



Regulation of shale gas extraction in Great Britain

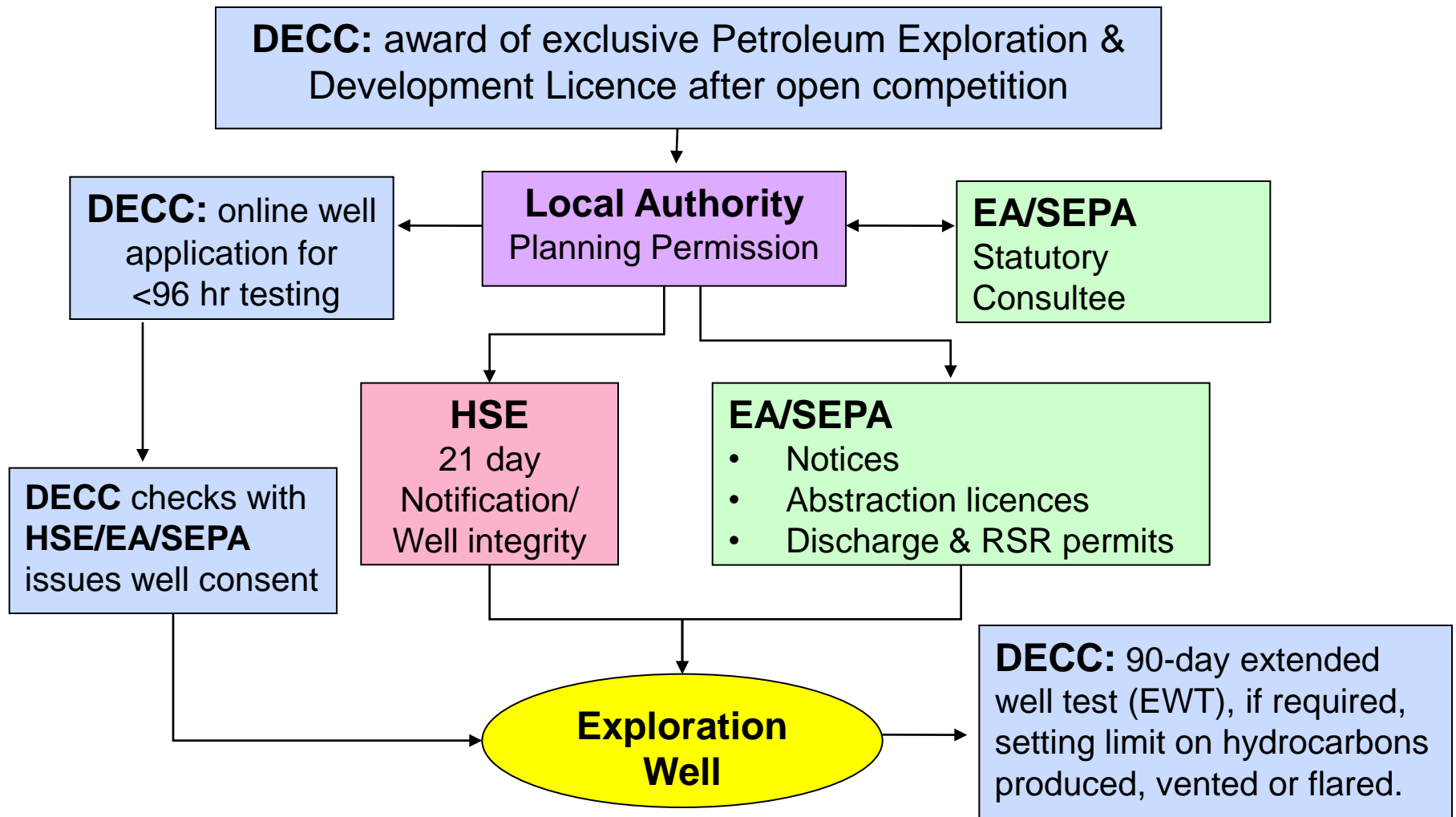
Geological Society briefing
London, 18 June 2012

