Project Acronym and Title:

M4ShaleGas - Measuring, monitoring, mitigating and managing the environmental impact of shale gas

Prerequisites for a Social Licence to Operate in the (Shale) gas Industries

Authors and affiliation:

Claudia Brändle[1], Aleksandra Lis[2], Torsten Fleischer[1] , Darrick Evensen[3], Jessanne Mastop[4]

[1]ITAS, [2]AMU, [3]Cardiff University, [4]ECN

E-mail of lead author:
claudia.braendle@kit.edu

D17.2
Definitive version

Public introduction

M4ShaleGas stands for *Measuring, monitoring, mitigating and managing the environmental impact of shale gas* and is funded by the *European Union's Horizon 2020 Research and Innovation Programme*. The main goal of the M4ShaleGas project is to study and evaluate potential risks and impacts of shale gas exploration and exploitation. The focus lies on four main areas of potential impact: the subsurface, the surface, the atmosphere, and social impacts.

The European Commission's Energy Roadmap 2050 identifies gas as a critical fuel for the transformation of the energy system in the direction of lower CO_2 emissions and more renewable energy. Shale gas may contribute to this transformation.

Shale gas is – by definition – a natural gas found trapped in shale, a fine grained sedimentary rock composed of mud. There are several concerns related to shale gas exploration and production, many of them being associated with hydraulic fracturing operations that are performed to stimulate gas flow in the shales. Potential risks and concerns include for example the fate of chemical compounds in the used hydraulic fracturing and drilling fluids and their potential impact on shallow ground water. The fracturing process may also induce small magnitude earthquakes. There is also an ongoing debate on greenhouse gas emissions of shale gas (CO_2 and methane) and its energy efficiency compared to other energy sources

There is a strong need for a better European knowledge base on shale gas operations and their environmental impacts particularly, if shale gas shall play a role in Europe's energy mix in the coming decennia. M4ShaleGas' main goal is to build such a knowledge base, including an inventory of best practices that minimise risks and impacts of shale gas exploration and production in Europe, as well as best practices for public engagement.

The M4ShaleGas project is carried out by 18 European research institutions and is coordinated by TNO-Netherlands Organization for Applied Scientific Research.

Executive Report Summary

Shale gas as well as the method used for its extraction - hydraulic fracturing - can be seen as a highly controversial topic within the EU. In this report, we investigate potential methods to balance out public concerns with industry interests – whether it is possible for the shale gas industry to gain a "Social Licence to Operate" in the EU. To this end, we provide a short overview on the concept's origins in the mining sector, current interpretations, the involvement of stakeholders and a possible application of the concept to the oil and gas sector with a special focus on the shale gas industry. In addition, we explore related concepts like "Corporate Social Responsibility" or "Environmental/Energy Justice" and critically engage with the concept of a "Social Licence to Operate".

TABLE OF CONTENTS

1   INTRODUCTION

1.1   Context of M4ShaleGas

Shale gas source rocks are widely distributed around the world and many countries have now started to investigate their shale gas potential. Some argue that shale gas has already proved to be a game changer in the U.S. energy market (EIA 2015[1]). The European Commission's Energy Roadmap 2050 identifies gas as a critical energy source for the transformation of the energy system to a system with lower CO_2 emissions that combines gas with increasing contributions of renewable energy and increasing energy efficiency. It may be argued that in Europe, natural gas replacing coal and oil will contribute to emissions reduction on the short and medium terms.

There are, however, several concerns related to shale gas exploration and production, many of them being associated with the process of hydraulic fracturing. There is also a debate on the greenhouse gas emissions of shale gas (CO_2 and methane) and its energy return on investment compared to other energy sources. Questions are raised about the specific environmental footprint of shale gas in Europe as a whole as well as in individual Member States. Shale gas basins are unevenly distributed among the European Member States and are not restricted within national borders, which makes close cooperation between the involved Member States essential. There is relatively little knowledge on the footprint in regions with a variety of geological and geopolitical settings as are present in Europe. Concerns and risks are clustered in the following four areas: subsurface, surface, atmosphere and society. As the European continent is densely populated, it is most certainly of vital importance to understand public perceptions of shale gas and for European publics to be fully engaged in the debate about its potential development.

Accordingly, Europe has a strong need for a comprehensive knowledge base on potential environmental, societal and economic consequences of shale gas exploration and exploitation. Knowledge needs to be science-based, needs to be developed by research institutes with a strong track record in shale gas studies, and needs to cover the different attitudes and approaches to shale gas exploration and exploitation in Europe. The M4ShaleGas project is seeking to provide such a scientific knowledge base, integrating the scientific outcome of 18 research institutes across Europe. It addresses the issues raised in the Horizon 2020 call LCE 16 – 2014 on *Understanding, preventing and mitigating the potential environmental risks and impacts of shale gas exploration and exploitation.*

---

[1] EIA (2015). Annual Energy Outlook 2015 with projections to 2040. U.S. Energy Information Administration (*www.eia.gov*).

1.2   Study objectives for this report

In our last report published for the M4Shalegas project (Deliverable 17.1 "Existing European Data on Public Perceptions of Shale Gas", 2015) we found that across four member states of the EU, Poland, the Netherlands, the United Kingdom and Germany, there is a growing level of public opposition to shale gas activities. Even though the amount of protest and opposition varies among the analysed countries, shale gas as well as the method used for its extraction - hydraulic fracturing - can be seen as a highly controversial topic. While some countries, notably Poland where there is considerably less vocal protest and the UK (England) where it is in the early stages of development, still allow shale gas activities, public opposition as well as environmental concerns with regard to shale gas extraction have led to a permanent or at least partial ban in other European countries, like the Netherlands or Germany. In this report we investigate if there are methods to follow that might balance out public concerns with industry interests. In other words, we are interested in the question whether or not it is possible for the shale gas industry to gain a "Social Licence to Operate" in the EU?
What a SLO entails and how a company can acquire, keep or lose it has been subject of an increasing amount of academic literature, though there is no consensus yet as to what a SLO actually consists of (Gunningham et al. 2004). The uptake of the concept in academic research has resulted in an increase in different conceptualizations and interpretations of "social licence," which, in turn, has led to the problem that: "serious attempts by businesses to understand what the social licence entails can be stymied by the diversity of interpretations of the term and its implications" (Boutilier 2014, p. 264). The concept itself is relatively recent, dating back to 1997, when mining executive James Cooney supposedly first used the phrase "a social Licence to operate" during a meeting with members of the World Bank (Boutilier (2014). The phrase itself, as well as the concept underneath, has become quite influential since the early 2000s, especially in the industrial sector that it originated from: the mining industry (ibid.). Since the concept gained momentum in academic research it is increasingly applied to other industrial sectors where the interests of industry stakeholders and those of the public may not align, e.g. oil and gas exploration and development (ibid.).

The aim of the following report is to determine whether or not the concept of a SLO can have a meaningful impact on the debate surrounding shale gas development in the EU. The report is structured as follows: the second section presents an overview of the most common interpretations of the concept of a SLO, already identified prerequisites for a SLO in the mining context, as well as a short summary of the reasons why a company might have to seek out and maintain a SLO. The third section identifies the relevant stakeholders who should be engaged with in order to secure a SLO. Section four then focuses on the SLO within the context of shale gas and examines more closely how experiences with the concept in the mining sector can be translated for the shale gas industry in Europe. In section five engages critically with the concept of a SLO and considers the general weaknesses of the concept, as well as the special challenges of applying the concept to shale gas in light of other competing or complementary concepts such as "Corporate Social Responsibility", "Environmental Justice" or "Energy Justice". This critical engagement then leads to the final section which

summarizes our conclusions regarding the pros and cons of implementing the concept of SLO within the European shale gas discourse.

2 THE "SOCIAL LICENCE TO OPERATE"

2.1 Overview on different interpretations of a "social Licence to operate"

Despite numerous publications dealing with the phrase "SLO," the concept it stands for is still relatively undefined and vague. An example of this is the different notions of the word "Licence" in the SLO. Boutilier (2014, p. 263) argues that the meaning of the word "Licence" in the phrase should be taken akin to a "licence as a formally granted permission." This kind of reading likens the authority of a social Licence given by communities to the authority permissions or Licences granted by a government usually possess (Boutilier 2014). But then again, a SLO is not a Licence than can be given or obtained exactly like a legal Licence (Nelsen 2006). Indeed, one of the more central aspects of a social Licence seems to be that it is - contrary to Licences or permissions granted by the state – not given at one fixed point in time with a company then either having a social Licence or not. Instead it "is theorised as comprising ongoing acceptance or approval from the local community and other stakeholders who can affect profitability. In this way, the social licence is contrasted to a statutory licence: it is intangible and unwritten, and cannot be granted by formal civil, political, or legal authorities" (Parsons et al. 2014, p. 84 (following Joyce & Thomson 2000; Nelsen 2006; Nelsen & Scoble 2006; Parker et al. 2008; Thomson & Joyce 2008)). Apart from the question what makes a SLO a Licence in the first place if it is "intangible", "unwritten" and cannot be formally granted, the time aspect is also an interesting aspect. Prno and Slocombe (2012, p. 348) argue similarly when they write that the "SLO can also be seen as an institution (i.e. sets of rights, rules and decision-making procedures), where SLO 'rules' (i.e., the expectations both parties have in regards to one another) are negotiated between mining companies and local communities throughout the mining lifecycle." This shows that a SLO is seen as more of a continuing process rather than an actual Licence to be obtained prior to starting any activities, a process that very much relies on the relations between the relevant parties involved.

In this sense, a "social Licence to operate" can also be characterized with regards to relations between companies and stakeholders: Parsons and Moffat (2014) describe a SLO as "a way of conceptualising an organisation's relationship with society and/or local communities." (p. 274) The authors argue that the concept of a social Licence is based on opinions about how a company relates to its staff and the community as well as other impacts a company's undertaking might have. These opinions are in large part not based on rational deliberation and "perfect information" (p. 281), but on how the relational aspects of a company are perceived and are thus very susceptible to change. The authors therefore describe the concept of a social Licence to operate as "a multidimensional, dynamic construct as opposed to a transactional, manageable and binary one" (Parsons & Moffat 2014, p. 281). With this, Parsons and Moffat deviate from another very influential conceptualization of a SLO formulated by Thomson and Boutilier in 2011. In their so-called pyramid model (see Figure 1), they focus strongly on the transactional aspects of SLO and its economic legitimacy (Richert et al. 2015).

The pyramid model is arguably the standard conceptualization of SLO and describes the varying levels a social Licence can have that range from withholding or withdrawing a social Licence completely up to a psychological identification with a project as the highest level of a social Licence (Thomson & Boutilier 2011). The pyramid model itself will be discussed further down since it also formulates many necessary prerequisites of a SLO.
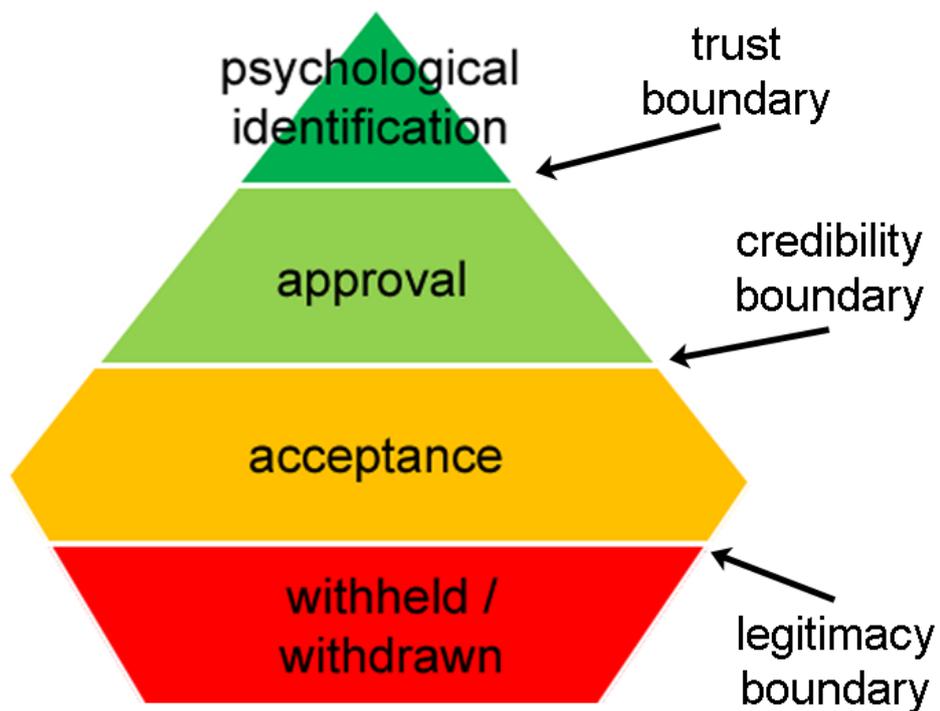

Figure 1: The "pyramid" model of the SLO proposed by Thomson & Boutilier (2011)[2]

Other authors view the social Licence as something defined by its role in conflicts it might bridge, as well as the risks associated with the refusal of granting of a social Licence. Richert et al. (2015, p. 121) write, for example, that "a Social Licence to Operate (SLO) can be defined as an implicit contract which ensures that the risk of socio-political challenges to a company's operations […] is reduced if it behaves according to its stakeholder's values". As such, the authors define SLO as "a tool for a company to manage socio-political risk by conforming to a set of implicit rules imposed by their stakeholders. In exchange, the stakeholders do not hinder the competitiveness of the company" (ibid., p. 122). Similar approaches to the concept of SLO as a "tool" can be found in Gunningham et al. (2004), Joyce & Thomson (2000) and Owen & Kemp (2013), claims that "social licence has emerged as an industry response to

---

[2] Retrieved from: Boutilier, R. G., Thomson, I., & Consultants, O. C. G. (2011). Measuring the social license to operate: fruits of a dialogue between theory and practice.

opposition and a mechanism to ensure the viability of the sector" (Owen & Kemp 2013, p. 1).

