



EUROPEAN
COMMISSION

Brussels, 22.1.2014
SWD(2014) 21 final

PART 3/4

COMMISSION STAFF WORKING DOCUMENT

IMPACT ASSESSMENT

Accompanying the document

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**Exploration and production of hydrocarbons (such as shale gas) using high volume
hydraulic fracturing in the EU**

{COM(2014) 23 final}
{SWD(2014) 22 final}

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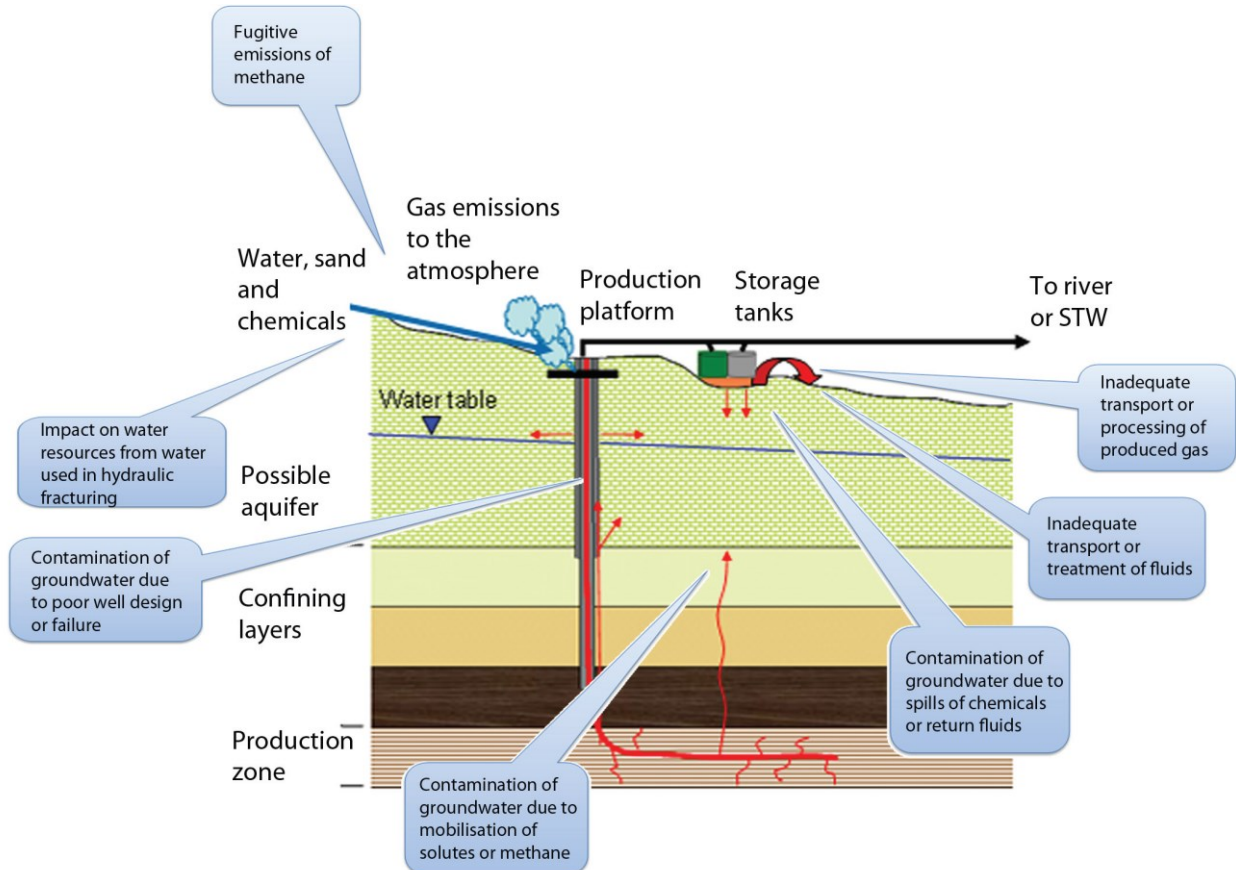
4.1. General impacts pathways