Tony Grayling, Head of Climate Change and Communities

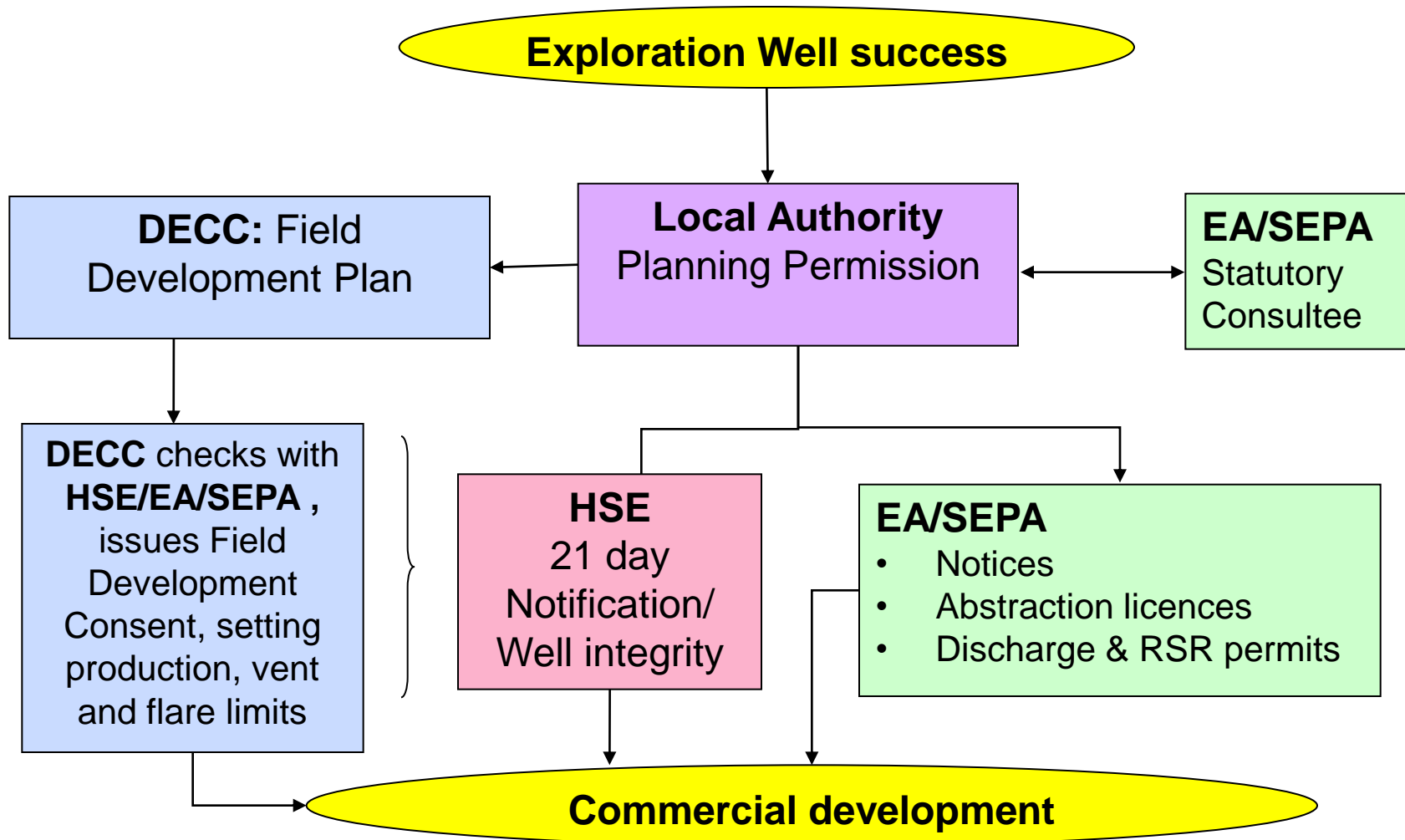
Regulatory bodies

- ⇒ Department of Energy and Climate Change (DECC)
- ⇒ Environment Agency (England and Wales) (EA)
- ⇒ Scottish Environment Protection Agency (SEPA)
- ⇒ Health and Safety Executive (HSE)
- ⇒ Local Authorities (minerals planning) (LA)