The concept of a SLO can be approached from a variety of different angles with those mentioned above only representing part of the contemporary debate. For the purposes of discussing the idea of a SLO in the European shale gas sector, this glimpse into the current academic debate is enough to show that there are many differing interpretations of the concept in place that results in a certain vagueness, which has the potential to undermine its utility. One way to deal with this challenge, and to better understand what a SLO entails, is to take a closer look at the conditions that have to be in place for a SLO to be given and maintained.

2.2   Prerequisites of a "Social Licence to Operate"

As mentioned above, the concept of a SLO can be a meaningful tool for companies to address the social aspects of their projects and to deal with the social risks that strong opposition by other stakeholders can generate. It is then useful to take a closer look at what the necessary prerequisites and conditions are to secure and keep a SLO. Owen and Kemp (2013, p. 4), argue that the conditions of a SLO can be better expressed as a "crude form of 'negative governance,'" and they claim that it is simpler to explain the lack of a SLO by indicating unmet but necessary conditions than to compile a list of all relevant conditions and aspects needed for a SLO. This suggests that the prerequisites of the SLO can be determined from an assessment of the demands made by those that oppose development. Some of those unmet or negative conditions that might lead to the withdrawal of a SLO are mentioned in Prno and Slocombe (2012, p; 348) as being: "corrupt (e.g., paying of bribes to local officials, issuance of graft), harmful (e.g., use of intimidation and abuse) or deceitful (e.g., purposefully concealing mining impacts from local communities) practice". They also point out that there might be cases where an agreement between stakeholders and industry cannot be achieved and that some stakeholders cannot be swayed to accept or approve of a particular project. This means that "some projects […] never receive community support because community-mining company expectations are beyond reconciliation" (Prno & Slocombe 2012, p. 348).

Apart from the negative approach, there are quite a few authors who seek to answer the question of what the prerequisites for a SLO are in a more positive way. One of the more influential accounts of the SLO concept also deals with the necessary conditions to be met in gaining and maintaining a SLO: the so-called pyramid model proposed by Thomson and Boutilier (2011). According to them a social Licence can be granted at four cumulative levels: The lowest level of a SLO consists in the social Licence being withheld or withdrawn at all, which leads to various problems of the success rate of industry projects. The second level involves the most common level of a SLO – the (reluctant) acceptance of a project. This level can rise up to the level of approval and even further up to a level, where the stakeholders involved, especially the affected local community, start to identify with the project and the company itself. This level of psychological identification is the ideal level of a SLO and is very hard to achieve.

(Thomson & Boutilier 2011). If a company were to seek a higher level of a SLO there are certain boundaries to be crossed or, in other words, certain conditions to be met, the bare minimum being the so-called legitimacy boundary. To get a SLO granted in the first place, a company must prove its projects' economic legitimacy that is "the perception, that the project/company offers a benefit to the perceiver" (Boutilier, Thomson, & Consultants, 2011, p. 4, Table 1; in a similar vein Joyce & Thomson 2000). This phrasing naturally raises the question who the apt perceiver is or for whom a project or company should be beneficial. This issue of scale – the open question if projects/companies should offer benefits to wider society or to individual communities or individuals within a community instead – will also be of relevance when talking about SLO in the shale gas context. In general, to gain economic legitimacy is the most basic level of a SLO and if it is absent, the SLO will most likely be withdrawn or withheld from the very start. It is this very common level of SLO that is "characterised by a 'transactional' relationship in which support from stakeholders is conditional on a flow of short-term benefits. […] credibility and trust are absent." (Boutilier 2014, p. 264).

To raise a SLO to a higher level, a company has to be perceived as credible and should seek to gain additional socio-political legitimacy – "the perception that the project/company contributes to the well-being of the region, respects the local way of life, meets expectations about its role in society, and acts according to stakeholders' views of fairness" (Boutilier, Thomson, & Consultants, 2011, p. 4, Table 1). If this condition is not met, a SLO might be granted on a basic level of (reluctant) acceptance, but will rarely be approved of since the company or project seems to be lacking the necessary credibility. These two lower levels of a SLO depending on economic and socio-political legitimacy run the risk of being seen as "a code phrase for more hand-outs or extortion" (Boutilier 2014, p. 265). While acquiring a low level of SLO based on transactional relations and economic benefits, a higher level of a SLO cannot be reached by simply raising the level of hand-outs (ibid.). Since in many cases, SLO is discussed in the context of developing economies that are more susceptible to corruption and other criminal behaviour, it could be argued that economic and socio-political legitimacy are enough to achieve a stable SLO in democratic societies like the EU. While the level of corruption is very low in the EU, compared to some developing countries, EU citizens might still perceive a strong focus on the economic side of industry projects as problematic, especially if they feel that these projects negatively affect them and are not credible in the sense laid out above. Richert et al. 2015 discuss a similar issue regarding a transactional approach in the context of mining in Western Australia: According to the authors, some forms of payment could indeed be of use in gaining social-political legitimacy, e.g. offsets payed to compensate for environmental damage caused by industry activities. Richert et al. 2015 e.g. argue that "the use of marine biodiversity offsets could increase the "Extended Economic legitimacy" of the oil and gas sector in Western Australia and, to a greater extent, its "Social legitimacy" (Richert et al. 2015, p. 127). Though offsets of this kind might in many cases raise the level of a SLO, it can also lead to the exact opposite outcome: Offsets might also be perceived as "a means of circumventing environmental responsibilities" (Richert et al. 2014, p. 123) or evoke a

"bribe effect" (Claro (2007); Ter Mors et al (2012)) and thereby hinder or reduce a SLO.

To reach a low level of a SLO in the form of acceptance, a company needs to offer economic legitimacy. To reach the level of approval, a company or project must cross the credibility boundary by firstly ensuring its socio-political legitimacy. To ensure that local communities and other stakeholders approve of it or it's project, it should additionally seek to gain interactional trust: "The perception that the company and its management listens, responds, keeps promises, engages in mutual dialogue, and exhibits reciprocity in its interactions" Boutilier, Thomson, & Consultants, 2011, p. 4, Table 1). Other authors expand on this notion of a SLO being based on mutual dialogue and open communication. Especially Prno and Slocombe (2012) who argue that "for local communities, the granting of a SLO often implies they have been meaningfully involved in decision making and have received sufficient benefit from the project" (ibid., p. 348). Applied to the pyramid-model by Thomson and Boutilier (2011), the involvement in the decision-making process would therefore account for reaching interactional trust while the sufficient benefits - e.g. that "communities must believe the social, environmental, and economic benefits of a project outweigh its potential impacts" (Prno & Slocombe 2012, p. 348) - can be seen as reaching economic (and socio-political) legitimacy with the latter being the basic condition to gain a SLO in the first place. In turn, if the local community is not given the opportunity to participate, an industry project will likely not be approved of or accepted (Prno & Slocombe 2012). An interesting aspect concerning the transition from the level of approval to the level of acceptance is the difference in considerations: While the first two levels of a SLO focus heavily on outcome considerations (e.g. how the outcomes of a mining operation can benefit the community it takes place in), the higher levels of a SLO that require trust in one way or another increasingly take procedural considerations into account (e.g. ways to engage with the different stakeholders affected by industry projects).

Apart from stakeholder engagement, Prno and Slocombe 2012 (in reference to Business for Social Responsibility, 2003; Social Licence Task Group, 2009; Goldstuck and Hughes, 2010) cite other (mainly procedural) recommendations for obtaining a SLO, like "early, ongoing communication; transparent disclosure of information; development of conflict resolution mechanisms; and culturally appropriate decision-making" as well as other important conditions like "a positive corporate reputation; understanding local culture, language and history; educating local stakeholders about the project; and ensuring open communication among all stakeholders" (Prno & Slocombe 2012, p. 347). The focus on community engagement and mutual dialogue also becomes apparent in Parsons et al. (2014), where they describe a SLO as "a metaphor for processes of engaging with 'the community' in order to obtain implied approval or acceptance" (p. 88). Nelson (2006) argues in a similar vein when defining the purpose of a SLO "to create a forum for negotiation whereby the parties involved are heard, understood and respected" (p. 161). Joyce and Thomson (2000) go as far to claim that the difficulties for companies raised by stakeholders "are less about opposing" and instead "based on an increasing desire on the part of the local population

to have some measure of control over their own future, and to participate in the development process from the earliest stages" (Joyce & Thomson 2000).

Turning back to the pyramid-model by Thomson and Boutilier (2011), after the levels of acceptance and approval, a company's SLO might reach the highest level – psychological identification - if the company manages to overcome the trust boundary. The necessary condition to gain a level of psychological identification consist in trust in a company that exceeds interactional trust: A company needs institutional trust to achieve this highest level of a SLO: "The perception that relations between the stakeholders' institutions (e.g., the community's representative organizations) and the project/company are based on an enduring regard for each other's interests" (Boutilier, Thomson, & Consultants, 2011, p. 4, Table 1). Nevertheless, the crucial role that trust or trustworthiness (be it interactional or institutional) plays in the granting of a SLO as well as in maintaining it, is addressed by other authors as well, such as Parsons et al. (2014) whose findings indicate that trust can be seen as a prerequisite for a SLO.

2.3   Motivations for gaining and maintaining a SLO

Having presented a short overview of the relevant conceptualisations of the SLO, as well as some of the more prominent necessary prerequisites for securing and maintaining a SLO, it is interesting to make a closer examination of the reasons why a company might have to earn a SLO in the first place. Especially where higher levels of a SLO are concerned, companies may have to make a substantial effort to plan and conduct processes for community engagement and participation, which come at a financial cost. What then motivates companies to seek out and keep a social Licence in the first place? Why do companies make an effort to not only work within the boundaries provided by state legislation, but then seek to "go beyond legal compliance" (Boutilier 2014, p. 264)?

There can be various reasons for the industry to secure a SLO, most of them centering on minimising the (social) risk that a company lacking or losing a SLO can be faced with (Joyce, & Thomson, 2000; Thomson & Boutilier 2011). Opposition from local communities or other stakeholders can pose a serious risk to a company's success, since these groups have gained substantial power to influence the decision-making process on a policy level and thus to severely compromise the rate of success of industry projects (Prno & Slocombe 2012). This has been possible due to a more general shift towards sustainable development and towards the greater involvement of non-state actors in governance (Prno & Slocombe 2012; Prno 2013). In democratic countries, vocal opposition from civil stakeholders and local communities in its various forms can indeed lead to the prevention or the withdrawal of necessary permits for e. g. mining activities granted by the government (Richert et al. 2015, Prno & Slocombe 2012), which may turn the acquisition of a SLO – however that may be achieved - into a "prerequisite for a legal licence" (Parsons et al. 2014, p. 84, following Harvey 2011). Even if the securing of a SLO is not a prerequisite for a legal Licence in itself, practical considerations might dictate the securing of a SLO nonetheless. Reasons for this are the various forms stakeholder opposition can take, e. g. targeting a company's reputation

(Gunningham et al. 2014), consumer boycotts (ibid.), media campaigns (Richert et. al 2015, Prno & Slocombe 2012) or protests in general (Gunningham et al. 2014). The possibility to connect on an international level through the internet, as well as the internet being a source for gathering and spreading information easily, only furthers the power that (local) opposition to industry projects can have (Joyce & Thomson, 2000). These kinds of activities, therefore, pose a serious threat to organizations and companies by the strong negative impact they can have on the execution of projects, especially on a financial level that can even result in an organization's bankruptcy (Nelsen 2006). This means that even if opposing stakeholders do not manage to combat a project on a policy level, they can still impose serious restrictions on a company's "access to essential resources (e.g., financing, legal Licences, raw material, labour, markets, public infrastructure)" (Thomson & Boutilier 2011, p. 2, also Owen & Kemp 2012) causing delays and costing the company a fair amount of money in the process. Protests and vocal stakeholder opposition can therefore significantly impact the success of a project and become a serious (financial) risk for a company (Boutilier 2014, Parsons et al. 2014).

