



ANNEX: Fracking by Phases, Issues, Human Rights and the UN Guiding Principles Requirements

Risks/Issues by Phase of Hydraulic Fracturing	Potentially Affected Human Rights	State Duty to Protect HR (due diligence expected of Government)	Corporate Responsibility to Respect HR (due diligence expected of Corporations)	Remedy
<b>I. Energy Policy/Strategy Development</b>				
- Social engagement	Right to development Right to information Right to participation Right to energy (new concept) Right to climate (evolving concept) Right to a healthy environment	-Develop an appropriate consultative processes for Regional or National Development Strategies -ensure wide access to information -Identification of stakeholders -Facilitate participation of stakeholders -Identify HR issues in Energy Policy Development -Streamline Energy Policy with Climate Change Strategy -Identify and commit the State to NO-GO scenarios or partial ban scenarios to hydraulic fracturing activity based on the conclusions of strategy consultation and development and assessment of risks and impacts	-Establish a corporate policy on Energy, Climate Change, and Sustainability, fossil fuel vs. renewable fuel scenarios and how the company is addressing these future scenarios -Establish a Corporate Human Rights Policy, Management Systems, Measurement and Monitoring Indicators and Systems, and Reporting Procedures and Products -Establish and respect NO-GO criteria for investments / operations before committing to the investment	-Accessible publication of stakeholders identifies and means by which non-identified stakeholder can add themselves to stakeholder list -Clear and transparent rules and mechanisms of engagement for affected stakeholders by State and business actors -Formal channels of treatment and response to inquiries, requests, complaints, etc. -Publication of policy development decisions taken by state or company
- Public consultation	Right to participation	- Identification of stakeholders - Facilitate participation of stakeholders - Mandate company to develop a public consultation plan	-Conduct stakeholder assessment / identification -Establish plan and methods of public consultation in stakeholder communities before investing	-Clear and transparent rules and mechanisms of questions and responses procedures and results of public consultation conclusions
- Participation in decision-making (FPIC)	Right to participation Rights of indigenous peoples (II O 169)	-Establish channels for public consultation with interested stakeholders	-Ensure consent and social license from communities is granted before any operational	-Establishment of opportunities for public to engage with and participate in development

		<ul style="list-style-type: none"> <li>-Engagement with indigenous communities and development of participatory channels</li> <li>-Determine consequences of public participation (informational, consultative, binding or not binding, etc.), NO-GO scenarios and conditions, etc.</li> </ul>	<ul style="list-style-type: none"> <li>activity begins</li> <li>-Ensure any indigenous rights of consent or consultation are realized before any operational activity begins</li> </ul>	<ul style="list-style-type: none"> <li>decisions regarding whether hydraulic fracturing will be allowed and/or banned;</li> <li>-Establishment of specific public discretionary decision-making opportunities about <i>in which cases and circumstances</i> the public will determine if hydraulic fracturing will be allowed or not (indigenous lands, vulnerable areas, etc.)</li> <li>-Establish impartial adjudication procedures and or forums if State or company commitments have not been met to NO-GO scenarios</li> </ul>
- Access to Information	Right of access to information	<ul style="list-style-type: none"> <li>-Establish knowledge nodes (website, publications, communication strategy, etc.)</li> <li>-Disseminate information openly, widely and to interested stakeholders</li> <li>-Establish rules about access, response formats and timing, etc.</li> </ul>	<ul style="list-style-type: none"> <li>-Make all public information easily and freely accessible to stakeholders on a timely and practical basis</li> <li>-Do not rely on or defer stakeholders to government channels of information, particularly where governments have a poor record of transparency and / or granting access to information to communities and interested stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>-Establishment of free and easily accessible systems of information on development choices and strategies for public access prior to and during decision-making phases</li> <li>-Establishment of procedure for sending complaints about information access issues</li> </ul>
- Investment Benefits and Return	Right to development Right to budget participation	<ul style="list-style-type: none"> <li>-Publicly explain intended economic benefits of investments in the sector</li> <li>-Offer stakeholders input in determining how benefits of investments will be channeled</li> <li>-Publication of investment flows, tax revenues, and related budget allocation</li> </ul>	<ul style="list-style-type: none"> <li>-Publish all agreements on tax revenues or other payments made with authorities or other actors</li> <li>-Publish information on all payments</li> </ul>	<ul style="list-style-type: none"> <li>-Establishment of hydraulic fracturing tax revenue expenditures discretion where public decided how revenues are spent</li> </ul>
- Jurisdictional Policy Coherence	Right to development	<ul style="list-style-type: none"> <li>-Identification and engage multi-jurisdictional and multi-agency public policy dialogue and collaboration, - - Seek regulatory harmonization</li> </ul>	<ul style="list-style-type: none"> <li>-Engage with national and local level authorities and encourage to harmonize of policies regulating oil and gas operations deferring to highest</li> </ul>	<ul style="list-style-type: none"> <li>-Establishment of federal level authority to receive and address jurisdictional imbalances between local, provincial and national jurisdictions regarding hydraulic</li> </ul>