4.2. Chemicals' pathways

4.3. RFF risks pathways

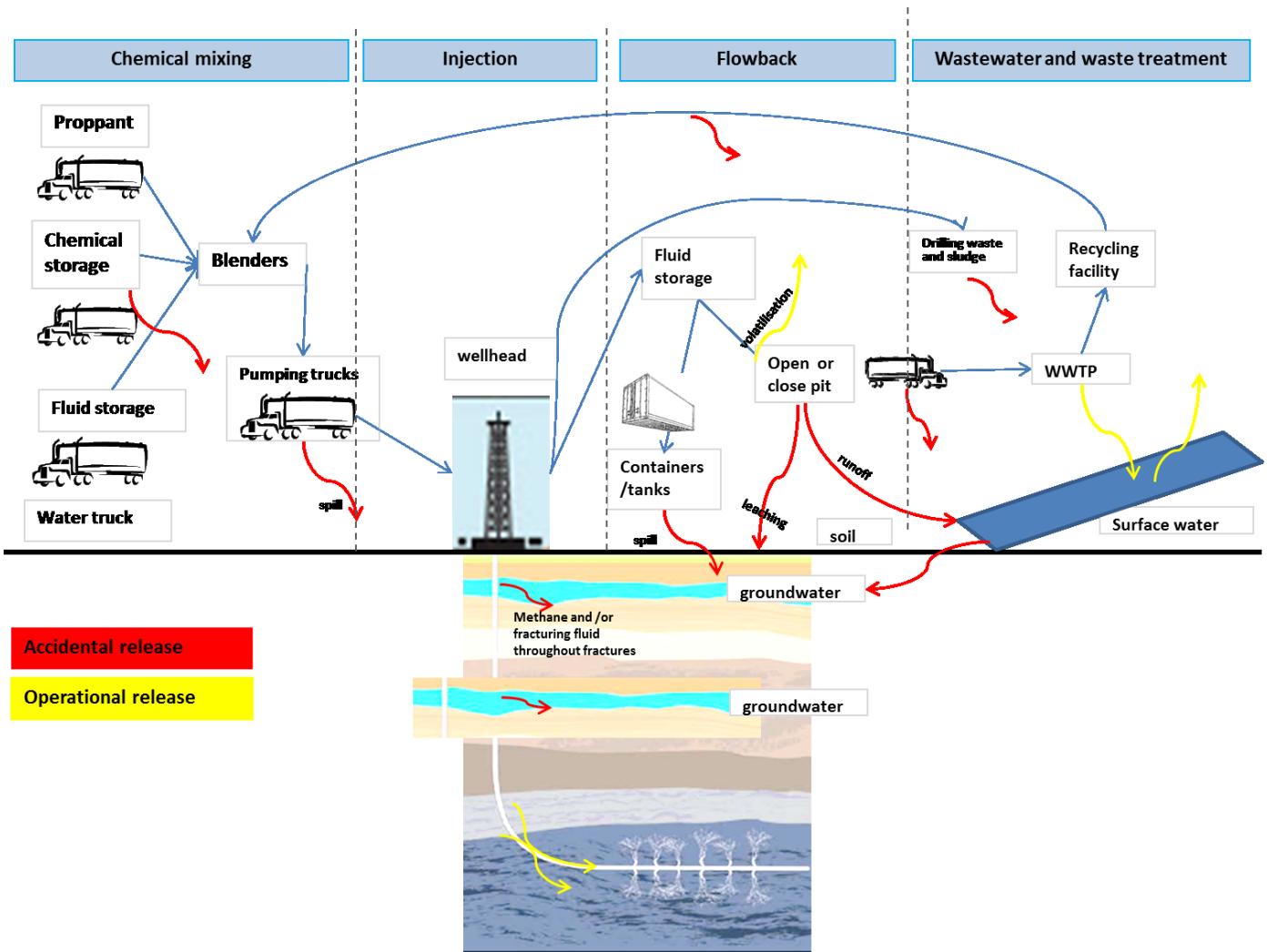
ANNEX 4. ENVIRONMENTAL IMPACT PATHWAYS

4.1 General impacts pathways



Source: Pollutant pathways associated with hydraulic fracturing. Source: Adapted from Environment Agency (England) (2013) © Environment Agency right

4.2 Chemicals' pathways

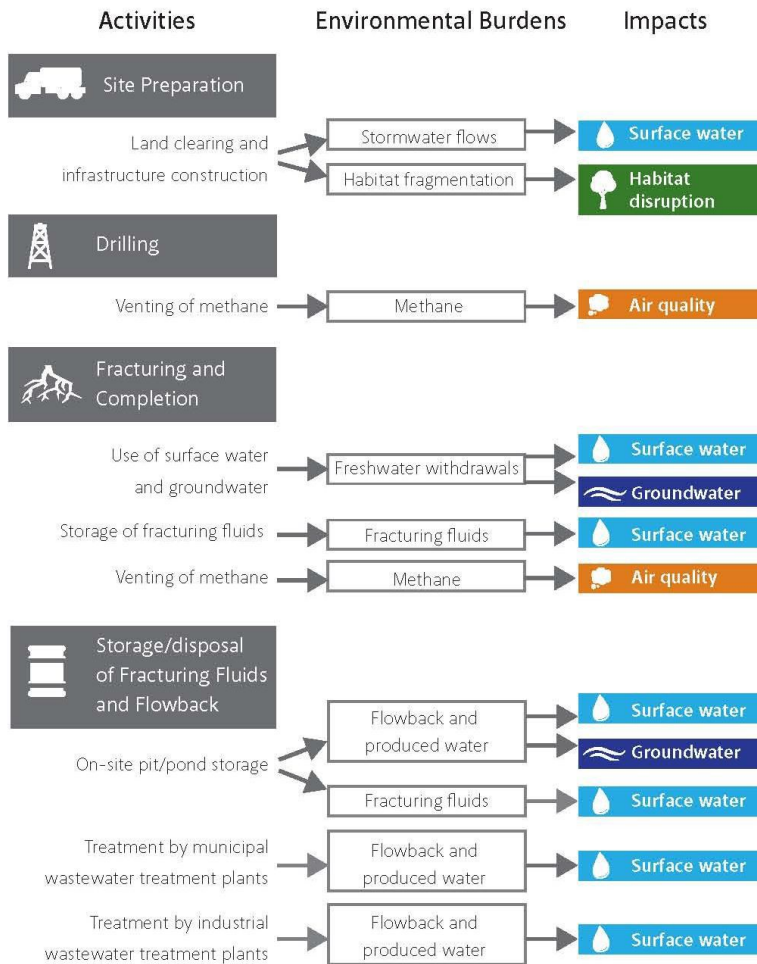


Source: "Spatially-resolved Assessment of Land and Water Use Scenarios for Shale Gas Development: Poland and Germany", JRC IES, forthcoming

4.3. RFF risks pathways

Source: RFF report, Pathways to Dialogue What the Experts Say about the Environmental Risks of Shale Gas Development, Alan Krupnick, Hal Gordon, and Sheila Olmstead, 2013 (accessible at: http://www.rff.org/Documents/RFF-Rpt-PathwaystoDialogue_FullReport.pdf)- RFF retains copyright on this figure.

ROUTINE RISK PATHWAYS



ADDITIONAL ROUTINE RISK PATHWAYS IDENTIFIED BY TOP EXPERTS



ACCIDENT RISKS PATHWAYS