Communities' and other opposing stakeholders have the ability to either seriously hinder the course of a project by resorting to the above mentioned activities, even sometimes managing to influence policy actors to revoke or prevent necessary permits. For this reason acquiring or maintaining a SLO in addition to any conditions imposed by the law or the government, thereby minimizing conflict and social risk, can become vital to a company's success (Richert et al. 2015, Prno & Slocombe 2012). As such, various authors have defined a SLO as "an industry response to opposition and a mechanism to ensure the viability of the sector" (Owen & Kemp 2012, p. 1), "a type of insurance" (Nelsen 2006, p. 161) and that securing a SLO that goes beyond legal prerequisites can be "a strategy for controlling costs" (Boutilier 2014, p. 267). Owen and Kemp (2012, p. 1) also believe that there is a direct connection between what they call an "industry's 'survival instinct' and the concept of a social Licence to operate, namely the industry or a specific company trying to reach reconciliation between their own interests and those of various non-governmental stakeholders. Therefore, the SLO might also be thought of as a response to "a direct causal relationship between stakeholder perceptions of the company and the perceived level of 'threat' posed by a host community" (Owen & Kemp 2012, p. 3).

3 RELEVANT STAKEHOLDERS

Two terms for naming those who are interested and have stakes in a particular project are most commonly used when a SLO is discussed. One is 'a stakeholder' and this term is usually used in the European Union and in the context of discussing projects in EU Members States. An alternate term has evolved around human rights debates and it calls the interested parties 'rights holders'. This approach originates from the UN work on human rights (Götzmann et al. 2016). There are also relevant international agreements that determine who the interested parties are. Such agreements involve the UN, World Bank and IFC. There are also the United Nations Guiding Principles on Business and Human Rights, which was unanimously endorsed by the UN Human Rights Council in 2011. There exist also the Equator Principles that relate to private banks. These represent a set of 'global rules' the national governments and private corporation seek to adhere to.

The relevant stakeholders for obtaining a SLO are always specific to a particular project, and while the existing literature usually speaks of companies and local communities as the two parties that need, to some degree, to reach a common vision of the future (Walton et al. 2014; Rasch & Köhne 2015; Prno & Slocombe 2012; Prno 2012), a more fundamental problem of what/who a community is and how to study it has to be addressed. Thus, the following questions come up: what is a community? How does a community exist empirically and politically? At what scale does a community exists and act with regard to mining/shale gas projects? How can a collective come to express one message? These questions gain even more relevance when we examine the existing case studies on mining conflicts where the community is never a single, solid block, but rather a collective of actors with different interests, entangled in different relations and thus presenting varying attitudes towards the project. Moreover, power relations and various types of inequalities in terms of prestige, resources, political or economic capitals may play a role as to who from the 'community' can effectively secure or prevent a SLO for a particular project. Defining the community is essential to any attempt to determine a community benefits package.

The literature on SLO tends to speak of 'communities' in general as a relatively new type of actor that has recently emerged as important for governance of the mining industry (Prno & Slocombe 2012). Communities, as these authors point out, have recently started to demand "a greater share of benefits and increased involvement in decision making" (p. 346). This is due to a more general shift towards sustainable development and towards greater involvement of non-state actors in governance. Apart from local communities which live in close proximity to the site, civil society actors, as well as market actors, have started to have stakes in more environmentally friendly governance in the mining industry and are now regularly sharing governing duties with the state (Ballard & Banks 2003; Kooiman 2003; Lemos & Agrawal 2006; McAllister & Fitzpatrick 2010). They are also empowered by various international guidelines on good practice, such as the World Bank/IFC guidelines and the Equator Principles. Thus, community engagement is not only part of CSR and industry best practice. There has also has been a proliferation of the non-state actors who 'care' about development

projects, and growing possibilities for cooperation among them calls for even greater reflection about boundaries of 'communities'. How 'local' are communities? Within what kind of networks of relations are knowledge and political positions taking shape to be presented as coming from a particular community? These questions do not aim to imply that a local protest is always inspired 'from outside,' but rather that it is important to be open to various compositions of collectives in order to better understand the structure of their arguments, distribution of power and resources as well as their political efficacy. At the same time, it is worth mentioning that opposition movements are often a coalition of national/international NGOs and local communities. Frequently, as a result of such coalitions, the NGOs gain credibility by connecting to the 'local', while the local groups gain access to resources and greater visibility through working with larger more experienced organizations. However, there is also the potential conflict as the NGOs may not be sufficiently attuned to local issues and concerns.

The SLO literature, though not offering much help in terms of analytical tools for such an analysis, acknowledges the fact that a SLO may spill over community boundaries. Prno and Slocombe (2012, p. 347), for example, note that a SLO may be "'issued' by civil society as a whole (e.g. governments, communities, the general public and media)" but it can also be issued at different scales of society (communities, regions and the general public) (Prno 2013). The complex issue of scale thus enters the thinking about where and by whom a SLO can be granted. The literature on SLO sees local communities as: "a key arbiter in the process by virtue of their proximity to projects, sensitivity to effects, and ability to affect project outcomes" (Prno & Slocombe 2012, p. 347). The local scale is thus the ultimate locus of the final 'yes' or 'no' to the project. Proximity to the project and its tangible effects grants the collectives inhabiting the nearby territory the legitimacy to speak on behalf of the particular place (the 'local') and also with physical and administrative possibilities to obstruct a project's development. Communities, conceptualized as some coherent category, may gain even more importance and political power if they belong to categories protected by law (national or international). This is the case, for example with Aboriginal communities which are protected by the United Nations Declaration on the Rights of Indigenous Peoples and International Labor Organization Convention. This UN Declaration calls the states to secure consent from the affected communities before the project starts (Lehr & Smith, 2010; Sosa, 2011). Ethnicity or indigeneity are categories that, on the one hand, transcend a local place, and on the other hand, can be very effectively mobilized and enacted locally to split the collective along the lines of 'us' and 'the other'. In one case, the National Commission on Indigenous Peoples (NCIP), which is responsible for holding consultation to obtain the 'indigenous endorsement,' appointed its own 'indigenous' representatives from the territories that would be less affected by mining activities (Rasch & Köhne 2015, p. 489). The authors conclude this analysis by stating that: "being in favour of or against mining is often informed both by material conditions and livelihood strategy repertoires, as well as by lines of thoughts and practices that evolve in relation to broader developments" (Rasch & Köhne 2015, pp. 489-490).

As mentioned above, 'the local scale' becomes the relevant one for negotiating SLO due to its relatively strong power over the conditions of a project's development that can

locally be exercised through protests and blockades. Participation of local communities is seen as the main condition for improving a company's chances of obtaining a SLO (Ali-Khan & Mulvihill, 2008; Sinclair & Diduck, 1995; Webler & Renn, 1995; WRI, 2003). However, it may easily transgress the locality physically, legally and politically in cases of "non-issuance or retraction of government permits, media and shareholder campaigns, and government lobbying" (Prno & Slocombe 2012, p. 346).

The literature on the SLO provides interesting case studies of relations between communities and the mining industry that can be re-examined to investigate the question about who is the community and at which scale a SLO can be granted. Rasch and Köhne (2015) examine Southeast Asian communities' resistance against globalizing large-scale exploitation of natural resources. The authors use a micropolitical ecology approach. The local conflicts are framed by the authors as a 'struggle for livelihood' and the strategies used by local communities involve both resistance and appropriation of global practices and narratives. The scale of the practices and narratives thus goes well beyond the studied place. This ethnographic study, and others that the authors refer to, revealed that communities are often split over such transformations induced by global companies. Some people seek to negotiate a share in the globalized market, while others organize resistance. Thus, the community is not a single homogenous collective and global markets can benefit parts of the communities, while others remain excluded from those market gains or chose to be so.

An important point made by Rasch and Köhne (2015, p. 479) is that both resistance and support is "interwoven with everyday politics of communities close to proposed extraction sites." Pre-existing conditions of poverty are particularly important to the local politics of mining and industry development. In other words, inequalities that pre-exist a project development may impinge upon relations with project developers and influence attitudes towards the project itself. In view of Chin & Mittelman (1997), an analysis of resistance toward globalization should thus account for the local contexts and interactions among "elements of resistance—forms, agents, sites, and strategies." Some of those who decided to support the project counted on jobs in the company. Some of the opponents used to work for NGOs in the past and turned into anti-oil-palm campaigners. These observations point to the importance of local leaders and prior existence or influence of NGOs. Rasch and Köhne (2015, 481) define 'micropolitics' as livelihood strategies and local political strategizing which are embedded in official policy discourses as well as in interpersonal communication.

Another point that leads to a conclusion that the scale of granting a SLO is never certain and may go beyond the locally bounded space of the project is that local actors may hire consultants to advise the villagers on their management of a communal project (Rasch & Köhne 2015). Consultants may also forge unexpected alliances locally and contribute to a change in the power balance locally. This type of actor, with a specific role of consulting on the project, would not have entered a community had it not been for the project development. Consultants come with professional and standardized knowledge and strategies and thus may format community-developer relations according to some generalized principles of management.

Another comparative case study that sheds some light on who the relevant stakeholders may be was carried out around four international mining operations: Red Dog Mine in Alaska, USA; Minto Mine in Yukon, Canada; the proposed Tambogrande Mine in Peru; and the Ok Tedi Mine in Papua New Guinea. The Red Dog is a case where a majority of individuals gave it a SLO (Prno 2013, p. 579). The NANA corporation, which is the landowner and decision-maker for the mine, was acknowledged as playing a significant role in gaining so much trust. "One key informant noted that because Red Dog is on NANA owned land the community has "a seat at the table"" (Prno 2013, p. 580). Red Dog also provided significant benefits. "Nearly 57% of the mine's workforce of 550 people are NANA shareholders and Red Dog directly or indirectly accounts for about 20% of all employment in the NWAB". There are various employment and training, as well as joint venture opportunities, established with NANA business partners. Red Dog had also been communicating with local communities on regular bases. "Mine representatives regularly share information and visit with surrounding communities to provide updates and hear feedback" (p. 580). There is, however, one village of Kivalina, which is 80 km away from the mine that is critical of the mine. It may seem that 80 km is quite a far distance but this case shows that the opposition may come from various places. Inhabitants of Kivalina feared negative impact such as degradation of drinking water quality, of human health and negative impacts on fish, caribou, bowhead whale, beluga whale and vegetation (p. 580). Lawsuits pertaining to degraded water quality were supported by a non-local NGO. However, this criticism does not mean that people wanted to have the mine shut down. People appreciated the economic development opportunities provided by Red Dog (p. 580). Prno (2013) speaks of an 'SLO resilience' that has been developed at Red Dog. "The mine has demonstrated it can provide long-term benefits to the region and for many individuals the mine has simply become part of their everyday lives. […] Red Dog employees have generally been inclusive of community perspectives, responsive to conflict, and willing to modify their approach to operating the mine when needed" (p. 580).

The Minto Mine is a copper-gold mine located in central Yukon, Canada. The economy of the community is based on government services, educational and health sectors and traditional subsistence activities, such as hunting, fishing and trapping occur regularly. Prno (2013) found out that a SLO has been issued by a large segment of the community. "Arguably, this support stemmed in significant part from Yukon land claim and regulatory arrangements that guaranteed the community substantial mining-related benefits and opportunities for participation in decision-making for the mine. For example, Minto Ex's mineral claims lie within SFN 'Category A' Settlement Lands, whereby SFN is entitled to receive economic benefits (e.g. royalties) from the mine and has decision-making influence over some aspects of it. Settlement lands were allocated to Yukon First Nations through the 1993 Umbrella Final Agreement land claims process. This agreement provided the basis for the establishment of Yukon First Nation land entitlements, financial compensation, self-government powers, and Aboriginal representation on government boards and commissions" (p. 581). The Umbrella Final Agreement also provides opportunities for ongoing First Nation participation in environmental assessment and water licensing processes. This happens through co-

management regulatory boards. Community participation, in turn, has been a major motivation for building good relations with it and for providing it with economic benefits. There were, however, some objections towards the work of the mine that involved mainly environmental concerns.