		between jurisdictional levels, etc.	applicable standards - Adhere to highest global standards in all oil and gas operations and respect for human rights law -Respect all applicable treaties, laws, and other relevant human rights guidelines for business practice	fracturing decisions and operations (bans, permits, regulations, etc.)
- Investment Contracts	Right to development	-Share / publish all investment contracts with companies regarding hydraulic fracturing promotion, investment agreements, etc.	-Share / publish all investment contracts with State or non-State actors regarding conditions of investments, in hydraulic fracturing activity.	-Easily and widely accessible publication of investment contracts prior to and during consideration of signatures;
<b>II. Permitting</b>				
- Land use decisions	Right to property Right to livelihood Right to agriculture? Right to a healthy environment	-Develop / reference /establish Land Use Regulations/Rules -Publish permit requests in visible place with lead time for stakeholders to respond -Establish NO-GO areas for hydraulic fracturing -Establish conditional areas for hydraulic fracturing -Establish real time public information on permits issued on a <i>per well</i> basis	-Avoid requesting or accepting exploration or drilling permits in lands corresponding to natural reserves, sensitive ecosystems, indigenous lands where consent and /or social license has not been granted or is greatly contested	-Establishment of opportunities for public to engage with and participate in land use decisions related to planned or ongoing hydraulic fracturing activity; -Establish impartial adjudication procedures and or forums to address land use conflicts related to planned or ongoing hydraulic fracturing activity -Publish treatment and resolution of grievance concerns
- Agricultural risks/conflicts	Right to livelihood Right to agriculture?	-Engagement and consultation with agricultural producers / farmers associations to identify risks	-Do not employ aggressive land acquisitions, rental agreements or other measures that would imply conflictive land use transformation or place small farmers or other typical and or cultural commercial activity at peril	-Provide complaint mechanism to receive and address land use conflicts related to agricultural activity -Publish treatment and resolution of grievance concerns
- Community conflicts	Right to property Right to culture	-Identification and Engagement with Community Groups on potential conflicts with permit rights	-Conduct thorough stakeholder assessment -Identification of <i>vulnerable</i> groups, commercial activity, and other interests to oil and	-Provide complaint mechanism for community and /or interest group complaints -Publish treatment and resolution of grievance concerns

			gas activity arrival -Engagement with relevant interests groups which may suffer risks and impacts of permits and eventual exploration or extraction activity	
- Natural resource risks/conflicts	Right to a healthy environment Rights of nature Right to water	-Engagement and consultation with Natural Resource Agencies and non-State actors (NGOs or academics) on environmental resource risks -Develop baseline assessment of natural resource stock / quality	-Conduct baseline assessment of environmental resources and their vulnerabilities both to exploration work and consider to eventual extraction implications to those risks	-Provide complaint mechanism for organizations, individuals, or community organizations with natural resource concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Water allotments	Right to water Right to development Right to livelihood	-Engagement and consultation with water authorities -Engagement and consultation with water holder associations	-Analyze permits with regards to existing water rights and the impacts that executing permits would have on water allotment rights -Consider eventual impacts of extraction implications to those water rights permits	-Provide complaint mechanism to water permit holders or users -Publish treatment and resolution of grievance concerns
- Indigenous populations presence	Rights of indigenous peoples	-Identification of potentially affected indigenous communities -Establish rules/laws/due diligence requirements for corporations granted permits on or near indigenous lands -Consider FPIC / consent requirements for permits on or near indigenous territories including bans or NO-GO areas in Indigenous territories - Oblige companies to conduct indigenous community outreach / engagement / consultation / FPIC -Engage / seek advice from Indigenous Peoples	-Identify existing indigenous communities in the area -Engage with indigenous community representatives / associations, etc. -Establish clear policies of how indigenous community presence will be incorporated into policy, management decisions and activities -Respect ILO 169 in all phases of activities -Inform UN Special Rapporteur of Engagement with Indigenous Communities regarding activities -Commit to NO-GO or partial ban scenarios if the company	-Identify and publish list of potentially affected or interested indigenous communities in the area of impact and influence of operations -Provide channels for other potentially affected (but not identified) indigenous communities to present themselves as interested stakeholders -Establishment of opportunities for indigenous community engagement with and participation in development and investment decisions regarding whether hydraulic fracturing will be allowed and/or banned; -Establishment of ILO 169 as a