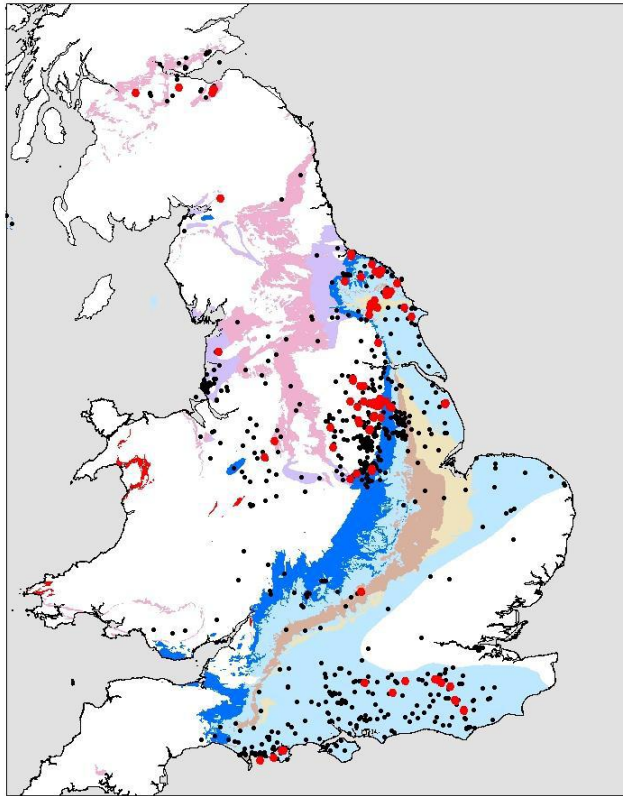
Regulatory regime in Great Britain - exploration












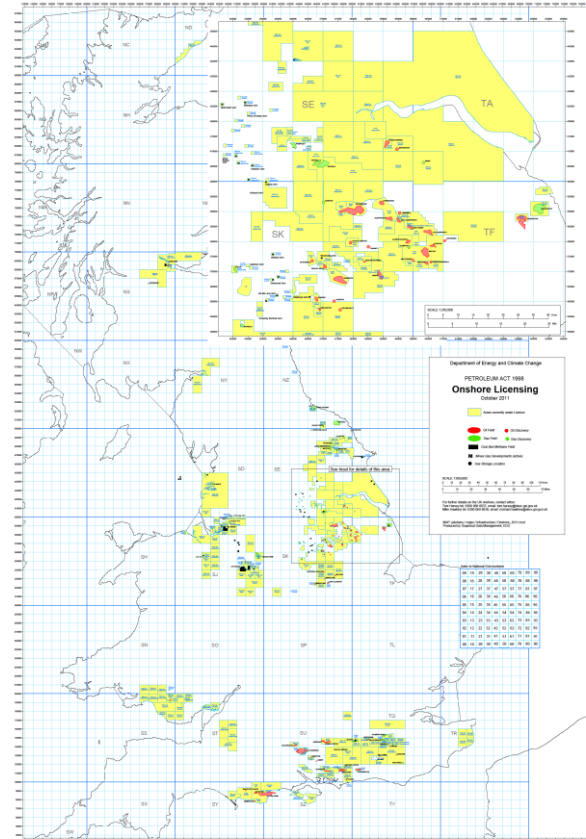
Regulation in Great Britain - development



