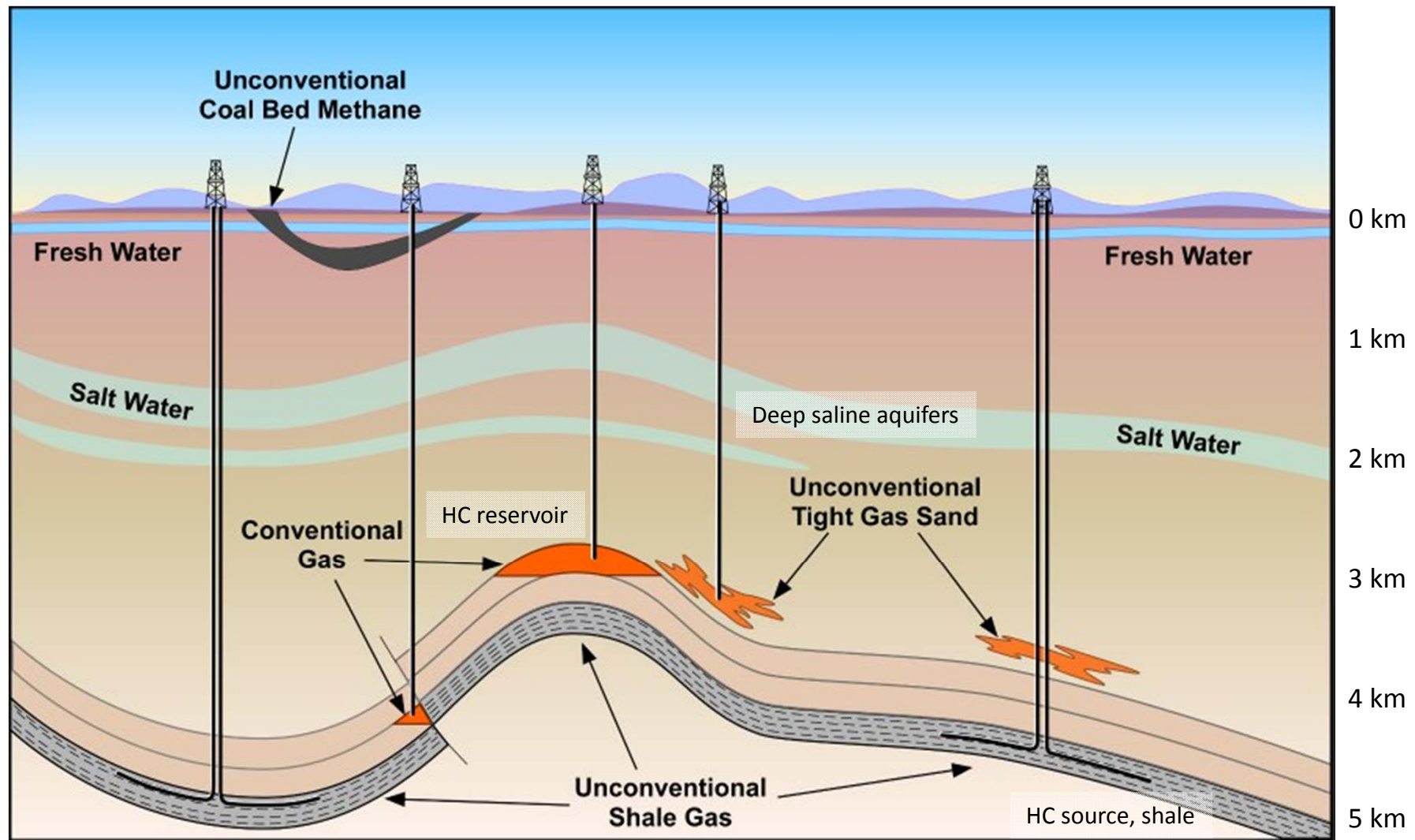
Geological disciplines & Expert Groups including geo-energy, ground water, mineral resources, hazards, marine & spatail information

Independent, science-based and information and research to support (EU) policy makers and inform society



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Shale Gas and Shale Oil vs Conventional HC