		government agencies and / or indigenous peoples associations	cannot obtain consent or license to operate from indigenous communities	framework for consideration of indigenous community consultation, engagement and participation in all development and investment decisions regarding planned or ongoing hydraulic fracturing activity -Establishment of specific public discretionary decision-making opportunities about <i>in which cases and circumstances</i> the public will determine if hydraulic fracturing will be allowed or not (indigenous lands, vulnerable areas, etc.) -Establish impartial adjudication procedures and or forums if State or company commitments have not been met to NO-GO scenarios
<b>III. Exploration and Drilling</b>				
- Land use impacts	Right to property Right to livelihood Right to agriculture? Right to a healthy environment	-Analyze land use impact implications for the sector -Consider past drilling and risks of unknowingly perforating pre-existing wells -Establish and mandate real time information from companies on well stage and evolution of activity, production, etc.	-Define an area of influence and potential impacts of exploration and initial well drilling activity to include <i>all</i> surface area immediately above all vertical and horizontal drilling as well as tangential or further outlying areas which for geological reasons may be affected; -Carry out a land usage analysis identifying owners, commercial activity, agricultural activity which could be impacted by exploration and drilling, -Publically inform and consult identified stakeholders and ensure that other potential stakeholders know about and can engage in consultations	-Establish impartial adjudication procedures and or forums to address land use conflicts related to planned or ongoing hydraulic fracturing activity -Publish treatment and resolution of grievance concerns
- Natural resource fragmentation (to introduce new roads)	Right to a healthy environment Rights of nature	-Ensure integrity of exploration / drilling with official land-use	-Establish guidelines for introduction of new roads or	-Provide complaint mechanism for organizations, individuals, or

		<p>planning</p> <ul style="list-style-type: none"> <li>-Identify disturbances of natural habitat due to road introduction and land fragmentation</li> <li>-Mandate land restoration to natural state after exploration / prospecting</li> </ul>	<p>road use transformation in order to avoid impacts and reduce unavoidable impacts to a minimum level;</p> <ul style="list-style-type: none"> <li>-Ensure a remediation plan for end of project, returning deforested land to its natural state or as close to it as possible</li> </ul>	<p>community organizations with road impact (land fragmentation) concerns and /or complaints</p> <ul style="list-style-type: none"> <li>-Publish treatment and resolution of grievance concerns</li> </ul>
<ul style="list-style-type: none"> <li>- Deforestation (to introduce new roads, wellpads)</li> </ul>	<p>Right to a healthy environment Right to climate Right to atmosphere</p>	<ul style="list-style-type: none"> <li>-Establish rules for deforestation (limits, off limit areas or species of trees, etc.)</li> <li>-Mandate compensatory forestation during use of deforested lands</li> <li>-Mandate restitution of deforested lands after use</li> </ul>	<ul style="list-style-type: none"> <li>-Commit to minimal deforestation for introduction of roads, wellpads, etc.</li> <li>-Compensate deforestation with equivalent reforestation with native species</li> <li>-Commit to reforest and remediate lands after use</li> </ul>	<ul style="list-style-type: none"> <li>-Provide complaint mechanism for organizations, individuals, or community organizations with deforestation impacts concerns and /or complaints</li> <li>-Publish treatment and resolution of grievance concerns</li> </ul>
<ul style="list-style-type: none"> <li>- Water usage</li> </ul>	<p>Right to water (access)</p>	<ul style="list-style-type: none"> <li>-Establish rules / regulations / laws for water use such as fresh water use vs. industrial water use, surface vs. subsurface water use, recycled water, recycling requirements etc.</li> <li>-Develop baseline of water quality and availability</li> <li>-Ensure water access is consistent with pre-existing water use practices, permits, rights, etc.</li> <li>-Consult with water users associations / affected farmers, etc.</li> <li>-Identify allowed water resources, times, season, volumes by use, etc.</li> </ul>	<ul style="list-style-type: none"> <li>-State corporate commitment to protect the “right to water”</li> <li>-Carry out baseline assessment of all water resources in the a broadest possible area of influence for exploration and initial drilling, including quality of water, volume, and obtain data from authorities or principle water users relative to volumes, time periods of usage, etc.</li> <li>-Publically inform all chemicals or other toxics employed during exploration and drilling, that could potentially impact water resources and ensure that monitoring/measurements are carried out to test for these toxics;</li> <li>-Establish measurement points at key areas where impacts may occur as well as neutral reference points to enable</li> </ul>	<ul style="list-style-type: none"> <li>-Provide complaint mechanism for organizations, individuals, or community organizations with water usage impacts concerns and /or complaints</li> <li>-Publish treatment and resolution of grievance concerns</li> </ul>

