

Regulating shale gas extraction: UK experience to date

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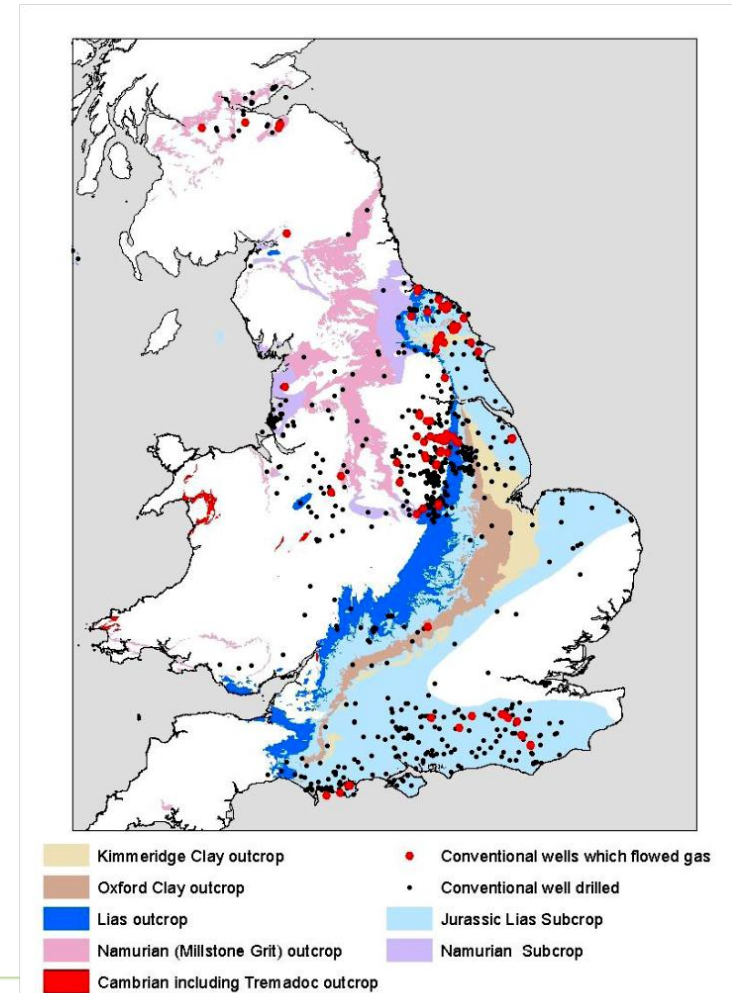
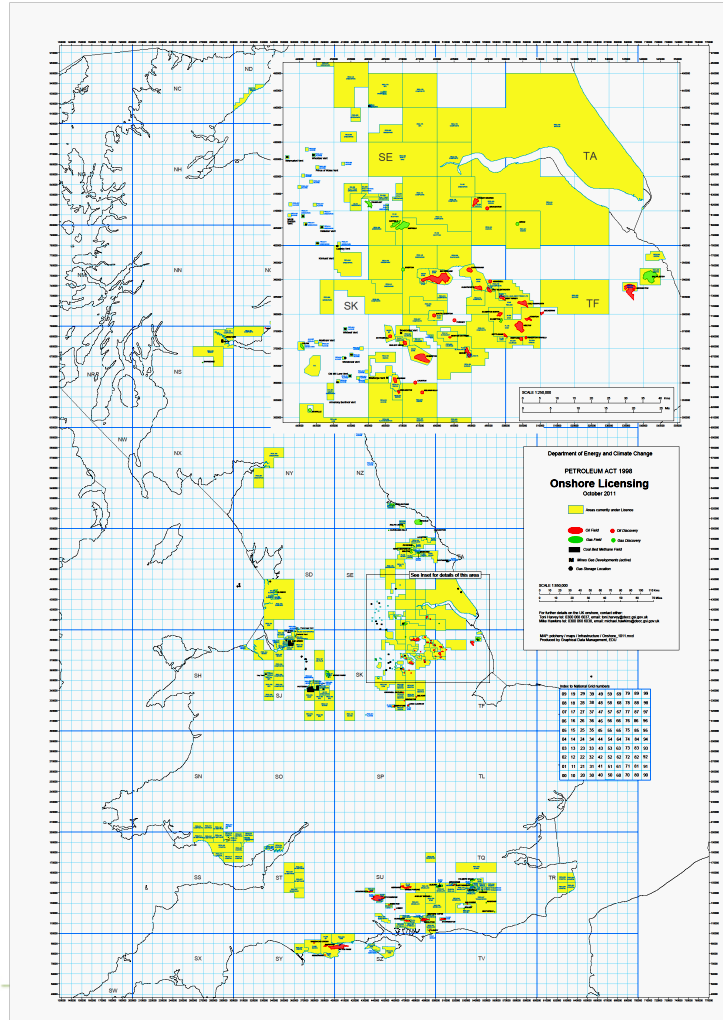
Atlantic Council event, 11-12 March 2013