The Tambogrande mining project was a proposed open pit gold and copper mine in north-western Peru. This project had been contentious from the start due to concerns about its environmental and social impacts, such as stress on drinking water resources and agricultural livelihoods "and the lack of effective project consultation" (Prno 2013, p. 582). In a local petition that was circulated, 75% of eligible voters formally opposed the project. This was followed by a formal resolution against the project issued by the council and violent protests. The local opposition also built allies with national and international NGOs. "MMC's failure to establish a SLO was the result of a variety of factors. For one, the company was exposed to a difficult mineral development context from the very start of exploration. The proposed location of the mine, which necessitated the partial relocation of the Tambogrande town site, created fears over potential environmental and social effects and reduced the odds of a SLO being established from the start. Furthermore, anti-mining sentiment existed even prior to the arrival of MMC, as earlier exploration activities by the French company BRGM also encountered local resistance" (p. 582).

The Ok Tedi mine is located in the north-western corner of Papua New Guinea's (PNG) Western Province, in the rainforest-covered Star Mountains. Prior to mining beginning, the communities were involved in traditional hunting, harvesting, fishing and agricultural activities. A flood caused by the operations of the mine caused huge environmental degradation. The company's failure to establish a SLO during this period was arguably the result of a variety of factors. Foremost, the conflict was the result of the firm's decision to dispose of mine tailings directly into the Ok Tedi and Fly River systems. This resulted in a series of significant environmental and social impacts, and wide-spread criticism of the mine. In addition, ineffective stakeholder engagement by the company also played a role. For example, the investor initially engaged and negotiated with only those landowners directly proximate to the mine. "Downstream landowners were largely ignored and did not receive compensation or benefits of similar significance to upstream landowners, but they eventually became the ones who led the protest movement against the mine" (p. 584).

Prno (2013, p. 584) points to five lessons apparent from this comprehensive analysis: "(1) context is key; (2) a social licence to operate is built on relationships; (3) sustainability is a dominant concern for communities; (4) local benefits provision and public participation play a crucial role; and (5) adaptability is needed to confront complexity. Together, these findings might also be considered 'guiding principles' for the establishment of a SLO in the mining industry." We would add to that the observation that the question who the community is should be open to an empirical investigation guided by questions about power relations, political struggles over local leadership, pre-existing inequalities, categories of ethnicity and communities with a protected status. Moreover, the question of scale at which a SLO can be granted should

also be subject to an analysis of relations established between local actors and actors coming from, or representing other scales: governmental, global, regional, or of certain professions, such as community or conflict managers. Not only actors themselves, but also narratives, knowledge, concepts and standards they bring may turn a locally bounded issue into a translocal or a transnational one, becoming a part of larger global movements against a particular type of development projects.

4 A "SOCIAL LICENCE TO OPERATE" IN THE CONTEXT OF SHALE GAS

4.1 Differences and similarities between the mining sector and the oil and gas sector

The concept of SLO is, as mentioned above, relatively new and originated mainly from dealing with socio-political problems in regard to mining activities. It is still mostly used in a mining context, but has spread to other industries as well (Boutilier 2014). Though the benefits of gaining a SLO prior to extraction activities are increasingly acknowledged by oil and gas companies (Wilson 2016), "the concept of social Licence to operate is in its infancy in the oil and gas industry" (Smith & Richards 2015, p. 84). This includes conventional oil and gas exploration as well as the relatively recent phenomenon of controversial unconventional gas exploration in shale formations. Smith and Richards (2015) describe how the discussion of SLOs started to surface in the oil and gas extraction context in the late 1990s while not gaining importance until, "the advent of unconventional oil and gas development using horizontal drilling and hydraulic fracturing was introduced and implemented in a major way around 2010" (Smith & Richards 2015, p. 98). According to the authors, the use of these technologies enabled the extraction of gas and oil in urban areas which fuelled the "current debate about the industry's social Licence to operate in unconventional developments" (Smith & Richards 2015, p. 98).

To judge whether a concept like SLO, which relates mainly to problems associated with the mining sector, is suited for shale gas exploration activities as well, it is necessary to discuss the similarities and differences between both industries. An obvious similarity is the fact that both industries center around the extraction of non-renewable resources from the ground in one way or another (Smith & Richards 2015, citing Jim Cooney, the mining executive for Placer Dome who coined the term "social licence to operate"). Other similarities are mentioned in Joyce and Thomson (2000), where the authors paint a rather negative picture of mining, writing that:

> "Worldwide, mining is faced with a pattern of low credibility and social opposition, which derives from a general perception that mining is dirty business. Mining is seen as inherently destructive, that it destroys the environment, and leaves nothing positive behind when it packs up and goes - which it inevitably will. The image of abandoned mines, tailings dumps, waste rock piles, and abandoned communities has significant resonance with the general public. Mining is also widely seen as creating wealth for an elite that lives in cities and countries far from the site of the mine. The local community takes all the social and environmental risks while receiving, at best, token benefits."

These descriptions of the negative aspects associated with mining activities share a striking similarity with depictions of the issue of "fracking" and its use to extract

unconventional gas and oil resources in both the USA and especially in the EU. Similar negative attitudes and associations in regard to shale gas are described in Deliverable 17.1 of the M4Shalegas project (2015) that dealt precisely with the public perceptions of shale gas production in select EU member states.

Despite these similarities in attitude towards the industries, as well as basic premises being in place for both mining and shale or oil extraction activities, differences between the two industries can be identified. Smith and Richards (2015) note that oil and gas production projects are, contrary to mining activities, usually conducted in rather short time spans, which, according to the authors, might lead "the industry to often assume – or behave as if – it has less need of a long-term relationship with the community where the work is being done" (Smith & Richards 2015). This "quick profit" thinking that might be attributed to oil and gas companies is contrasted with another aspect of shale gas production: Smith and Richards (2015) note that there are several instances where "companies will go back to wells that have been previously fractured". Indeed, "quick profit" thinking might be attributed to small scale oil or gas production activities at individual drilling sites. But unconventional drilling activities in shale formation usually are of a much larger scale and involve the drilling of several wells across a large region. It is then arguable if oil and gas production in general is actually more short lived then mining activities. Though even if this was the case, lacking or losing a SLO can still pose a risk to the company in question if the local community prove to be less than welcoming in future extracting activities in the same area (Smith & Richardson 2015, p. 98). In that sense, lacking a long-term perspective where relations to members of the local community and other stakeholders are concerned can prove to be a problem for industries engaging in shale gas exploration as well, a problem we will revisit again in section 5.

The notion of a socio-political risk that stems from the lack or loss of a SLO and which can be seen as one of the main motivators for industry actors to secure a SLO in a mining context do play a crucial role in shale gas production as well. Much like mining projects whose success is in danger due to the social risk that stems from it being; "considered socially unacceptable" (Joyce & Thomson 2000) similar social risks are at play in the shale gas sector. As Smith and Richard (2015) note in quoting an interview with Alex Hohmann: "Around the world, resistance from local communities continues to threaten shale development. Shale resources often go undeveloped, not for the lack of a legal Licence, but rather for the lack of a social Licence (Smith & Richards 2015[3], p. 83)." Stephenson (2016) supports this view by showing that in the case of Balcombe, UK, "even with a well-developed regulatory and licensing system for oil and gas and with exploration Licences and planning permissions in place, protests by local people can make operations difficult, or impossible," citing that gaining a "general acceptance"

---

[3] quoting Interview: Interview by Stephanie Joyce with Alex Hohmann, Stakeholder Relations Manager for Anadarko Petroleum, *in Relationships 101: Oil and Gas Looks for a Social License to Operate*, WYOMING PUBLIC RADIO (Dec., 5 2014), *available at* https://insideenergy.org/2014/12/05/relationships-101-oil-and-gas-look-for-a-social-licenseto-operate/.)

as a SLO is difficult to achieve for companies in the shale gas sector (Stephenson 2016, p. 10). This notion is also supported by Lis et al. (2015) who detailed some of the activities opposing stakeholders conduct in order to hinder shale gas exploration in their respective countries. In some cases, e.g. Germany and the Netherlands, these vocal opposition influenced policy makers to temporarily ban activities related to shale gas exploration thus confirming the serious threat stakeholder opposition and the lack of a SLO can pose towards a project, a company or even an industry as a whole (e. g. moratorium on shale extraction in several EU member states; see also: Chapter 2.3. of this paper in which risks associated with a lack of SLO are described). As such, "the absence of social licence to operate by an oil and gas firm can be a significant impediment, as it is likely to raise important social-political risk in the form of development disruption" (Smith & Richards 2015, p. 99). This leads to the acquisition and maintaining of a SLO as being "a critical precondition for mitigating such risks" (Wilson 2016, p. 73). Indeed, it can be argued that in European countries a SLO for unconventional gas production might only come at a high price for the oil and gas companies involved, as prospective drilling sites are usually very close to large populations and as such "will require very high levels of environmental assurance to gain a social Licence" (Stephenson 2016, p. 12).

4.2 Potential prerequisites for a SLO in the context of Shale gas operations

Since the similarities between the mining sector and the oil and gas sector outweigh their differences, it seems that the same prerequisites necessary for a SLO in the mining sector will not diverge substantially from those necessary in regard to shale gas exploration and production. The above mentioned prerequisites: community engagement, fostering of strong relationships between the stakeholders, notions of (procedural) fairness and obviously trust are of importance in the case of shale gas as well. An open question could be, whether or not the industry's rather late response to the strong opposition and the highly controversial public discourse surrounding unconventional gas drilling in Europe will seriously hinder the gaining and maintaining of a SLO in the affected EU member states? It is then a very real possibility that industry players trying to secure a SLO to produce shale gas in the EU comparatively late in the process might fail entirely and that they be unable to secure a SLO at all. Even though this scenario is not unreasonable to expect, it can still be useful to analyse the important prerequisites for securing a SLO as formulated in the debate surrounding mining activities to consider how they could be of use for the European shale gas industry.

According to the pyramid-model based on Thomson and Boutilier (2011), to gain the acceptance of the public and a lower level of a SLO, an oil and gas company would have to prove that its projects will have an economic benefit for the affected stakeholders. This could be problematic in the case of Europe since drilling activities rarely benefit the local public as such. Richert et al. (2015, p. 127) take a closer look at the situation of oil and gas companies in Western Australia and their findings suggest that "the population on average believes that this industry provides the State with

economic benefits," which limited "the process of gaining a SLO […] to one of economic legitimacy". In the case of shale gas operations in the EU, it would be necessary to show that the country itself would benefit from unconventional gas drillings, be it through increasing employment options or through lower gas prices in the respective countries. Both claims have been made in regard to drilling activities in the EU member states (Lis et al. 2015). Nonetheless, in some EU member states there is still very strong opposition: On the one hand, the economic benefits promised can be challenged and are perceived as exaggerated. On the other hand, the environmental problems and risks that unconventional gas explorations pose are a strong focus for many of the protestors. These concerns are less related to the economic aspects of unconventional gas drilling and are more about other factors such as the well-being of the local community, the value they place on the protection of the environment, especially water reserves as well as distrust in the operating gas companies. Additionally, wider issues of climate change and the illogic of developing new sources of fossil fuels instead of further developing renewable energy sources play an important role for the case against shale gas production in the EU. These aspects that can also be found in Western Australia (Richert et al. 2015), combined with a scepticism regarding even the most basic precondition of economic benefits, can be seen as serious obstacles to gaining a SLO.

The environmental risks to water (and) soil quality and the well-being of the people living close to potential drilling sites that are widely associated with unconventional drilling lead to a heavy "stigma of harm" (Smith and Richards, 2015, p. 83) that needs to be addressed by the industry before any type of fracking activities in the more reluctant states can take place.[4] To overcome this hurdle and to secure at least a low level of a SLO in the form of (reluctant) acceptance of the projects related to shale gas exploration, it will not be enough to put "more effort […] in educating and informing the affected public" (Stephenson 2016, p. 10), even if it is a first necessary step towards a possible SLO. Rather, two-way communication is needed to gain the acceptance of the local community. Another basic prerequisite in relation to information relates to the notion of transparency: Since drinking or groundwater contamination is one of the major environmental concerns, the full and publicly accessible disclosure of the ingredients that make up the fracturing fluids used in the drilling process or other aspects of the operations might be a necessary precondition of gaining a SLO for a company interested in drilling for shale gas in the EU. In some EU member states and the UK, this is already the case and is not seen as an uncontroversial request, even though respective companies in the US in the recent past hesitated to share this information, e.g. because they feared economic disadvantages (Stephenson 2016).