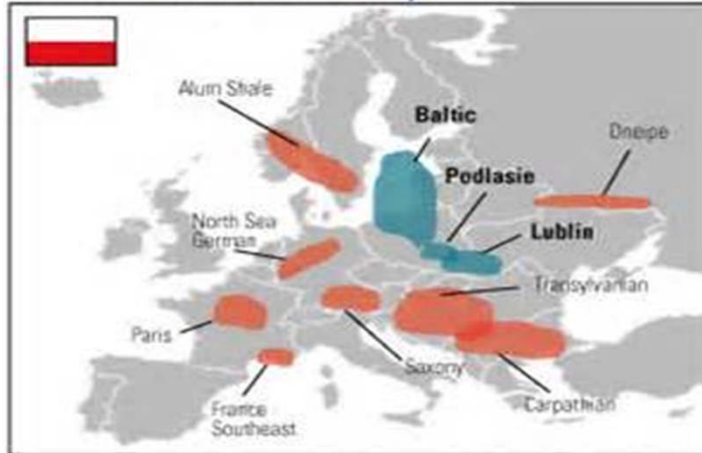


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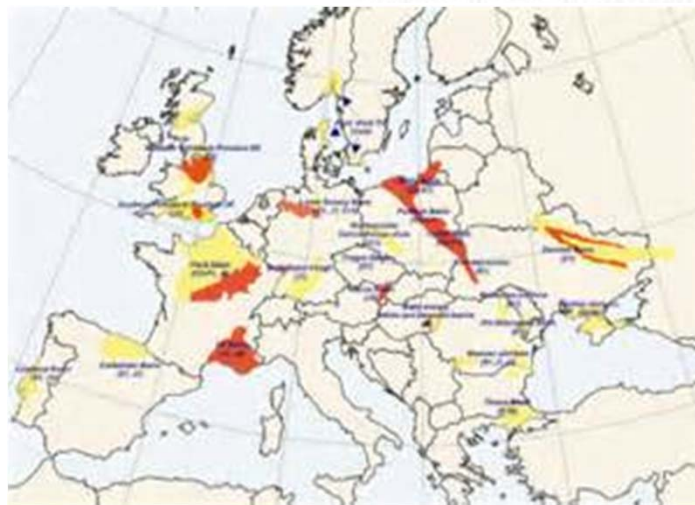
Shale Gas/ Shale Oil Basins Europe

Potential Shale Basins in Europe



Source: EIA, Morgan Stanley Research

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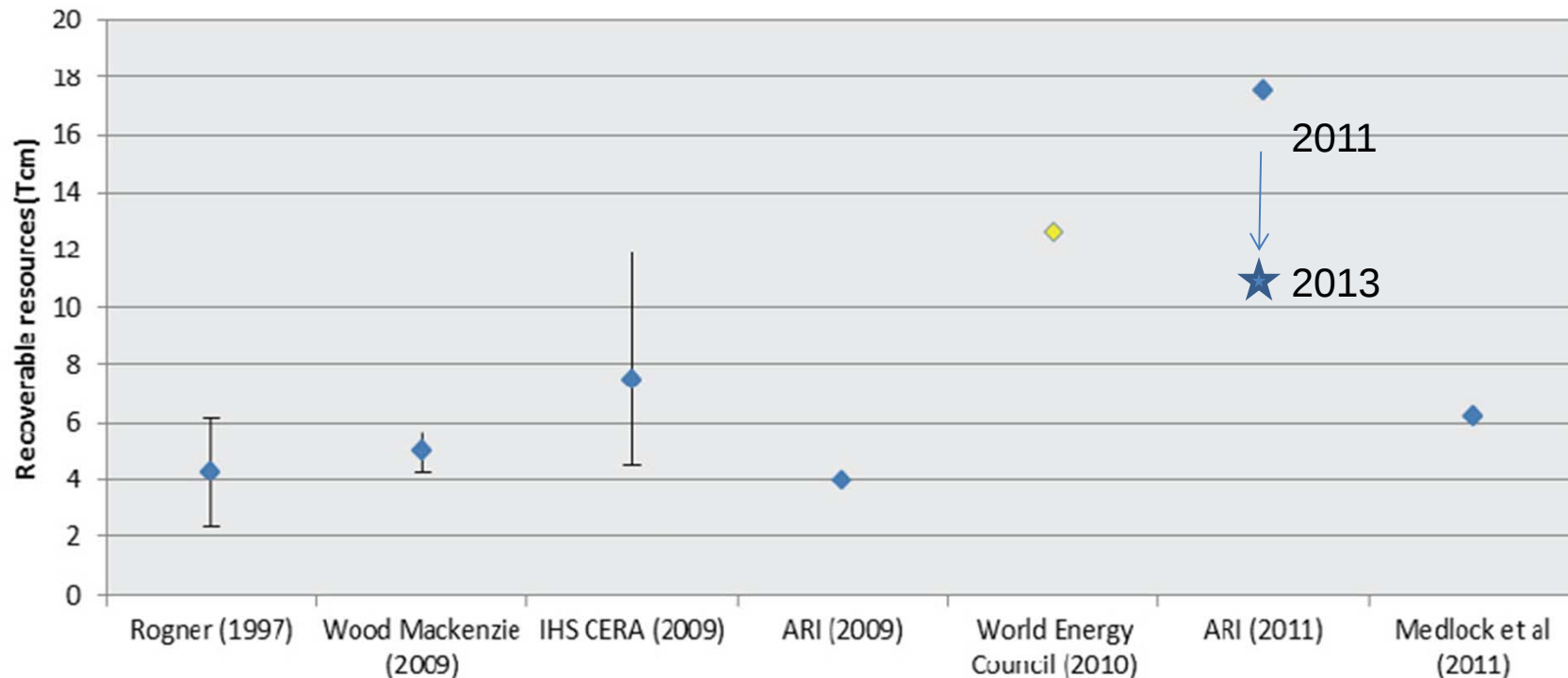
Europe shale basins. (Adapted from Kuuskraa et al, reference 6.)



