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Fact-based communication about shale gas: the Shale Gas Information Platform SHIP

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Abstract

In response to an increasingly expressed need for factual information, a science-based information web portal, the Shale Gas Information Platform SHIP, was developed. At the core of the project is the shale gas expert network. It's an international and interdisciplinary group composed of mainly scientists that share their specific knowledge with the public. With a strong focus on factual information, this initiative also strives to serve the scientific community as a publication and knowledge exchange platform. SHIP relies upon the basic principles of being science-based, transparent and balanced. The GFZ German Research Centre for Geosciences coordinates this initiative.

All rational decision-making requires that views are formed based on facts. This is true of the often complex decisions politicians must make; such as decisions on how to move forward towards a sustainable future energy supply. By sustainability, we are referring to economically, ecologically and socially acceptable elements, all of which are crucial components. Individual energy resources have to be evaluated for their advantages and disadvantages in all of the fields relevant to sustainability, and they have to be placed into the larger context of a future energy mix. Shale gas provides a relatively new challenge in this respect, since the technologies needed to produce it economically have only been developed and applied during the last two decades (Montgomery and Smith 2010). Large-scale production only began in the mid-1990s in the U.S., where it completely changed the national energy landscape and influenced gas markets worldwide (Stevens 2012). Large-scale production today is still limited to just the U.S. and Canada, but many nations worldwide are either deliberating about the opportunities and risks, or are about to start exploration activities. Among European governments, different opinions on the development of shale gas prevail. The French government has a clear stance on shale gas, recently banning shale gas exploration (EurActive 2012). On the other hand, Poland and Ukraine are moving forward apace, and testing their shale gas potential. Others, like Germany or the Netherlands, are hesitant about pursuing exploration activities and are still in the process of making decisions. Also E.U. bodies are thinking very carefully about how to develop a unified position on shale gas (Shepherd 2012).

Fact-based information about shale gas, especially regarding the potential environmental risks related to its production, was lacking until recently, and this deficiency is one reason behind the often subjective debate. Until recently information was only provided by the media, often with shocking headlines, on the websites of opponents to shale, and on industry websites. These information sources are often biased in the way they present information to the general public, serving their own vested interests. Reports in the media correctly draw attention to environmental concerns; however some of the headlines have grossly exaggerated the facts.

Only since 2011 have numerous peer-reviewed papers and comprehensive research reports been published on the potential risks and benefits of shale gas development (e.g. Broomfield 2012; Green et al. 2012; Gregory et al. 2011; Haluszczak 2013; Koppelman et al. 2012; Shemata et al. 2012; Weber and Clavin 2012). Environmental issues dominate the discussion, including the potential impact on climate from shale gas production. Legal studies, as well as reports on the economic implications have also been published.

Communication and communicators

Alongside traditional public relations methods, where officials inform the public about what they (the experts) plan to do, it has in recent years become increasingly important to include stakeholder interaction and communication with the general public when implementing energy-related projects, especially when introducing new technologies. In terms of the communication process, which will often include the communication of scientific and technological uncertainties, Renn et al. (1996) state that communication should be a two-way process, incorporating stakeholder dialogue. These authors emphasise that fact-based information provision is an essential ingredient, but not of sole importance, for successful communication. Communication with stakeholders is important when establishing renewable energy sources, such as wind farms (Wolsink 2007) and geothermal projects (Dowd et al. 2011), as well as carbon capture and storage (CCS) projects (Hübner et al. 2013). A large number of publications already address public perceptions and the issue of acceptance in relation to the geological storage of CO₂. These publications highlight the importance of providing factual information and they suggest practical guidelines for successful information dissemination (Ashworth et al. 2010; Ashworth et al. 2012, and references therein). Open and transparent communication was identified as one of the key prerequisites to opinion forming, and to the eventual building of trust between the various stakeholders in the public debate on CCS projects (Stephens et al. 2009; Ashworth et al. 2012). Theodori and Jackson-Smith (2010) also strongly recommend such communication when it comes to discussing shale gas utilization.