---

[4] More information on the environmental risks associated with shale gas operations can be found at www.m4shalegas.eu: Especially the reports published as part of sub-programs SP1: Impact of subsurface activities: hydraulic fracturing, induced seismicity and well integrity; SP2: Impact of shale gas activities on water, soil and well site and SP§: Impact on air quality and climate, offer a more detailed look into the environmental impacts of hydraulic fracturing for shale gas.

It is a general prerequisite that "governments, industry and other stakeholders must work together to address legitimate public concerns about the associated environmental and social impacts" (Smith and Richards 2015, p. 88) related to shale gas production. One tool to address these issues might be the use of environmental offsets as proposed by Richert et al. (2015) in regards to "environmental impacts by the oil and gas industry in Western Australia" that function as a compensation "to ensure no net environmental loss" (Richert et al. 2015, p. 121). Environmental offsets are defined as a form of compensation rather than a mitigation of environmental impacts and can be either direct (protection, restoration/ rehabilitation or re-establishing habitats) or indirect (" implementation of recovery plan actions […]; contributions to relevant research or education programs; removal of threatening processes; contributions to appropriate trust funds or banking schemes […] etc.) (Draft EPBC Offsets Policy, 2007, p.3). While these offsets might be of use to secure a SLO by addressing a company's social legitimacy (another boundary to be crossed in the pyramid-model) it might also lead to the opposite outcome (Richert et al. 2015): Opposing groups may see such offsets, especially in the form of financial compensation, as bribes (Claro (2007); Ter Mors et al (2012)), equally the use of offsets can also be publicly perceived as enabling a company to: "avoid taking responsibility for the original environmental damage, and be simply a means to buy permission for ecological damage" (Richert et al. 2015, p. 122). For companies interested in shale gas activities in European countries with heavy opposition due to environmental concerns, the use of offsets to address these issues in order to gain a SLO can therefore be seen as a very uncertain tool (Richert et al. 2015). Apart from offsets being an uncertain tool from the start, it might actually be of less use especially in the shale gas debate. Environmental offsets as proposed by Richert et al. (2015) address general environmental issues, in their particular case those of marine biodiversity. But in the shale gas discourse, it is usually the direct environment of the local community that is seen as being at risk. . The concerns of the local community include environmental concerns relating to water and soil contamination, aesthetic or beauty considerations, but also the local impact on traffic, light and air pollution. These later concerns might be appropriately addressed by offering financial compensation. Aesthetic or environmental concerns, on the other hand, can hardly be addressed by (monetary) offsets. Especially in the case of negative environmental impacts, offsets seem to be the wrong strategy: It is assumed that these impacts are (or should be) regulated and sufficiently mitigated, thusly eliminating the need for financial compensation.

In addition to that, being receptive of the local communities input concerning the scale and location of a drilling site can be a way to getting a SLO. Interestingly, in a recent paper by Wilson (2016, p. 80), the author describes cases in Russia in which a SLO for activities related to general gas and oil exploration can be sustained, even when "trust relations do not exist between industry, government and society". These findings lead the author to doubt that the concept "social Licence to operate" is a useful "analytical concept for understanding and defining the responsibilities of business towards society" (Wilson 2016, p. 80) completely on its own. Though these findings could also be interpreted on the basis of the "pyramid model" of Thomson and Boutilier (2011); in which case the operations in the two areas discussed in Wilsons 2016 paper could

merely have a low level of SLO, since the trust boundary has not been conquered (yet) and the projects are therefore merely accepted by the stakeholders for e.g. economic reasons. If such justification cannot be offered, projects relating to shale gas and fracking probably will not be accepted.

One of the main reasons, shale gas production is advocated in the EU, is the economic benefits it might provide to the respective member states, especially regarding job creation and lower energy prices (Lis et al 2015). The positive economic impacts of unconventional gas drilling in the EU are subject of critical debate and it is not clear that shale gas production will actually lead to these benefits in all the EU member states (ibid.). Thus, at least not in all EU member states can the economic legitimacy of implementing unconventional gas production in the EU be proven. This combined with the uncertainness of other tools of a more transactional nature like the above mentioned offsets, means that there is a need to a stronger focus on the other aspects related to the securing of a SLO. It is thus very important for companies to be seen as both legitimate and trustworthy by all the relevant stakeholders and therefore to target the so-called trust-boundary in the pyramid-model by Thomson and Boutilier (2011). To gain at least interactional trust, the shale gas industry has to gain "the perception that the company and its management listens, responds, keeps promises, engages in mutual dialogue, and exhibits reciprocity in its interactions" Boutilier, Thomson, & Consultants, (2011), p. 4, Table 1). To gain this level of trust and with it an approval of their project, companies who want to implement shale gas production in the EU have to engage both the local community as well as other relevant stakeholders in mutual dialogue and in the decision making process. In this sense, the prerequisites for a SLO for shale gas activities are the same as the ones quoted above by Prno and Slocombe (2012, p. 347): "early, ongoing communication; transparent disclosure of information; development of conflict resolution mechanisms; and culturally appropriate decision-making, a positive corporate reputation; understanding local culture, language and history; educating local stakeholders about the project; and ensuring open communication among all stakeholders." Yates and Horvath (2013. p. 8) summarize the conditions and prerequisites for a SLO similar, when they write that a "Social Licence can be earned through a combination of activities and behaviours, centered on timely and effective communication, meaningful dialogue, and ethical and responsible environmental and social behaviour, all of which contribute to building trust and credibility." Those activities and behaviours include:

- "effectively communicating projects and activities, including providing timely and complete information;
- undertaking community engagement in a respectful manner;
- listening to what a local community is saying, addressing concerns and issues, and using community input to improve projects and activities,
- providing support for and building capacity in local communities by using a range of tools;

- undertaking projects and activities in an environmentally, fiscally, and socially responsible manner (including but not necessarily limited to regulatory compliance); and,
- striving to ensure that local communities benefit from or are not unfairly affected by projects and activities."

(Yates and Horvath 2013, p. 8).

To summarize the findings: if companies interested in developing shale gas in the EU want to have a chance to obtain a SLO from the local public, they most likely will have to put a lot of effort into building (long-term) relations based on legitimacy and trust and will therefore have to be open to early and open communication that goes both ways, giving the members of the community a genuine role in the planning and decision making process. Other vital aspects include transparency in all information, as well as a willingness to compromise their interests with local needs.

5 SOCIAL LICENCE TO OPERATE – A CRITIQUE

5.1 Competing or Complementary Concepts

The SLO is a concept that has developed within a certain tradition of thinking about corporate responsibility towards communities and sustainable development, and as such cannot be discussed in separation from other similar concepts or perspectives. In this review, we would like to draw attention to SLO's affinities with concepts, such as Corporate Social Responsibility (CSR) and Social Impact Assessment (SIA), a human rights approach (Götzmann et al. 2016) and a perspective that has shaped thinking about the production of techno-science in society: a participatory approach. Additionally, the Environmental Justice (EnvJ) and recently developed Energy Justice (EneJ) perspectives are discussed as the ones that propose broader sociological questions about the distribution of environmental 'goods' and 'bads' in society, which were born out of reflections about sustainability and sustainable development. SLO is thus a part of the broader landscape of emerging perspectives on business-community relations, social impacts of development, distributive energy and environmental justice with a focus on procedural justice.

Corporate Social Responsibility (CSR) is probably the oldest and the most established concept which functions in business that has shaped companies' relations with their environment over the last few decades. It is a concept "whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (*Promoting...* 2001, p. 5). According to the European framework for CSR, this responsibility is expressed towards employees and more generally towards all the stakeholders affected by business and which in turn can influence its success" (*Promoting ...* 2001, p. 5). CSR has inspired many activities directed towards company-community relation building and 'greening' business activities. It has however also generated criticism about CSR being used to pay lip service to communities and doing 'greenwashing' for the sake of gaining acceptance from NGOs, trade unions and consumers who call for higher environmental and social standards. For example, Brei and Böhm (2011), criticize CSR practices related to selling 'more ethical' and 'socially responsible' bottled water for the sake of providing drinking water for 'poor African people'. They argue that "such CSR strategies are part of a general process of the reproduction of capitalist modes of accumulation and legitimation through the usage of cultural categories" (Brei & Böhm 2011, p. 233).

Social Impact Assessment is a narrower concept and a rather technical and prescriptive one. It refers to and proposes certain procedures that can be applied to assess the social impacts of an investment (Harvey & Bice 2014; Prenzel & Vanclay 2014; Bice & Moffat 2014). While CSR is a concept that has engaged various business sectors, SIA exists more specifically in the extractive industries (Harvey & Bice 2014). It implies some formalization and supervision from public authorities. There has been considerable interest in producing "International Guidelines and Principles for Social

Impact Assessment" (Vanclay 2003). Such principles, issued under auspices of a major organisation such as the International Association for Impact Assessment (IAIA) could:

- Assist in the development of legislation and policy at the national level;
- Provide standards for SIA practice in international contexts (transboundary projects, development cooperation, foreign investments, international banking);
- Increase the appeal of SIA to a wider range of audiences, through increasing its legitimacy/standing;
- Establish minimum standards for SIA practice;
- Provide an articulation of best practice in SIA as a model to aspire to;
- Remove confusion over terminology by establishing a definitive glossary;
- Establish the appropriate scope of the social component of impact assessments;
- Promote the integration of SIA in all impact assessments (especially environmental impact assessment and strategic environmental assessment). (Vanclay 2003, p. 5)

However, when applied in a 'technical' and 'mechanistic' way with the sole objective of gaining communities' acceptance, it raises a lot of mistrust among community members (Harvey & Bice 2014). A shift towards working out trust-based relations with communities is necessary and that: "trust can only be attained by mobilising a company's core competencies, achieving credibility through total transparency, and maintaining appropriate roles and responsibilities of companies, governments and communities" (Harvey & Bice 2014, p. 327). Mistrust is frequently the result when companies try to win over communities with rich offsetting schemes instead of engaging with their questions and concerns (Harvey & Bice 2014). SIA already shapes thinking about various types of impacts and risks, and puts social impacts on the mental map of project managers and PR specialists, even if taking only a marginal position on these maps. For example Greenland, for the first time carried out a dedicated SIA alongside an EIA for the proposed drilling programme in 2010. The development of this SIA was informed by a significant consultation process with national and local authorities, employee and employer organisations, community groups and NGOs.[5] Also the World Bank is implementing a new Environment and Social framework.[6] If formalized by governments, SIA moves the problem of business-community relations into a more legal sphere. A variation on both SIA and SLO is a 'Free, Prior and Informed Consent' (FPIC), an idea that has emerged as a model for community involvement in decision making on resource development (Prno & Slocombe 2012). It involves communities' consent prior to the start of project development. FPIC is recognized as the duty of the state; however, in the situation of a weak state a SLO can be obtained without state involvement (Prno & Slocombe 2012). Also, while FPIC is

---

[5] http://www.cairnenergy.com/files/reports/responsibility/cr2010/communities-and-suppliers/social-impact-assessments.html

[6] http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTSAFEPOL/0,,menuPK:584441~pagePK:64168427~piPK:64168435~theSitePK:584435,00.html

---

supposed to be obtained before the project starts, an SLO is a condition of acceptance which is supposed to be maintained, ideally, for the whole life of the project. SIA has recently been compared with the human rights impact assessment (HRIA) in an attempt to draw mutual lessons for each of them (Götzmann et al. 2016). As Götzmann et al. (2016) notice, "HRIA is an emerging practice, current approaches are diverse and there is a lack of a robust understanding about how HRIA and SIA relate to each other" (p. 14). The suggested commonalities are: "their objective to identify and address adverse impacts; their focus on process as well as outcomes; and their consideration of how to ensure the meaningful inclusion of vulnerable individuals and groups" (p. 14). However, there is also divergence: "the standards applied; the relevance of project benefits; and the recognition of stakeholders as rights-holders and duty bearers" (p. 14).

Yet another wide and conceptually elaborate perspective within which SLO exists by making engagement its core message, is provided by a participatory approach to techno-scientific development which has been developed in two research areas: Sociology of Scientific Knowledge (SSK) and the Public Understanding of Science (PUS). There, are some powerful epistemological and ontological arguments that have developed claiming that science can become socially more intelligent and robust if it is open to critique and contributions coming from various publics, their knowledges, values, and meanings (Leach et al. 2005). This participatory approach is also embedded in the debate on "post-normal" (Funtowicz and Ravetz 1993) or "Mode 2" (Nowotny et al. 2001) science and in a reflection about the nature, desired extent, and legitimacy of citizen science (e.g., Collins & Evans 2002; Wynne 2003).