Bucharest

State of play on shale gas in the UK

- ➔ At a very early stage: three wells drilled by Cuadrilla in Lancashire, one partly 'fracked'
- ➔ Fracking was suspended while small earthquakes caused by fracking at the first well were investigated
- ➔ December 2012 Government announced that fracking could resume with strict controls on seismic activity
- ➔ Cuadrilla now seeking planning and environmental permissions to resume
- ➔ Other holders of licences for oil and gas exploration showing interest, but currently have plans only for drilling
- ➔ UK Government has established an Office of Unconventional Gas and Oil

Shale basins and areas licensed for oil and gas exploration in Great Britain



The Environment Agency's approach to regulating shale gas operations

➔ Step by step:

- ➔ Undertake an environmental risk assessment
 - ➔ Review the environmental controls that apply
 - ➔ Develop our regulatory approach
- ## ➔ Work collaboratively with other regulators
- ## ➔ Engage with industry, stakeholders and local communities
- ## ➔ Promote industry good practice

UK Onshore Shale Gas Well Guidelines

Exploration and appraisal phase

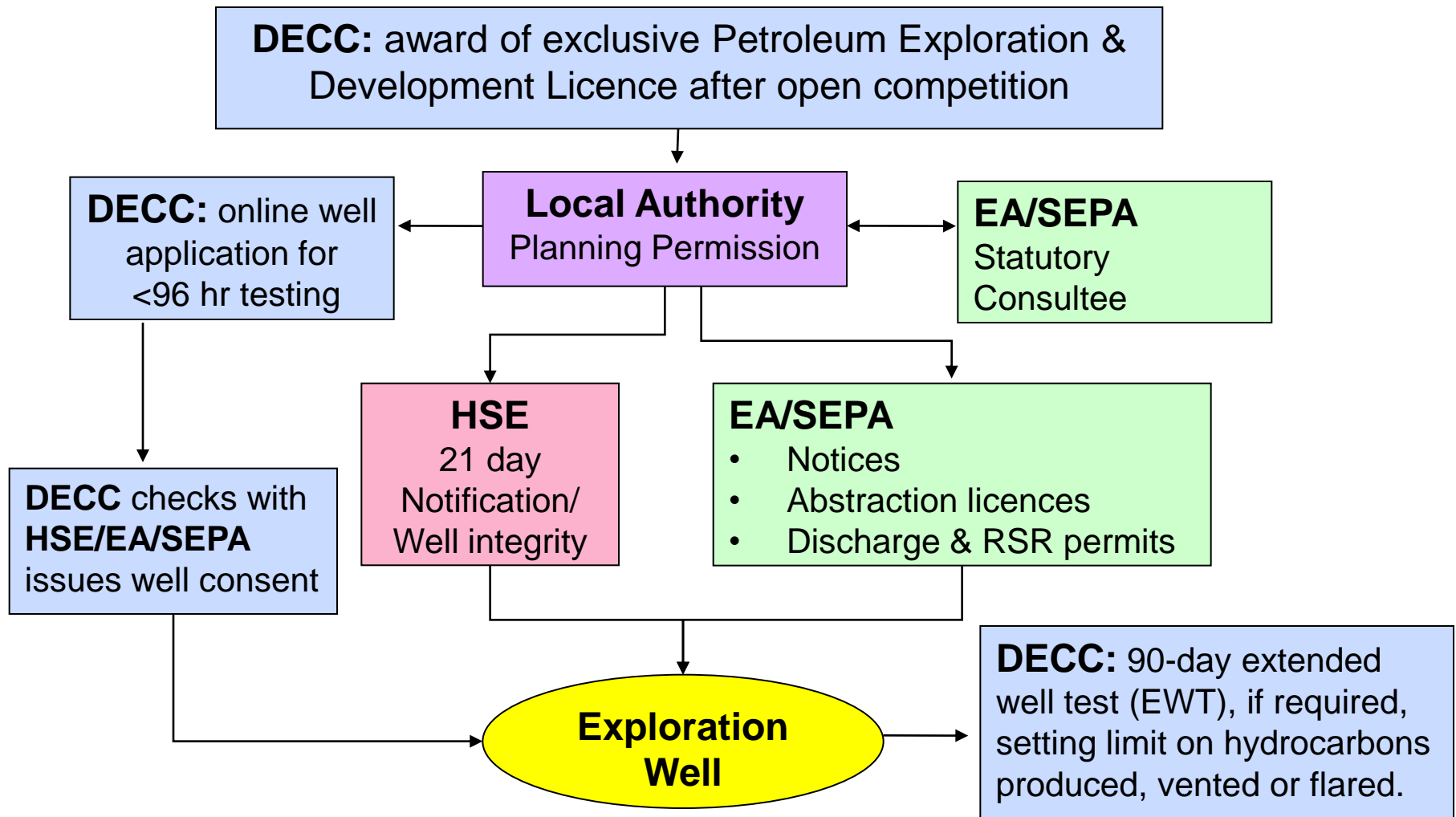
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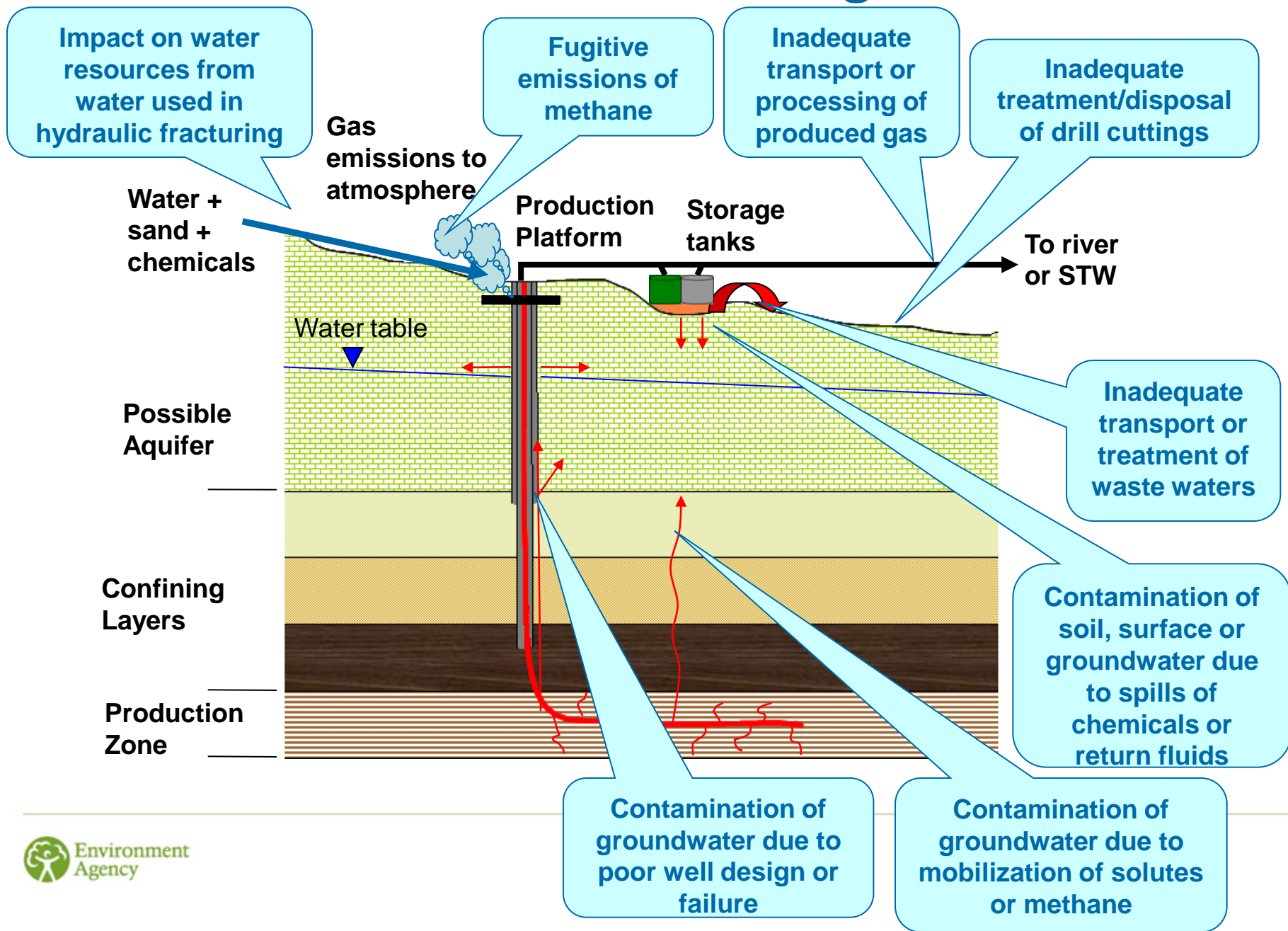
➔ Input from:

- ➔ Department of Energy and Climate Change (DECC)
- ➔ Health and Safety Executive (HSE)
- ➔ Environment Agency (EA)
- ➔ The Scottish Environment Protection Agency (SEPA)

Regulation in Great Britain - exploration



Environmental risks of shale gas extraction



Environmental controls (England and Wales)

Risk	Controls
Groundwater pollution	Water Framework Directive and Groundwater Daughter Directive through the Water Resources Act and Environmental Permitting Regulations (EPR): Regulate discharges to groundwater, require disclosure of chemicals.
Surface spills	Planning regime for site construction standards. EPR regulates discharges to surface water and groundwater.
Disposal of used fracking fluid	Mining Waste Directive through EPR: Waste management plan must be approved by the Environment Agency. Euratom Treaty if naturally occurring radioactive materials, via EPR.
Over abstraction of water	Abstraction licensing under the Water Resources Act.
Fugitive methane emissions	Borehole regulations (HSE) to protect human health. Mining Waste Directive for waste gases, via EPR. Conditions under Petroleum Licences (DECC) for flaring and venting.
Seismic activity	Conditions under Petroleum Licences (DECC)

Our current position

- ➔ Current regulation is adequate for exploration, but keeping under review
- ➔ All exploratory shale gas operations will require environmental permits
- ➔ We continue to work closely with the UK and Welsh governments and other regulators

Where we stand

- ➔ We have published our guidance on exploration for shale gas
- ➔ We have published a working together statement with HSE
- ➔ We are determining permits for Cuadrilla sites in Lancashire

Our next steps

- ➔ Develop detailed technical guidance for operators
- ➔ Streamline the permitting process
- ➔ Develop our guidance for full scale shale gas development