			<p>comparative analysis</p> <ul style="list-style-type: none"> <li>-Publically inform on the monitoring plan and results of monitoring throughout the life of the project</li> <li>-Ensure where possible that no water is taken directly from aquifer, and that reclaimed, recycled, or other non-fresh surface water is utilized to the greatest extent possible;</li> </ul>	
<ul style="list-style-type: none"> <li>- Water contamination (surface and subsurface from lubricants/et.al)</li> </ul>	<ul style="list-style-type: none"> <li>Right to water</li> <li>Right to health</li> <li>Right to property</li> <li>Right to a healthy environment</li> </ul>	<ul style="list-style-type: none"> <li>-Produce water resource quality baseline assessment</li> <li>-Mandate transparency on use of chemicals in exploration drilling (on a per well basis)</li> <li>-Establish rules on source water allowed for exploration drilling;</li> <li>-Establish rules on volumes and timing of water use for exploration drilling</li> <li>-Establish rules on water deposition, treatment and recycling of water used in exploration</li> <li>-Publish health risks of chemicals used and water treatment processes</li> </ul>	<ul style="list-style-type: none"> <li>-Employ best practices during exploration and drilling to ensure the safety of the local environment and fresh water resources relative to all potential contamination, ponds/pits/impoundments, treatment facilities, wellpad facilities, etc.</li> <li>-Ensure that extreme events (storms, overflow) do not overrun effluent storage location, and place freshwater resources at risk;</li> <li>-Conduct periodic control of surface water contamination;</li> </ul>	<ul style="list-style-type: none"> <li>-Provide complaint mechanism for organizations, individuals, or community organizations with water contamination impacts concerns and /or complaints</li> <li>-Publish treatment and resolution of grievance concerns</li> </ul>
<ul style="list-style-type: none"> <li>- Risks from casing failures</li> </ul>	<ul style="list-style-type: none"> <li>Right to water</li> <li>Right to health</li> <li>Right to a healthy environment</li> <li>Rights of nature</li> </ul>	<ul style="list-style-type: none"> <li>-Establish and mandate use of best practice for casing</li> <li>-Establish and mandate periodic testing and monitoring casing integrity</li> <li>-Establish rules for long-term / post project monitoring and maintenance of casing failure risks</li> </ul>	<ul style="list-style-type: none"> <li>-Employ best practices in all well casing</li> <li>-Report on and ensure a safe distance between surface casing and water table/aquifer?</li> <li>-Pressure test casing regularly during fracturing and post-fracturing to ensure well integrity and safety;</li> <li>-Establish long term trust fund financing for long-term (endless) future monitoring,</li> </ul>	<ul style="list-style-type: none"> <li>-Provide complaint mechanism for organizations, individuals, or community organizations with concerns or complaints that may be presumed from casing failures concerns and /or complaints</li> <li>-Publish treatment and resolution of grievance concerns</li> </ul>