If applied in an instrumental way, participation might bring beneficial outcomes, such as enhanced public legitimacy, credibility, and trust (Chilvers 2007, p. 156). Chilvers (2007) points about seven effectiveness criteria of participation which have been built across the academic studies and policy communities in the UK (e.g., Petts and Leach 2000; POST 2001).

According to Chilvers (2007, p. 159) participatory practices should:

- be representative of all those interested and affected by a decision or action and remove unnecessary barriers to participation (representativeness and inclusivity);
- allow all those involved to enter the discourse and put forward their views in interactive deliberation that develops mutual understanding between participants (fair deliberation);
- provide sufficient resources (information, expertise, time) for effective participation (access to resources);
- be transparent to all those inside and outside of the process about objectives, boundaries, and how participation relates to decision making (transparency and accountability);

- enhance social learning of all those involved, including participants, specialists, decision makers, and wider institutions (learning);
- be conducted (managed and facilitated) in an independent and unbiased way (independence); and
- be cost-effective and timely (efficiency).

Participatory approaches are difficult to put into practice. One of the main reasons for that is the context dependence of doing participation. For example, Lengwiler (2008, p. 186) points out; "the need for contextualizing the participatory question within the wider social, economic, and political circumstances in which participatory science and technology is set." Moreover, some authors stress the distinction between participation and representation (Lengwiler 2008). Lengwiler (2008, p. 196) notes that: "a mere involvement of outside actors does not yet stipulate a system of equal or adequate representation. Making nonexpert actors participate does not equip them automatically with the means necessary for bringing in their concerns. Thus, participatory processes often suffer from hierarchical power relations among the actors involved." This critic contributes to the practice of participation, which can also prove useful for the practice of SLO, in that it makes the organizers of participation sensitive to problems of inequalities and the language used.

The Environmental Justice (EnvJ) approach is another framework that not only provides a space for sociological reflection on environmental impacts of techno-scientific projects and development, but it is also often mobilized by NGOs' activists and used to frame local battles against corporations and the capitalist mode of development (Rasch & Köhne 2015). According to Schweitzer and Stephenson Jr. (2007), EnvJ "is a term that captures the differential exposure to environmental 'bads' and access to environmental 'goods' experienced by different social groups". Research on these issues dates back to the 1980s when the sociologist Robert Bullard studied the relationship between the location of hazardous sites and the social characteristics of nearby communities in Houston, Texas to find out that all landfills were located in or near African American neighbourhoods (Bullard, 1983). The EnvJ approach is thus concerned with the consequences of environmental hazards for marginalized communities and it brings together questions of social and ecological justice (Schweitzer & Stephenson Jr., 2007). According to Bickerstaff et al. (2009, p. 592); EnvJ work "has succeeded in making issues of race, class, culture and gender integral to the discourse and politics of environmentalism."

EnvJ is not only a research perspective, it is also a social movement and an area of activism born in the U.S. A new wave of grassroots environmental justice activism has been directed more specifically at various subaltern groups, such as poorer communities and oppressed people of colour to organize them into strong, independent organizational structures. The movement organizations strive to function as community capacity builders by developing campaigns and projects that address the common links between various social and environmental problems (Faber & McCarthy 2001). In this way, communities are supposed to unite over interconnected issues rather than divide over

competing interests (Faber & McCarthy 2001, p. 408). Finally, the movement works towards developing grassroots organizing activities over traditional forms of environmental advocacy. While in the traditional advocacy model, professional activists created organizations that represented a community, "the grassroots organizing approach emphasizes the mobilization of community residents so that they may, as stated by Alston (1991), "speak and act for themselves" (Faber & McCarthy 2001, p. 408-409).

Despite these practical developments of EnvJ as a movement, Bickerstaff et al. (2009) point out that the meaning of EnvJ has remained problematic and contested: "In generalized terms we can see EJ either as being closely tied to the movement's origins and a focus on the socio-spatial distribution of pollution, toxicity and other forms of socio-ecological harm or as being linked to a more encompassing (and perhaps even indiscriminate) set of concerns or principles associated with the multiple sites, forms and processes of injustice, articulated, in particular, through a sustainability lens" (Bickerstaff et al. 2009, p. 592-593 after Agyeman, 2002; Walker and Bulkeley, 2006). The concept of SLO is not only theoretically indebted to the EnvJ perspective by the way SLO implicitly acknowledges communities' right to participate in decision-making on environmental impacts of development. But also practical efforts to obtain a SLO are often explicitly confronted with arguments about EnvJ coming from the movement activists. It cannot be denied that, even if the EnvJ approach and its political formation lack clear terminology, it serves as a powerful rhetorical resource that shapes discourse on environmental protection and offers a critical perspective to development (Bickerstaff et al. 2009). Faber and McCarthy (2001), link EnvJ to debates on overcoming the crisis of democracy and to the development of environmental citizenship. According to them, an active environmental citizenship is based on three pillars: "(1) grassroots democracy and inclusiveness—a commitment to the participation of people from all walks of life in the decision-making processes of business, government, and other social institutions; (2) social and economic justice—meeting all basic human needs and ensuring fundamental civil rights for all members of society; and (3) sustainability and environmental protection— ensuring that the integrity of nature is preserved for both present and future generations of all citizens" (Faber & McCarthy 2001, p. 407).

By taking inspiration from the Environmental Justice perspective, the Energy Justice (EneJ) perspective has established itself as an attempt to move reflection about energy from the very technical realm to the realm of social sciences' and to relate problems of energy production and consumption to the question of justice (Sovacool & Dworkin 2014; Sovacool et al. 2014). Concerns of the EneJ approach overlap to a large extent with concerns of EnvJ when it comes to distribution of pollution caused by extraction of energy resources or production of energy. But EneJ also has its very distinct problems, such as distribution and security of energy supplies or a just way of making decisions in energy policies and politics (Sovacool & Dworkin 2014; Sovacool et al. 2014). EneJ approach is particularly relevant to examining extractive industries and their activities, similarly to EnvJ approach, it can also serve the communities as a frame and a reference point in their relations to businesses. Both the EnvJ and the EneJ approaches make a

distinction between procedural justice that relates and the way that decisions are reached and distributional justice that relates to the outcome of such decisions/development. SLO and SIA are primarily concerned with the procedural justice.

Looking at the reviewed concepts and perspectives, it can be seen that SLO functions in a wider conceptual field where concerns about environmental and societal impacts of development meet with a participatory approach to producing techno-science. SLO is by no means the quintessence of these approaches, not does it present the most advanced reflection on these issues. It should rather be seen as one of various conceptual and practical propositions of organizing business-communities coexistence developed in the context of mining. Is it also worth noting that it is a term that is gaining traction on the part of the communities that are opposing shale gas development, i.e Frack Free Rydale[7]. Certainly, a distinctive feature of SLO in relation to CSR and SIA is its orientation on the process and on building and maintaining the licence to operate. It is also less concerned with distributive justice and more with the procedural justice by drawing on the legacy of participatory approaches to techno-scientific development and by putting emphasis on engagement of communities. SLO's relation to EnvJ and EneJ is less straightforward and it depends on how the process of obtaining SLO is organized and framed. However, since these concepts have gained on importance over the last decade and entered the argumentation of NGOs and environmental activists, it is very likely that every process of obtaining a SLO will at some point be confronted with demands for environmental or energy justice.

5.2   Critical Engagement with the concept of a SLO

In the following section, the concept of a SLO is examined more critically, both generally and in relation to the specific case of shale gas. While praised as a worthwhile alternative to other concepts like the above mentioned Corporate Social Responsibility (CSR) or Social Impact Assessment (SIA) (Harvey & Bice 2014), the concept itself is not without criticism.

The fundamental criticism of the SLO is that it has not changed companies' thinking in relation to expectations that communities have with regard to the idea of development (Owen and Kemp 2012). According to this critic, even if a SLO functions in companies' business practices, though the extent of its popularity and application cannot be assumed without an empirical investigation, it has not brought about a wider and deeper reflection about the possibility of various development scenarios favoured locally, some of which may exclude fossil fuel extraction altogether. It is understandable, perhaps, that companies tend to apply the concept of a SLO as yet another 'technical tool' for carrying out their projects in a more efficient and less costly way whereby conflict prevention and mitigation become prime objectives of activities framed as 'gaining a SLO'. This approach to the SLO may be critiqued from the democracy theory perspective as it does not offer a space for a democratic debate about different visions of

---

[7] http://frackfreeryedale.org/ffrpressreleasekm8/

development, its goals and means, but it limits negotiations between communities and companies to 'technical' issues of distribution of costs and benefits within the scope of a project predefined by the company, very often, in concert with the central government. This approach equates efforts to obtain a SLO to efforts to assure acceptance for a project locally.

Another point of critique is that while the concept of the SLO enjoys an inflated status in the mining industry, the industry does not have a coherent definition of it (Owen and Kemp 2012). This points to a more general problem shared by various actors, namely how to define what a SLO entails. The use of the word "licence" in the phrase is misleading as a SLO does not actually entail any legal status of an established relation between the project developer and the community. This general vagueness of the phrase makes it difficult for companies and stakeholders alike to operationalise the concept. This, in turn, leads to confusion of over how a community might grant and express a SLO. The following questions arise: Is granting a SLO as simple as a vote? Or does a SLO consist in the lack of (substantial) protest? In other words, you only really know when you do not have one as the community is opposing a particular development. This raises the related concern—that is highly relevant to the current context in the UK--how to deal with an opposing party that is often stronger in voicing its dissent than the collective of project's supporters in a given locality? Is the stronger voice of dissent a voice of the majority or of the minority and does it matter for obtaining a SLO? (see Prno 2013). The difficult operationalization of a SLO also constitutes a challenge for the industry and specific companies as they have problems to find empirical and measurable indices to check if their efforts to engagement communities resulted in a successful obtaining or maintaining of a SLO (see Prno 2013). This difficulty leads to further open questions: Is the absence of protest the only way for a company to know whether or not they have a SLO? What about the 'higher levels SLO' based on the pyramid-model? How do we know, if a company has e.g. crossed the trust-boundary? All these open questions illustrate just how difficult it is to measure progress towards obtaining a SLO when it cannot be understood as a formal process (as a legal licence). These questions rarely get addressed directly in academic research, though the research gap itself has been identified (Prno 2013). As Prno (2013) point out, this all asks for a more standardized understanding of the concept of SLO to be developed amongst scholars and practitioners.

In addition to the criticism discussed above, the short-term perspective of business cases developed by mining companies makes it difficult to see the benefits of long-term community involvement in the project. It might be due to the rather recent development of a SLO as an idea. "If a company cannot be convinced of the business case, it is unlikely to invest the time and resources required to engage community expectations effectively" (Owen & Kemp 2012, p. 6). Long-term impacts of a given project such as 'development legacy' at closure, rarely get an account in companies' plans and strategies. In the case of shale gas, the development stage of the project is much shorter and the local community is soon passed by as the industry moves elsewhere. There is a long period of production with very little activity at the site. However, a 'development legacy' at closure of a shale gas well may by a concern for local people who may expect

to know whether any effects of shale gas production come after its closure. This is issue has been raised by communities in the UK that are concerned about the long-term liability should the company go out of business.

However, behind the authors' critic of SLO (Own & Kemp 2012, p. 6), stands a will "to reinvigorate discussion and debate over how best to frame the industry's development obligations and how these obligations can be met by the sector. (…) A necessary step in this process is for industry to reconcile its internal risk-orientation with external expectations and this requires a less defensive and more constructive approach to engagement and collaboration." The existing literature points to the conclusion that companies have applied the concept to reduce overt opposition to a particular project rather than to engage communities and other stakeholders over the longer-term of the development (Owen & Kemp 2012, p. 6). As these authors point out, the motives of communities and companies differ and this is possibly a key factor in understanding why the SLO is not practiced by companies as it is prescribed by the literature.

The concept of the SLO can also be subject to a positive assessment when we reverse the perspective and what a SLO mean for the affected community? The common denominator is acknowledgment that the industry needs to get acceptance for their project from local communities and other stakeholders (Owen & Kemp 2012). A company looking for acceptance from a community often sees securing a SLO as something that "is done" to communities. They are invited to participate or engage, but it is usually not the community that reaches out for more communication or sets the terms of that engagement. This leads to the open question as to whether members of a community can actually participate in the decision making process in a meaningful way or if they are basically powerless. This is also related to when people are consulted. If it is some way into the development process then various options have already been closed down. While they might have some say in how the operation is conducted, it is questionable if a community can have an impact on the fundamental decision as to whether a particular project will be initiated or not.