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Estimated Shale Gas Resources Europe



Resource estimates are still varying to a large degree

No production experiences, limited exploration

Large uncertainties

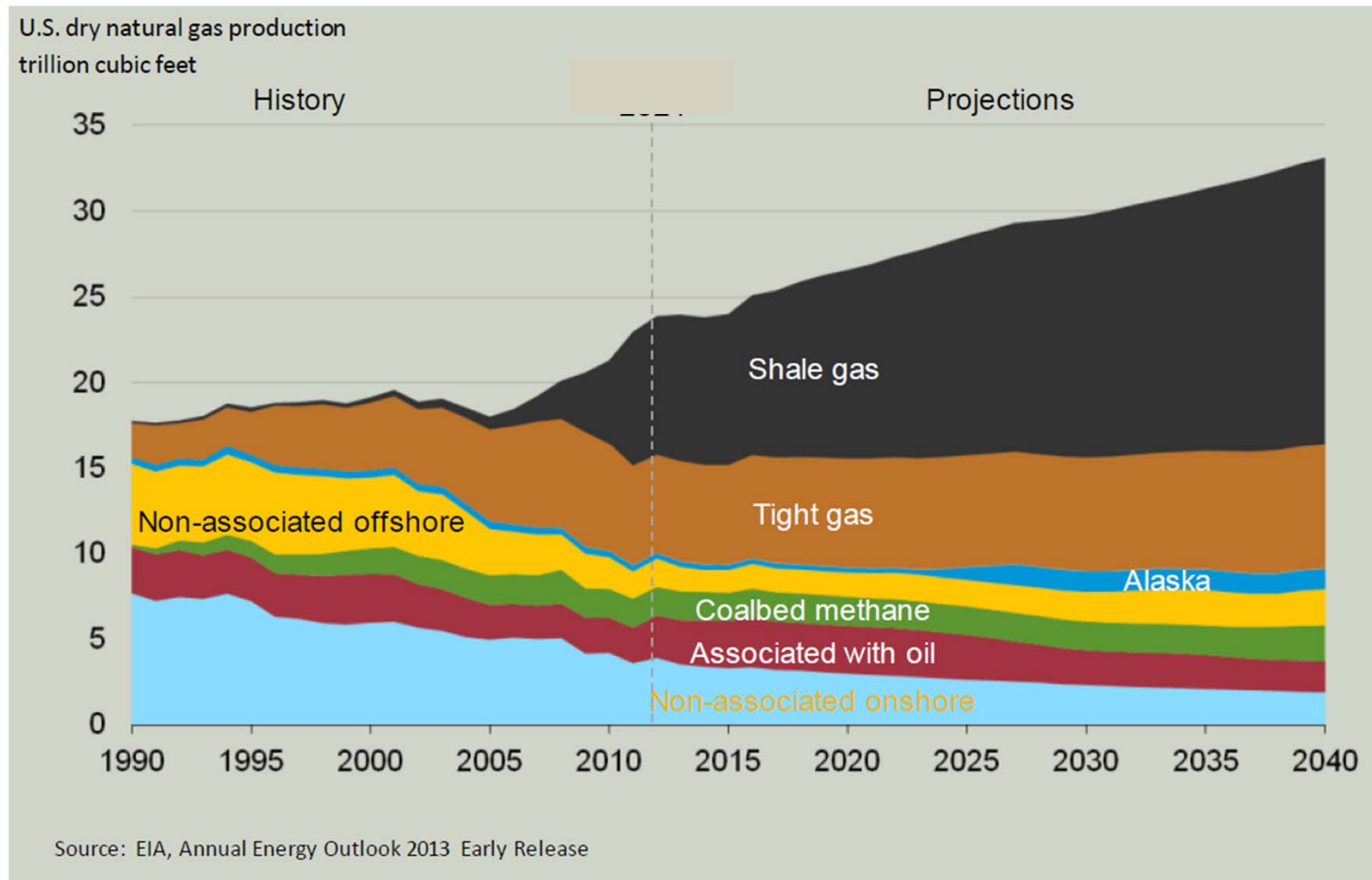
Consistent pan-EU data sets and uniform estimation principles are needed