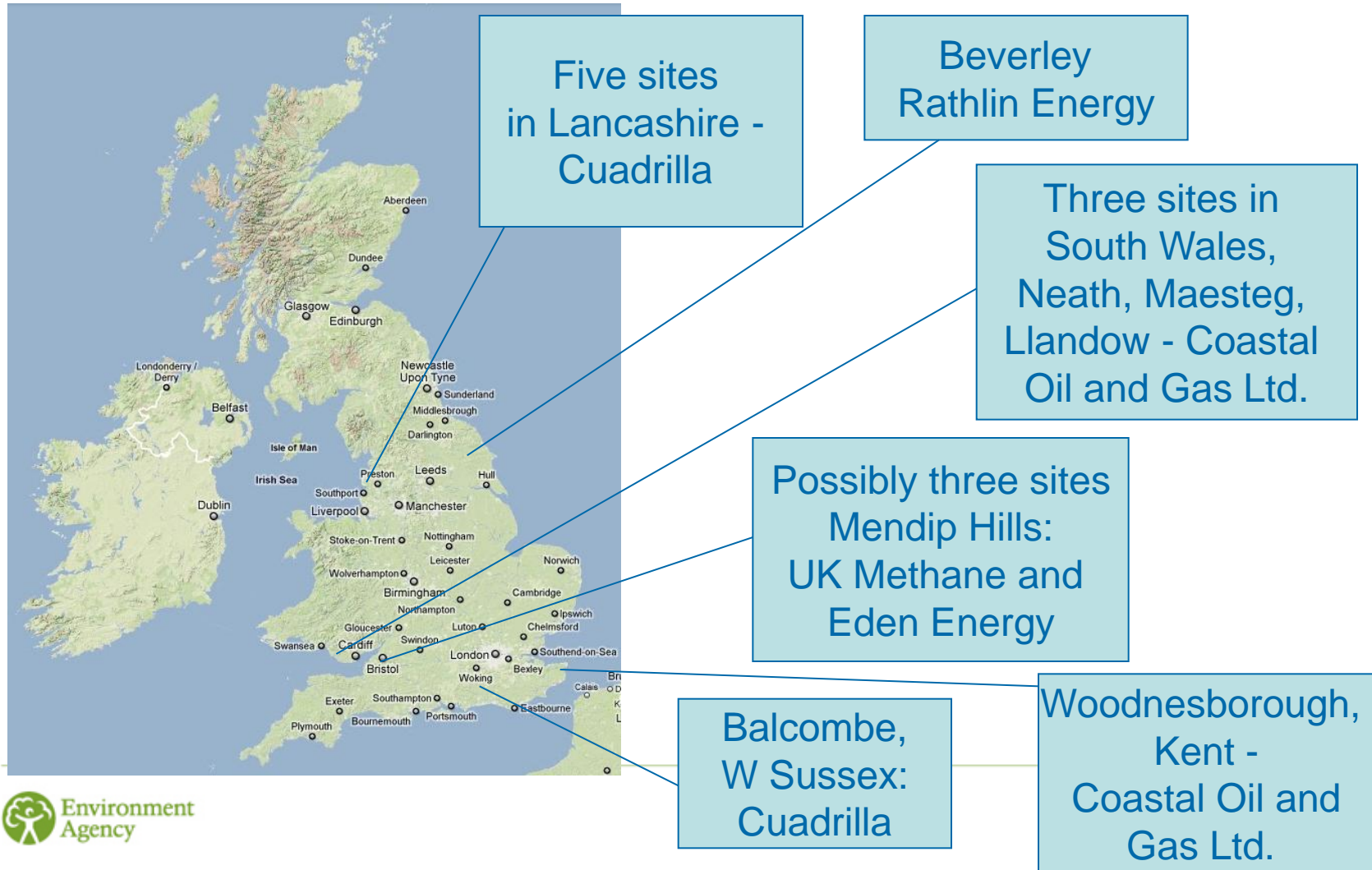
Shale basins and areas licensed for petroleum exploration in Great Britain



- | | |
|---|---|
|  Kimmeridge Clay outcrop |  Conventional wells which flowed gas |
|  Oxford Clay outcrop |  Conventional well drilled |
|  Lias outcrop |  Jurassic Lias Subcrop |
|  Namurian (Millstone Grit) outcrop |  Namurian Subcrop |
|  Cambrian including Tremadoc outcrop | |



Current proposals for shale gas exploration in England and Wales



Health and Safety Executive (HSE)