Seeing this perspective as one-sided, we would like to point to a certain empowering potential lying in the concept of a SLO with regard to communities as it grants them the possibility to refer to it when a project is developed in the vicinity of their households (see Figure 2 which relates to proposed shale gas well at Kirby Misperton in the North Yorkshire in England). This is because it enables them to communicate a message about their disapproval using language which is becoming understood by the industry: "we do not grant this project with a social licence to operate". This way a common framework for negotiating the project development can become established. Moreover, the indeterminate character of a SLO definition and operationalization grants communities a role in shaping its content and operationalization. This can, however, work only under the condition that the industry grants the community with an equal status in working towards a better understanding of what a SLO is. Finally, if a SLO can also be seen as a device that may empower communities yet another question should be asked: Can a company's retreat also mean a success and how can such a situation be related to the concept of a SLO?

The proliferation of social media strengthens the empowering potential of a SLO becoming an emerging challenge to mining projects (Yates & Horvath 2013). Communities are now networked and able to exchange information, support and strategies to the level which has not been possible without internet and social media. Centralized control over communication is no longer possible and companies need to face an increasing democratization of communication processes. Moreover, the prevailing norms in social media is trust, openness and authenticity which makes it harder for companies to disseminate whatever information and images they would like to create about themselves. In this sense, social media provides mechanisms for reviewing the content of companies' messages sent out to communities and other stakeholders. At the same time, social media provide great opportunities for companies to increase trust in their activities and boost their reputation if they play by the rules of social media (Yates & Horvath 2013).
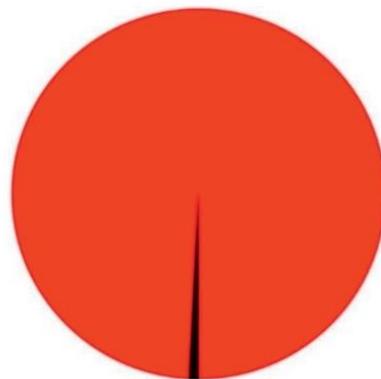

Figure 2: Example of the use of the Social Licence to Operate by 'Frack Free Rydale' in North Yorkshire in the UK.

Another point of criticism relates to the problem of operationalizing and identifying who the community is, the latter is also a challenge for the industry and the regulators. Here we want to ask: who should work towards securing a SLO locally? Who should be involved in negotiating a SLO with the project developer and by what process should this selection be made? Should the local government be involved and what role should it be assigned: initiator, facilitator, mediator or a party in the negotiations? Should the

non-local stakeholders be involved if they express their concern and have stakes in the local project, like non-local NGOs? How should the process of negotiating an SLO be organized? Since participation and community engagement are often regarded as being central to the concept of a SLO, it may be advisable to resort to good practices, engagement methods and techniques developed within the participatory approach to technology development (Lengwiler 2008). However, the paradigm of public engagement, which lies at the heart of the concept of SLO, is difficult to reconcile with the paradigm of risk control, which is followed by companies, and is coupled with the logic of profit maximization (Owen & Kemp 2012). Owen and Kemp (2012, p. 2) point out that: "the mining industry's dominant risk management orientation limits its ability to formulate a collaborative long-term development agenda." Joyce and Thomson (2000 In the light of the risk management paradigm, increasing expectations of engagement create expectations that may easily get out of control and out of a company's capabilities to manage them. Public engagement is thus a risky business. In companies' view, it might be as risky as no engagement. This observation leads companies to 'avoidance behaviour' "whereby comprehensive and sustained dialogue about community expectations is avoided in order to minimise the risk of expectation spiralling out of control" (Owen & Kemp 2012, p. 6).

Another practical problem gleaned from the SLO related literature stems from the fact that most of the case studies address situations where something went wrong, focusing on the negatives, when a SLO was not obtained (e.g. Lancashire). Rarely do we find positive examples being discussed that could help to identify certain criteria or best practices for success. Institutions working with various stakeholders around the development of various technological projects can name such positive cases (e.g. ECN, personal communication), but they rarely inspire social science analysis or media coverage for that matter. These positive cases could also help to answer another important question that needs to be addressed: how to inscribe community engagement into a wider process of decision-making and how to place a SLO in relation to other Licences obtained by the company, both in terms of the timing for SLO and its status vis a vis other licences? Moreover, while other licences are granted and monitored by legal institutions, the SLO may at times be formalized as well but in some contexts may truly depends on the decision of communities (Owen & Kemp 2012) the will of which is conditioned by the law only to some limited extent.

It is also important to address the "when" question. Based on the existing literature, it is not exactly clear at which point in the planning process a company should start with engagement processes to get a SLO. If you act too early, you may have too little knowledge at that stage of the project development to be able to answer questions coming from the community members. However, it is never too early to ask about community concerns in order to understand them and be clear and open about it when the answers are contingent on the development of the investment or on legislative processes, and thus cannot be provided on the spot. On the other hand, there might be protest or critical questions appearing early on, for example when the exploration licence is issued. But here again, processing of seismic data takes time and it is good to be clear about it, rather than just tell the community that many things are still unknown.

Protests may be organized already when there is some first positive indication that the company will want to drill on that site, even if these are only exploratory drills. It should also be kept in mind that people quickly become knowledgeable about shale gas and fracking activities and are thus suspicious already of these very early planning activities. In that sense, very early engagement would make sense, but only under condition that the company is explicit about its knowns and unknowns and prepares for the questions about future organization of space and time in the coexistence of the community and the company. Planning should be accompanied by engaging in an open way that leaves space for negotiation. Ideally, engagement should start well before legal processes such as a formal planning application. This way an impression can be avoided that the company and local authorities are approaching the community after everything had already been decided. Engagement should thus be pre-planning, because after the planning process there is no space for negotiation with a company. The EU Principles are helpful in this respect:

- "Plan ahead of developments and evaluate possible cumulative effects before granting licences;
- Carefully assess environmental impacts and risks;
- Ensure that the integrity of the well is up to best practice standards;
- Check the quality of the local water, air, soil before operations start, in order to monitor any changes and deal with emerging risks;
- Control air emissions, including greenhouse gas emissions, by capturing the gases;
- Inform the public about chemicals used in individual wells, and
- Ensure that operators apply best practices throughout the project."
  (European Commission, Press release, Brussels, 22 January 2014)

6 CONCLUSIONS

This report has addressed the question as to whether a balance can be reached between public concerns about implementing unconventional gas production in the EU with industry interests and whether it is possible for the shale gas industry to gain a "Social Licence to Operate" in the EU. To this end, we have examined the concept's origins in the mining sector, the involvement of stakeholders and a possible application of the concept to the oil and gas sector and especially to the shale gas industry sector. Lastly, we explored the related concepts of "Corporate Social Responsibility", "Social Impact Assessment", "Environmental Justice" and "Energy Justice" and critically engaged with the concept of a "Social Licence to Operate". We have also examined the concept of SLO in the context of debates on human rights and within a broader field of participatory approaches to the production of techno-science. In the following section we will summarize our findings regarding the benefits or disadvantages of using the concept of a SLO to deal with the critical debate surrounding European shale gas exploration.

Despite criticisms of the concept and the difficulty in differentiating SLO from similar concepts dealing with stakeholder involvement mentioned above, the SLO is still perceived to be "'the language of choice' by industry and stakeholders" (Nelsen 2006, p. 161). It is questionable if the concept currently has a significant status outside of the mining sector (see Deliverable 17.1, 18.1, 19.1 of the M4Shalegas project). While it is discussed on a more global and academic level, actual industry players or specific companies hardly make use of the concept on a local level or in regard to specific industry projects. Certain aspects of the concept can be found in the local discourse, e.g. in the Polish or German and UK debates surrounding fracking and shale gas production where those aspects are framed under an idea of "local acceptance". Based on our review and research, SLO is, however,beginning to gain traction in the UK where it is used by both the industry and local communities as a shorthand for public acceptance.

As mentioned above, the SLO as a concept has also faced criticism because of the relative vagueness of the term. It is not clear what a SLO actually entails, how it is operationalised and what criteria are in place to tell if the SLO has been successfully established. However, despite this criticism, the review of different definitions of the SLO has shown that it always puts an emphasis on taking care for procedural justice by resource exploration projects. Thus, the idea of the SLO can have an important formative role in (policy) debates surrounding the issue of European shale gas production by drawing attention to the quality of the processes through which unconventional fossil fuels are developed on the ground. Moreover, the vagueness of the term might sometimes serve as an opportunity and, similarly to other vague concepts like sustainability or responsibility, be an important device for enabling different actors to fill it with the content that is most important to them. The meaning of the SLO can thus be adjusted to various local relations, regulatory contexts and matters that concern communities. More importantly, however, the SLO has the potential to empower local communities by providing them with a discursive devise which can be used to launch

dialogue with business investors and officials in a language that is comprehensible for all sides.

Another point concerns the fact that in the literature on SLO, the concept is predominantly operationalised from an industry standpoint - as something a company seeks to obtain in order to gain acceptance from a community for their project. However, in practice the SLO is also suitable for being used by communities as a procedural bottom-up tool . Wilson (2016, p. 80) writes along these lines that "from the perspective of communities, a social licence relies on local stakeholders pro-actively to formulate their demands and shape relations, to ensure that the social licence reflects their values and expectations." Therefore, one best practice recommendation is to implement the SLO as a framework to empower local communities to make them be involved more actively in the processes of establishing a SLO and to engage them in a constructive dialogue.

The second best practice recommendation is adressed to the oil and shale gas industry actors. The short-sightedness of the business actors who are focused on gaining acceptance for particular projects may lead them to overlook the benefits of investing in positivie long-term relations with the local and national publics. Bad performance of one company in one side, bad relations with one community or negative messages sent out by one business player to a general public in a given country may cause serious problems to other companies in the same industry. Yates and Horvath (2013, p.9) argue similarly when they write that: "a company that has a reputation for meaningful and constructive dialogue with local communities, compliance, and proactive environmental management and responsiveness to crises will likely have an easier path to gaining social Licence for an undertaking in a new region. In contrast, a company that has a poor compliance and performance record and a reputation for disregarding community concerns will face a much greater challenge in building the trust and social capital necessary to achieve social Licence." Communities have ways to build up memory and transmit past experiences with industry actors, they are able to transfer knowledge about fracking and shale gas production to other communities and stakeholders as they have the ability to easily network through the internet and social media. The problem of induced seismicity with Cuadrilla's drilling activity in Lancashire that resulted in a moratorium strengthened public resistance to shale gas development and serves as a good example here. The best practice recommendation would be to minimise the focus on one production site or one specific company, and instead think about the concept of SLO in the shale gas debate in a much broader context. In light of this issue, it might be beneficial for the whole oil and gas industry, or for all companies dealing with a special technology like hydraulic fracturing for shale gas, to work out a shared understanding of the concept of the SLO and to establish common procedures for obtaining and maintaining the SLO.

In addition to the recommendations above, engagement with the concept of a SLO and its relation to the European shale gas debate has opened up wider questions about the relation between industry, politics and society. The case of shale gas can be seen as an example where local issues concerning site selection, local opposition and the need for

local acceptance feed into a national debate. In the case of shale gas this can be seen as a debate about whether to focus on local costs (impacts) that shale gas production has or whether to focus on its national benefits (such as job creation and energy security). The costs to the local community that shale gas production might impose can also be contrasted with national issues relating to energy or environmental justice. This leads to a more general question about what the concept of a SLO, when applied to the European shale gas sector, can actually achieve and what its limitations are. It is important to note that the controversy surrounding shale gas exploration in Europe is not just about "drilling holes in the ground", but always also reflects wider concerns in the society in which it takes place. This means that there are different levels (scales) and stakes (issues) that play out in the debate on shale gas. One is the lack of distributive justice concerning risks - here a SLO can be used to solve problems that pertain to this issue. The UK Government is seeking to address this via its proposed 'Shale Gas Wealth Fund' that will allocate a share of the tax generated by shale gas to development to the regions and communities impacted by the industry. But there are other levels involved as well. For example, in Germany support for the "Energiewende" in many people's opinion does not mix with allowing shale gas exploration via hydraulic fracturing. In Poland, on the other hand, energy security concerns and a vast public support for independence of foreign gas supplies fueled the shale gas debate between 2010 and 2015 with positive attitudes and with hope for prosperity. While in Germany, community members might take into consideration that they can face impacts on social relations if they don't oppose fracking on a certain level, because they might be labelled as people not interested in the environment, in Poland, shale gas opposition can even be framed as a betrayal of the national interest in relation to energy security. On another level, vocal opposition against hydraulic fracturing and shale gas production can be framed in a different narrative, as protesting against the ruling elite (central government) or as opposing industry stakeholders involved in shale gas exploration as a manifestation of capitalism as such. In the UK there is similar concern in that those that oppose shale gas see it as incompatible with the Government's climate change policy.