			pressure testing and servicing of wells;	
- Noise pollution	Right to a healthy environment Right to health Right to property	-Establish decibel limits by phase for activity -Establish time permits for noise generation -Establish rules for reducing noise pollution (by equipment, measures, best practice, etc.) -Mandate company systematic measurement of noise pollution -Conduct periodic audits for noise pollution	-Establish protocol of noise-risk areas committing to avoid noise during high risk times; -Employ best practice, including utilizing noise reducing materials and machinery when possible; - ensure employees utilize proper gear to avoid noise impacts;	-Provide complaint mechanism for organizations, individuals, or community organizations with noise pollution concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Traffic congestion	Right to property Right to a healthy environment Right to life	-Carry out baseline assessment of traffic conditions -Establish rules for traffic flow, times permitting industrial traffic to enter the area, etc. -Establish emissions requirements for vehicles used -Ensure proper signals in hydraulic fracturing areas	-Establish protocol for traffic impact reduction including adjusting transport schedule to avoid traffic congestion; -Utilize emissions reducing technologies for vehicles, including utilizing sustainable energy vehicles where possible; -Where appropriate, employ best practice to reduce dust emissions on dirt roads -Assist local authorities with or repair extraordinary damage to local roads due to traffic intensity of activity; -Train employees (including subcontractors) on local traffic regulations, behaviors etc. with a view to reduce local traffic congestion and other impacts where possible;	-Provide complaint mechanism for organizations, individuals, or community organizations with traffic related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Natural resource impacts	Right to a healthy environment Rights of nature	-Carry out a baseline study of natural resources in area - Identify environmental resource vulnerabilities -Factor in natural resource impact costs to cost-benefit considerations of activity	-Carry out an assessment and establish a baseline of natural resources existing in defined area of influence and potential impacts to those resources from all stages of activity. -Establish measurement points	-Provide complaint mechanism for organizations, individuals, or community organizations with natural resource related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns



		<ul style="list-style-type: none"> <li>-Identify measures to reduce risks and impacts to natural resources</li> <li>-Set NO-GO zones or practices in relation to natural resource vulnerability</li> <li>-Establish monitoring procedures, systematic audits, etc.</li> <li>-Establish rules for reparation, compensation for resource depletion and impacts</li> <li>-Consider buffer zones for natural resource protection</li> </ul>	<p>at key areas where impacts to natural resources may occur from exploration and initial drilling, as well as neutral reference points to enable comparative analysis</p> <ul style="list-style-type: none"> <li>-Publically inform on the monitoring plan and results of monitoring throughout the life of the project</li> <li>-Identify especially vulnerable resources and commit to avoid and develop policy and procedures to avoid all impacts to those resources</li> <li>-Commit to avoiding interfering in any way or form with protected areas, national, regional or other parks, wildlife or natural resource reserves, protected sites, etc.</li> </ul>	
- Air pollution (emissions)	<p>Right to health Right to atmosphere Right to climate</p>	<ul style="list-style-type: none"> <li>-Carry out baseline assessment for air quality</li> <li>-Establish monitoring points for air quality</li> <li>-Publish potential health symptoms from known or possible air contaminants</li> <li>-Encourage low emissions and/or alternative fuel use for power generation and site energy usage</li> <li>-Mandate CO2 efficiency in engines and power generation</li> </ul>	<ul style="list-style-type: none"> <li>-Establish protocols for avoiding, monitoring and correcting all emission leaks including methane or other gases from all machinery and installations in all phases of operations (including drilling, fracturing, separation, compression, transport);</li> <li>-Employ best practice, utilize air filters and sustainable fuel alternatives where possible and/or clean technology for vehicles and other motor use;</li> <li>-Report all machinery related and overall methane leaks from all stages of operations;</li> <li>-Measure and report all CO2 emissions as well as other GHG emissions including Short Life</li> </ul>	<ul style="list-style-type: none"> <li>-Provide complaint mechanism for organizations, individuals, or community organizations with air pollution related impacts concerns and /or complaints</li> <li>-Publish treatment and resolution of grievance concerns</li> </ul>