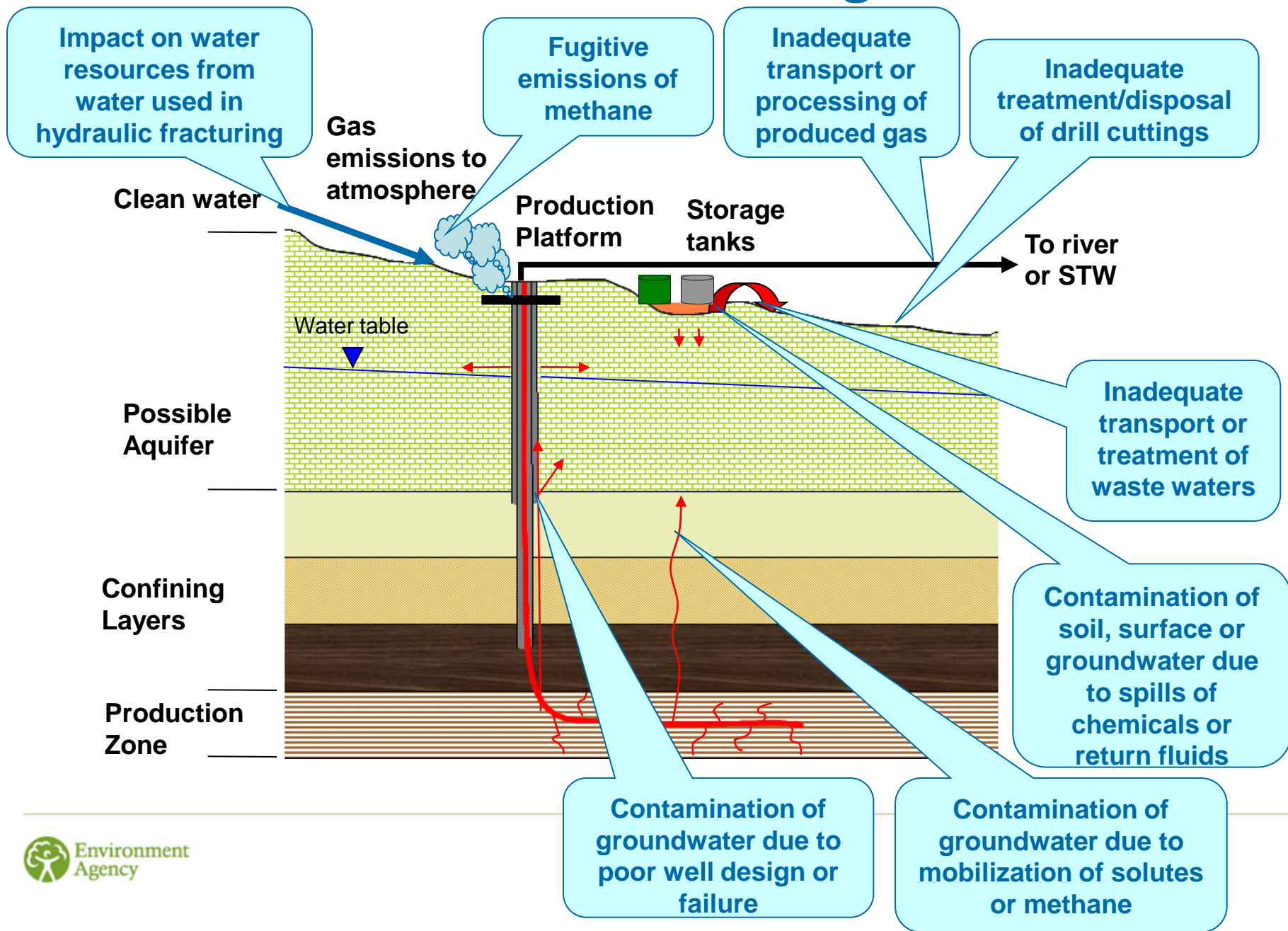
A guide to the Borehole Sites and Operations Regulations 1995



- ➔ The Offshore Installations and Wells (Design and Construction, etc) Regulations 1996
 - ➔ Integrity of wells
 - ➔ Independent check

- ➔ The Borehole Sites and Operations Regulations 1995
 - ➔ 21 days notification before drilling, abandonment or workover

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. Conditions under Petroleum Licences (DECC) for flaring and venting. Mining Waste Directive may apply.

Other environmental impacts



Environment Agency position

- ➔ Current regulation is adequate for small scale exploration but keeping under review
- ➔ Taking a responsible and risk based approach
- ➔ Undertaking further work to ensure we have all the information we need
- ➔ Working closely with UK and Welsh governments and other regulators

Next steps

- ➔ Awaiting public comments on review of seismic activity and DECC's response
- ➔ Undertaking a detailed environmental assessment, in partnership with DECC, Defra and other regulators
- ➔ Reviewing HSE's borehole guidance
- ➔ Reviewing methods for monitoring and controlling fugitive methane emissions
- ➔ Building contacts with environmental protection agencies in Europe and the US
- ➔ Examining best practice in environmental regulation in Europe (via EU technical working group)