But how, if at all, can the concept of a SLO be of use in addressing problems of national policy? Despite a growing concern with community engagement and public acceptance by industry stakeholders, some of the national issues cannot be negotiated locally as they are the prerogative of national parliaments and governments. A SLO will thus always refer only to some social, environmental, economic and political issues while leaving others out to be dealt with by institutions of the systems of representative democracies. This seems to be a real challenge for practicing the SLO as the scope of the matters that can be discussed should be made clearly stated to the stakeholers right from the start.

The social and political aspects that surface when societal issues in relation to controversial energy technologies or industries are discussed, are only now being addressed in academic literature under the banner of 'energy justice.'. Most projects tend to focus on the scientific and technical aspects of energy system change, with the exception of the M4Shalegas project itself, and rarely include the opportunity for social sciences to research these social and political issues. This lack of consideration for the

social dimensions of shale gas production is also apparent in the European Commission's stand on unconventional fossil fuels. The EU recommendations on the handling of issues surrounding hydraulic fracturing (see: Section 5.2., p. 34 in this report) do not include any recommendations for dealing with the social impacts of the technology. They do mention the public, but not as a stakeholder that should be actively and meaningfully engaged in a decision process, but only to be "informed […] about chemicals used in individual wells" (European Commission, Press release, Brussels, 22 January 2014, p. 1). The document "Golden Rules for a Golden Age of Gas" prepared by the International Energy Agency can serve as a good template for the European Commission. One of the "Golden Rules" seeks to "Integrate engagement with local communities, residents and other stakeholders into each phase of a development starting prior to exploration; provide sufficient opportunity for comment on plans, operations and performance; listen to concerns and respond appropriately and promptly" (IEA 2012, p. 13). The adherence to these rules should then provide "public acceptance that can maintain or earn the industry a "social licence to operate"" (Ibid., p.10). This can be seen as a step in the right direction and shows that the SLO certainly has potential in the European context, even though it needs to be attuned to the specifics of national and local context and the particular challenges posed by unconventional gas and oil.

7 REFERENCES

Agyeman, J. (2002) Constructing environmental (in)justice: transatlantic tales. Environmental Politics 11.3, 31–53.

Ali-Khan, F., Mulvihill, P.R., 2008. Exploring collaborative environmental governance: perspectives on bridging and actor agency. Geography Compass 2, 1974–1994.

Alston, D. (1991). We Speak for Ourselves: Social Justice, Race, and Environment, Panos Institute, Washington, DC.

Australian Government (2007) Draft Policy Statement: *Use of environmental offsets under the Environment Protection and Biodiversity Conservation Act 1999.* Retrieved 22November 2016, from: http://www.environment.gov.au/archive/epbc/publications/pubs/draft-environmental-offsets.pdf

Ballard, C., Banks, G., 2003. Resource wars: the anthropology of mining. Annual Review of Anthropology 32, 287–313.

Bice, S., Moffat, K. (2014). Social licence to operate and impact assessment. *Impact Assessment and Project Appraisal*, *32*(4), 257-262.

Bickerstaff, K., Bulkeley, H. & Painter, J. (2009). Justice, Nature and the City. *International Journal of Urban and Regional Research*, 33(3), 591-600.

Boutilier, R. G. (2014). Frequently asked questions about the social licence to operate. *Impact Assessment and Project Appraisal,* 32(4), 263-272.

Boutilier, R. G., Thomson, I., & Consultants, O. C. G. (2011). Measuring the social License to operate: fruits of a dialogue between theory and practice. Paper presented at the *Social Licence to Operate Symposium*, University of Queensland. Retrieved 31 October 2016, from http://sociaLicence.com/publications/Modelling%20and%20Measuring%20the%20SLO.pdf

Brei, V., Böhm, S. (2011). Corporate social responsibility as cultural meaning management: a critique of the marketing of 'ethical' bottled water. *Business Ethics: A European Review* 20 (3), 233-252.

Bullard, R. (1983) Solid waste sites and the Houston black community. Sociological Inquiry 53.2–3, 273–88.

Chilvers, J. (2008). Deliberating Competence. Theoretical and Practitioner Perspectives on Effective Participatory Appraisal Practice. *Science, Technology, & Human Values* 33(2): 155-185.

Chin, B. N., and J. H. Mittelman. 1997. Conceptualising resistance to globalisation. New Political Economy 2 (1):25–37.

Claro, E. (2007). Exchange relationships and the environment: the acceptability of compensation in the siting of waste disposal facilities. *Environmental Values 16*, 187–208.

Collins, H. M., and R. Evans. 2002. The third wave of science studies: Studies of expertise and experience. Social Studies of Science 32:235-96.

European Commission, Press release: Environment: European Commission recommends minimum principles for shale gas, Brussels, 22 January 2014, Retrieved 22 November 2016, from: http://europa.eu/rapid/press-release_IP-14-55_en.htm

Faber, D. & McCarthy D. (2001). The Evolving Structure of the Environmental Justice Movement in the United States: New Models for Democratic Decision-Making. *Social Justice Research* 14(4), 405-421.

Funtowicz, S. O., and J. R. Ravetz. 1993. Science for the post-normal age. *Futures* 25 (7): 739-55.

Götzmann N., Vanclay F., Seier F. (2016) Social and human rights impact assessments: what can they learn from each other?, *Impact Assessment and Project Appraisal*, 34:1, 14-23, DOI: 10.1080/14615517.2015.1096036

Gunningham N., Kagan R.A., Thornton D. (2004). Social Licence and Environmental Protection: Why businesses go beyond compliance. *Law and Social Inquiry* **29**(2), 307–341.

Harvey, B., Bice, S. (2014). Social impact assessment, social development programmes and social licence to operate: tensions and contradictions in intent and practice in the extractive sector. *Impact Assessment and Project Appraisal*, *32*(4), 327-335.

International Energy Agency (IEA) (2012) *Golden Rules for a Golden Age of Gas*. World Energy Outlook. Special Report on Unconventional Gas

Joyce, S., Thomson, I. (2000). Earning a social licence to operate: Social acceptability and resource development in Latin America. *The Canadian Mining and Metallurgical Bulletin, 93*(1037), 49-53.; cited after: http://oncommonground.ca/wp-content/downloads/Licence.htm, accessed on November 11, 2016

Kooiman, J., 2003. Governing as Governance. SAGE, London, UK.

Leach, M., I. Scoones, and B. Wynne, eds. 2005. Science and citizens: Globalization and the challenge of engagement. London: Zed Press.

Lehr, A.K., Smith, G.A., 2010. Implementing a Corporate Free, Prior, and Informed Consent Policy: Benefits and Challenges. Foey Hoag LLP, Boston, Massachusetts.

Lemos, M.C., Agrawal, A., 2006. Environmental governance. *Annual Review of Environment and Resources* 31, 297–325.

Lengwiler, M. (2008). Participatory Approaches in Science and Technology Historical Origins and Current Practices in Critical Perspective. *Science, Technology, & Human Values* 33(2), 186-200.

Lis, A., Brändle, C., Fleischer, T., Thomas, M., Evensen, D., Mastop, J. (2016). *Existing European data on public perceptions of shale gas* (Project report - SP4 Public perceptions). European Union Horizon 2020 programme

McAllister, M.L., Fitzpatrick, P.J., 2010. Canadian mineral resource development: a sustainable enterprise?. In: Mitchell, B. (Ed.), *Resource and Environmental Management in Canada: Addressing Conflict and Uncertainty*, 4th edn. Oxford University Press, Toronto, Ontario, pp. 356–381.

Nelsen, J.L. (2006). Guest Editorial: Social Licence to Operate. *International Journal of Mining, Reclamation and Environment.* 20(5) 161-162.

Nowotny, H., P. Scott, and M. Gibbons. 2001. Rethinking Science. Cambridge: Polity Press.

Owen, J. R., Kemp, D. (2013). Social licence and mining: A critical perspective. *Resources Policy*, *38*(1), 29-35.

M4ShaleGas
Measuring, Monitoring, Mitigating,
Managing the Environmental
Impact of Shale Gas

Parsons R., Lacey, J., Moffat, K, (2014). Maintaining legitimacy of a contested practice: How the minerals industry understands its 'social licence to operate,'" *Resources Policy* 41: 83–90

Petts, J., and B. Leach. 2000. Evaluating methods for public participation: Literature review. Environment Agency R&D Technical Report E135. Bristol: Environment Agency.

POST. 2001. Open channels: Public dialogue in science and technology. London: Parliamentary Office of Science and Technology.

Prenzel, P. V., Vanclay, F. (2014). How social impact assessment can contribute to conflict management. *Environmental Impact Assessment Review, 45*, 30-37.

Prno, J. (2013). An analysis of factors leading to the establishment of a social licence to operate in the mining industry. *Resources Policy* 38(2013), 577-590.

Prno, J., Slocombe, D. S. (2012). Exploring the origins of 'social Licence to operate' in the mining sector: Perspectives from governance and sustainability theories. *Resources Policy*, *37*(3), 346-357.

Promoting A European Framework For Corporate Social Responsibility Green Paper – Industrial Relations and Industrial Change, European Commission Directorate-General for Employment and Social Affairs, July 2001

Rasch, E. D. & Köhne, M. (2015). Micropolitics in Resistance: The Micropolitics of Large-Scale Natural Resource Extraction in South East Asia. *Natural Resources*, 29:4, 479-492, DOI: 10.1080/08941920.2015.1086458.

Richert C, Rogers A, Burton M. (2015). Measuring the extent of a social Licence to Operate: The influence of marine biodiversity offsets in the oil and gas sector in Western Australia. *Resources Policy* 43: 121-129.

Sovacool, B, K. and Dworkin, M. H. (2014) 'Global Energy Justice: Problems, Principles, and Practices", Cambridge University Press.

Schweitzer, L. and M. Stephenson Jr. (2007) Right answers, wrong questions: environmental justice as urban research. *Urban Studies* 44.2, 319–37.

Sinclair, A.J., Diduck, A., 1995. Public education: an undervalued component of the environmental assessment public involvement process. *Environmental Impact Assessment Review* 15, 219–240.

Smith, D.C., Richards, J.M. (2015). Social Licence to Operate: Hydraulic Fracturing-Related Challenges Facing the Oil & Gas Industry. *Oil and Gas, Natural Resources, and Energy Journal, 1*(2), 81-163.

Sosa, I., 2011. Licence to Operate: Indigenous Relations and Free Prior and Informed Consent in the Mining Industry. Sustainalytics, Amsterdam, The Netherlands.

Stephenson, M. H. (2016). Shale gas in North America and Europe. *Energy Science & Engineering*, *4*(1), 4-13.

Sovacool, B.K., Sidortsov, V and Jones, B.R. (2014). *Energy Security, Equality and Justice*. London: Earthscan.

Ter Mors, E., Terwel, B.W., Daamen, D.D.L. (2012). The potential of host community compensation in facility siting. *International Journal of Greenhouse Gas Control* 11S: S130-S138.

Thomson, I. & Boutilier, R. G. (2011). Social Licence to operate. In P.Darling (Ed.), SME Mining Engineering Handbook (pp. 1779-1796). Littleton, CO: Society for Mining, Metallurgy and Exploration.

Vanclay, F. (2003), International Principles for Social Impact Assessment. *Impact Assessment and Project Appraisal* 21(1): 5–11, Beech Tree Publishing, 10 Watford Close, Guildford, Surrey GU1 2EP, UK.

Walker, G. and H. Bulkeley (2006) Editorial: Geographies of environmental justice. Geoforum 37(5), 655–9.

Walton, A. McCrea, R. & Rosemary, L. (2014). CSIRO survey of Community Wellbeing and responding to change: Western Down region in Queensland. *Land and Water Flagship*, available at: www.csiro.au

Webler, T., Renn, O., (1995). A brief primer on participation: philosophy and practice. In: Renn, O., Webler, T., Wiedemann, P. (Eds.), Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse. Kluwer, Dordrecht, The Netherlands, pp. 17–33.

Wilson, E. (2016). What is the social licence to operate? Local perceptions of oil and gas projects in Russia's Komi Republic and Sakhalin Island. *The Extractive Industries and Society*, *3*(1), 73-81.

World Resources Institute (WRI), 2003.World Resources 2002–2004 Decisions for the Earth: Balance, Voice, and Power. World Resources Institute, Washington, D.C.

Wynne, B. (2003). Seasick on the third wave? Subverting the hegemony of propositionalism: response to Collins and Evans (2002). *Social Studies of Science* 33 (3): 401-17.

Yates, B., & Horvath, C. (2013). Social Licence to operate: How to get it, and how to keep it. *Asia Pacific Foundation of Canada and the National Bureau of Asian Research*, Vancouver, Canada.