			Climate Pollutants such as Methane, HFCs, Black Carbon, etc. -Utilize climate friendly refrigerants for air conditioning equipment;	
<b>IV. Fracturing Process</b>				
- Water usage (volume)	Right to water Right to livelihood	-Establish rules / regulations / laws for water use such as fresh water use vs. industrial water use, surface vs. subsurface water use, recycled water, recycling requirements etc. -Develop baseline of water quality and availability -Ensure water access is consistent with pre-existing water use practices, permits, rights, etc. -Consult with water users associations / affected farmers, etc. -Identify allowed water resources, times, season, volumes by use, etc.	-State corporate commitment to protect the "right to water" -Commit to all applicable water laws and commit to ensure that all legitimate stakeholders and water right holders will not be affected in their entitled right to access water throughout the various phases of operations paying particular attention to known seasonal flows, consumption patterns and special community, agricultural or other preexisting commercial activity needs at peak consumption times; -Define a broad area of influence and potential impacts of hydraulic fracturing procedure and related activities to include all water resources in surface areas immediately above all vertical and horizontal drilling as well as tangential or further outlying areas which for geological reasons may be affected; -Carry out baseline assessment of all water resources in the defined area, including quality of water, volume, and obtain data from authorities or principle water users relative to	-Provide complaint mechanism for organizations, individuals, or community organizations with water usage related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns



			<p>volumes, time periods of usage, etc.</p> <ul style="list-style-type: none"><li>-Publically inform all chemicals or other toxics utilized during the hydraulic fracturing process or produced during the process that could potentially impact water resources and ensure that monitoring/measurements are carried out to test for these toxics;</li><li>-Publically inform and consult identified stakeholders of the fracturing procedure start and finish times and ensure that other stakeholders can contact the company in case of doubts, concerns, or information regarding possible leaks/contamination;</li><li>-Establish measurement points at key areas where impacts may occur as well as neutral reference points to enable comparative analysis;</li><li>-Publically inform on the monitoring plan and results of monitoring throughout the hydraulic fracturing procedure;</li><li>-Ensure where possible that no water is taken directly from aquifer, and that reclaimed, recycled, or other non-fresh surface water is utilized for the fracturing procedure to the greatest extent possible;</li><li>-Ensure that volumes and particularly intense periods of water during hydraulic fracturing do not infringe on the rights of usage of other users.</li></ul>	
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<p>- Water contamination (surface and subsurface from fracking fluids)</p>	<p>Right to water Right to health Right to life Right to property Right to a healthy environment</p>	<p>-Produce water resource quality baseline assessment -Establish water quality monitoring points at site and in nearby communities -Mandate transparency on use of chemicals in fracturing procedure (on a per well basis) -Establish rules on source water allowed for fracturing; -Establish rules on volumes and timing of water use for fracturing -Mandate that companies publish real time information on water volume being used on per well basis -Mandate that companies publish real time information on water quality at monitoring points on per well basis -Monitor water quality during fracturing phase of production</p>	<p>-Employ all best practice to avoid fresh water resource contamination during hydraulic fracturing; -Monitor and publish real time information on quality of water including information on toxic chemicals used during the hydraulic fracturing procedure;</p>	<p>-Provide complaint mechanism for organizations, individuals, or community organizations with water contamination related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns</p>
<p>- Chemical usage</p>	<p>Right to health Right to a healthy environment</p>	<p>-Establish list of chemicals allowed and government regulations concerning chemicals used in hydraulic fracturing -Establish best practice guidelines and recommendations for industry on which chemicals are used in fracturing procedure -Publish health risks and possible symptoms of each chemical used in fracturing procedure -Carry out baseline assessment of existing chemicals at or near hydraulic fracturing sites -Mandate that companies</p>	<p>-Commit to full transparency on the chemicals used throughout the hydraulic fracturing procedure, including information on type of chemical, amount/volume used, on a per well basis; -Publish information on health symptoms related to contamination by the utilized chemicals;</p>	<p>- provide hotline for the public to inform of spills, contamination, illness, etc. that may be related to chemicals utilized; -provide real time information to the public about particularly intense chemical usage during various phases of operations -Provide complaint mechanism for organizations, individuals, or community organizations with chemical related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns</p>