As for the successful communication of factual information, it is clearly imperative that those who deliver the information are considered to be trustworthy by the receiver. Several investigations relating to CCS projects show that academic and research institutions are usually deemed by the public to be trustworthy sources of information, along with environmental organisations (Ashworth and Gardner 2006; ter Mors et al. 2006). However, this trust is more nuanced when researchers are funded by and/or communicate on behalf of industry. In a notable effort to increase the acceptance of shale gas exploration in Germany, ExxonMobil Production Deutschland GmbH (EMPG) mandated and funded a group of scientists to independently investigate the risks of hydraulic fracturing in the course of an “information and dialogue process”. The findings and recommendations of the experts (Ewen 2012) were peer-reviewed, but nonetheless the trust in the credibility of the research results was diminished due to industry funding (Gegen Gasbohren 2012).

Trust in academic research can be adversely affected when ties between academia and industry are not communicated transparently and in a timely manner. One of the first scientific studies on the environmental risks of shale gas development, published by the University of Texas in February 2012, suffered from a failure to disclose the industry links of the principal investigator, generating controversy about the reliability of the report (editorial in *Nature* 2012). Possible academic conflicts of interest have also been discussed relative to the establishment of the Shale Resources and Society Institute SRSI of the University at Buffalo. In an open letter, the faculty urged for more transparency within the institute in general, as well as transparency regarding its members’ long-term connections to the oil and gas industry and a potential bias in a report delivered by SRSI (Holstun et al. 2012). These examples highlight the need for research

institutions to be rigorous in securing transparency and in ensuring that scientists practice strong scientific work ethics.

The Shale Gas Information Platform, SHIP

As the public discussion on shale gas production took off in Europe, research institutions were increasingly asked by the media, politicians and the general public to provide independent expertise on shale gas. This emphasised the active and defining role that research institutions could play in a balanced and fact-based discussion of shale gas. In response to this increasingly expressed need for information, the science-based information web portal, the Shale Gas Information Platform, SHIP at www.shale-gas-information-platform.org (Fig. 1), was developed to remedy this deficiency. SHIP provides general as well as in-depth information, and it also serves the scientific community as a publication and knowledge exchange platform. The initiative relies heavily on the expertise of an international and interdisciplinary expert group, covering environmental science, geosciences, and law. Experts are mainly academics from research institutions. Gas industry professionals are consulted when necessary, as well as environmental groups. Collaborations are sought with national geological surveys as well with large research programs on shale gas (e.g. ReFINE, Researching Fracking IN Europe, Durham University). The content of the website focuses on the environmental aspects of shale gas production. Of all the issues related to shale gas development, these issues have been most often discussed publicly, and they are the main drivers for shaping the public attitude towards energy-related topics, such as shale gas (Jacquet 2012). The GFZ German Research Centre for Geosciences coordinates the SHIP initiative and maintains the web infrastructure.

The Shale Gas Information Platform is a web-based, collaborative platform that builds on more than the expertise of one particular institution; it networks international experts and provides overviews on shale gas developments in different countries. At the same time, SHIP is a comprehensive and fact-based information portal for the interested general public and for decision-makers. SHIP is unique in this respect, since single aspects of shale gas development have already been presented on a factual basis by individual institutions/organisations, but a comprehensive presentation relying on a multidisciplinary expert group was missing up until now.

Basic principles

SHIP relies upon the basic principles of being science-based, transparent and balanced. In this respect, it features information from peer-reviewed research papers and summary reports relying on scientific results and expertise. Featured reports must be published by trustworthy organisations/bodies. Trans-national bodies include the European Commission and the International Energy Agency, while national bodies include the U.S. Environmental Protection Agency, national geological surveys, and the U.S. Energy Information Agency. SHIP also publishes texts on “national developments and positions” that provide short introductions to the respective country’s development of shale gas, the related public discussion and any national research initiatives. To ensure that these texts are fact-based, they are written by staff of the respective geological surveys of the relevant country.