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EU still a long way from US success story

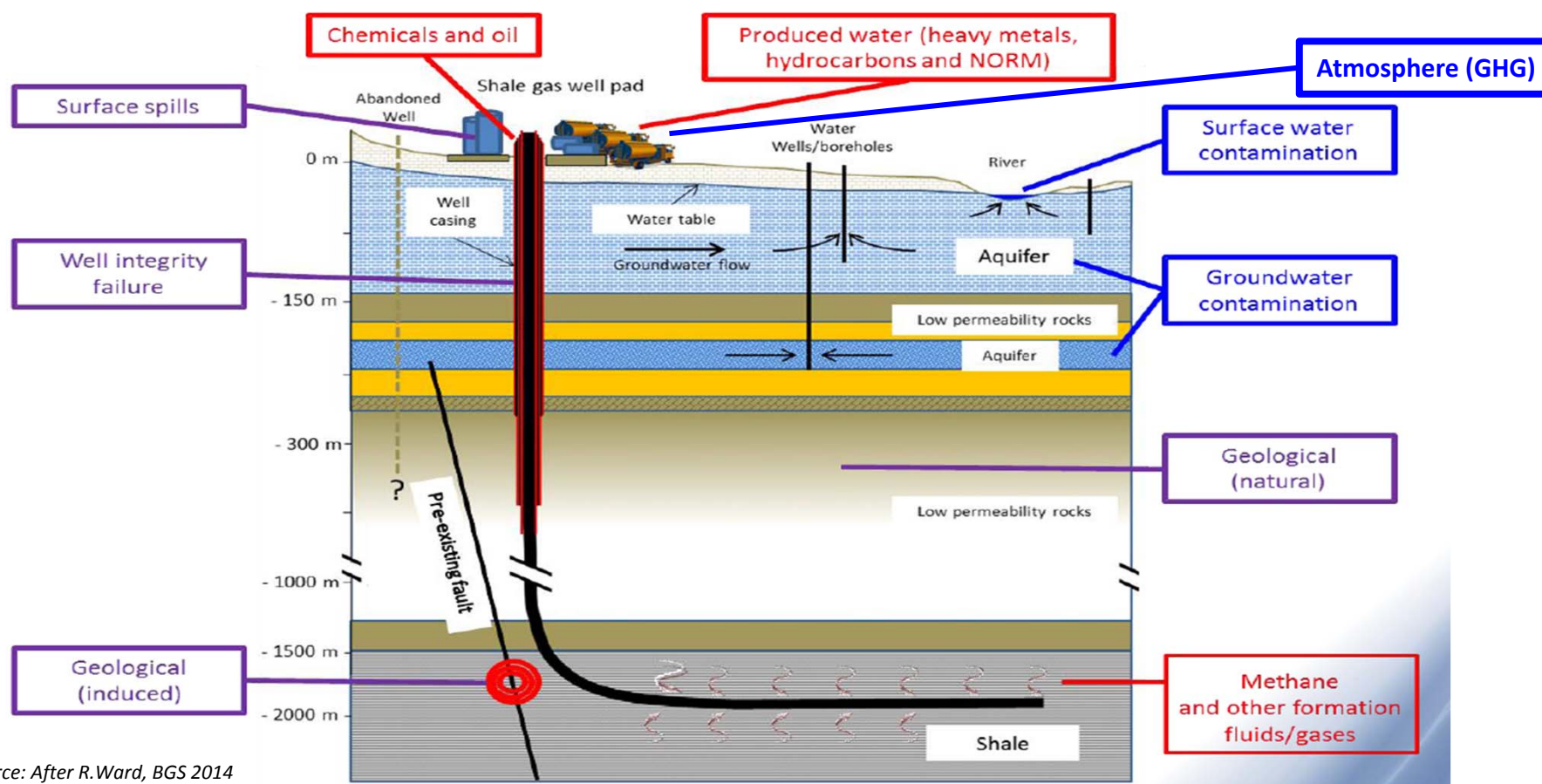


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Typical risk and environmental issues considered in shale gas and shale oil development

Pollutants (red), **Pathways** (purple), **Exposure** (blue)