SHIP maintains transparency by having a clear mission statement, by reporting all funding of the initiative, and by disclosing the people that work closely with SHIP (the SHIP Expert Network). In general, industry (co-)funding of public research programmes is common, but with initiatives such as SHIP, funding clearly cannot come from industry sources. Therefore, the Shale Gas Information Platform is funded solely by the German Federal Ministry of Education

and Research within the framework of the research project "GeoEn" and the GFZ German Research Centre for Geosciences. The SHIP coordination team, as well as the members of the expert network, are listed on the website.

SHIP covers the pros and the cons of shale gas development. While all articles are based on scientific sources, weblinks are also provided to alternate information sources on both sides of the shale gas debate, e.g. WWF, Greenpeace, and shale gas critical publication organs such as pro publica, as well as industry websites. The condition for included weblinks is that the linked sites must contain valuable information and/or good graphic/text presentations related to specific shale gas issues. The SHIP site also contains national shale gas overviews that include weblinks to the main citizen initiatives opposing shale gas. Following the principles of balance and transparency, discussions on the quality and independence of shale gas research (SHIP 2012) are also covered by SHIP.

Content of the SHIP website is generally licensed under a Creative Commons CC-BY-NC-licence. This supports the re-use of website content, except for commercial purposes. Rare exemptions to the general SHIP licence rule are clearly marked on the respective content.

Target groups

SHIP's target audiences are the general public, decision-makers and the shale gas scientific community alike. For this purpose, SHIP provides content tailored to these different audiences. The section "Basic Information" focuses on fundamentals relating to shale gas, including geo-scientific background and the potential benefits and risks. The texts are written in non-technical language that bear in mind the general public, as well as decision-makers in administrations, politics and businesses. These texts also serve as information sources for journalists. The "News" section covers, among other items, research articles and scientific reports. This is particularly useful to the public, authorities, businesses and politicians, who find it is costly, time-consuming and often beyond their scope to keep track of scientific discussions related to shale gas issues. This is partly because peer-reviewed articles are usually published in scientific journals, and the content is less accessible to the general public and also summarized reports issued by national or international organisations can be easily overlooked. The scientific community is served by expert articles on specific topics. These are written by specialists in their field, often exclusively for SHIP.

Expert publications and public dialogue

Apart from being an information portal to aid scientists in keeping up to date on current publications related to shale gas (SHIP News), SHIP provides a publication platform for original articles and for the republishing of texts on specialised topics related to shale gas. The articles are open to comment via the SHIP "Discussion" function. The authors agree to review the text after 3, 6, 9, and 12 months, and to update the text if necessary. For the update, comments in the SHIP discussion section should be considered, as well as new scientific literature and other relevant sources (e.g. new legislation). Comments are, and remain, visible on the SHIP website. To ensure the quality of the SHIP discussion section, comments are moderated. Moderation warrants that forum posts pertain to the subject of the relevant discussion forum, that no advertising is made, and, more generally, that applicable laws are adhered to. A dialogue with the general public is sought via the contact form on the SHIP website. These posts are not publicly visible.

Languages

To secure wide readership, the language of the SHIP website is English. However, SHIP is striving to expand its language capabilities, to increase its impact. Since professional translations must be limited due to funding constrictions, SHIP relies much upon the voluntary input of the expert network for translation/proofreading and assistance in dialogue with the public. Translated text will be added to the SHIP website therefore, on a step-by-step basis. Due to requests from German and Polish institutions and individuals, SHIP publishes the “News”, the “Basic Information”, and other sections additionally in German and Polish translations. This project is funded by the German Federal Ministry of Education and Research (BMBF) within the joint research project GeoEn, subproject 3.1.4 “Auswirkungen der Schiefergas-Förderung auf die Umwelt”.

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Fig. 1 Screenshot of the homepage of the Shale Gas Information Platform SHIP website; www.shale-gas-information-platform.org

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Brian Horsfield about SHIP

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