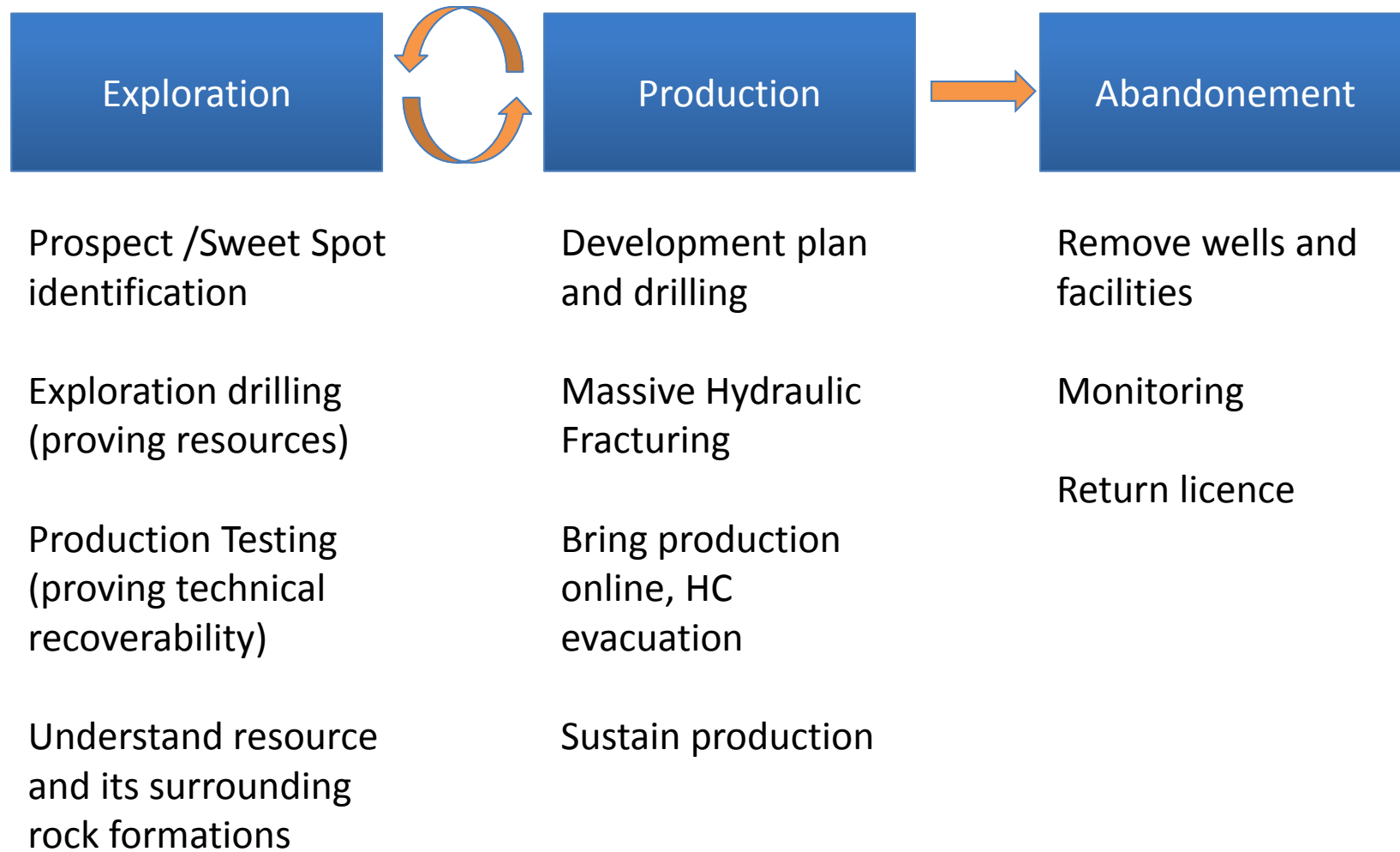
Source: After R.Ward, BGS 2014



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Exploration and Production cycle



EU Unconventional Oil and Gas Assessment (EUOGA)

- New project starting to “Fill the Data Gaps”
- EGS collaboration with JRC (Joint Research Council of EU)
- 2015-2016 (18 Months)
- Budget €700K
- Will provide comprehensive overview of current knowledge on Shale Gas potential areas in EU/EGS member countries
- Database created for further collaboration and research
- Led by GEUS (DK) & TNO (NL)
- But lots more to do!



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Thank you and enjoy the meeting!

Thanks to Serge van Gessel, TNO NL
Chair of EGS GeoEnergy Expert Group for slides
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