		publish real time information on chemicals being used on per well basis		
- Natural resource impacts	Right to a healthy environment Rights of nature	<ul style="list-style-type: none"> <li>-Carry out a baseline study of natural resources in area</li> <li>-Identify environmental resource vulnerabilities</li> <li>-Factor in natural resource impact costs to cost-benefit considerations of activity</li> <li>- Identify measures to reduce risks and impacts to natural resources</li> <li>-Set NO-GO zones or practices in relation to natural resource vulnerability</li> <li>-Establish monitoring procedures, systematic audits, etc.</li> <li>-Establish rules for reparation, compensation for resource depletion and impacts</li> <li>-Consider buffer zones for natural resource protection</li> </ul>	<ul style="list-style-type: none"> <li>-Carry out an assessment and establish a baseline of natural resources existing in defined area of influence and potential impacts to those resources specific to the hydraulic fracturing stage of activity.</li> <li>-Define an area of influence to surface and subsurface natural resources as per the risks implied by pressurization of the geology, identifying the potential impacts of the hydraulic fracturing procedure to include <i>all</i> surface area immediately above all vertical and horizontal drilling as well as tangential or further outlying areas which for geological reasons may be affected;</li> <li>-Establish measurement points at key areas where impacts to natural resources may occur as well as neutral reference points to enable comparative analysis</li> <li>-Publically inform on the monitoring plan and results of monitoring throughout the hydraulic fracturing of wells</li> </ul>	<ul style="list-style-type: none"> <li>-Provide complaint mechanism for organizations, individuals, or community organizations with natural resource related impacts concerns and /or complaints</li> <li>-Publish treatment and resolution of grievance concerns</li> </ul>
- Air pollution (gaseous contamination)	Right to health Right to a safe working environment Right to climate Right to a healthy environment	<ul style="list-style-type: none"> <li>-Establish rules/regulations for site and surrounding air quality during hydraulic fracturing procedure</li> <li>-Systematically audit / inspect site air quality and worker safety controlling from leaks from well pressurization;</li> <li>-Establish wellpad and outside</li> </ul>	<ul style="list-style-type: none"> <li>-Publish information regarding all possible air contaminants utilized during hydraulic fracturing procedure;</li> <li>-Monitor air quality prior to, during and after hydraulic fracturing for the known chemicals that may impact air quality;</li> </ul>	<ul style="list-style-type: none"> <li>-Provide hotline for the public to inform of respiratory problems during fracturing times, illness, etc. that may be related to chemicals utilized and unforeseen accidents/leaks;</li> <li>-Provide complaint mechanism for organizations, individuals, or community organizations with air</li> </ul>

		influence area measurement points and monitor air quality prior to, during and after hydraulic fracturing activities;	-Measure, monitor and report air contamination from hydraulic fracturing in a public, real-time and accessible format;	pollution related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Air pollution (silica sand and emissions from power generation)	Right to health Right to a safe working environment Right to a healthy environment	-Establish rules/regulations for site air quality and worker safety -Systematically audit / inspect site air quality and worker safety -Encourage low emissions and/ or alternative fuel use for power generation and site energy usage -Mandate CO2 efficiency in engines and power generation	-Publish information regarding risk of impacts due to sand and motor emissions released during hydraulic fracturing procedure; -Monitor ambient air quality for sand and diesel (or other emissions known to be present) prior to, during and after hydraulic fracturing; -Measure, monitor and report ambient air quality during hydraulic fracturing;	-Provide information to workers regarding on site air hazards; -Provide independent mechanism for workers with air pollution related impacts concerns and /or complaints -Provide anonymous and/or whistle blowing procedure for workers concerned with onsite air quality issues or impacts; -Publish treatment and resolution of worker grievance concerns
- Noise pollution	Right to a healthy environment Right to health Right to property	-Establish decibel limits during fracturing -Establish time permits for noise generation -Establish rules for reducing noise pollution (by equipment, measures, best practice, etc.) -Mandate company systematic measurement of noise pollution -Conduct periodic audits for noise pollution	-Ensure on-site personnel utilize proper gear to protect against noise impacts during hydraulic fracturing; -Measure decibel levels during hydraulic fracturing;	-Provide complaint mechanism for organizations, individuals, or community organizations with noise pollution related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Traffic congestion	Right to property Right to a healthy environment Right to life	-Establish rules/regulations for industrial traffic flow and timing during fracturing procedure	-Establish protocol for traffic impact reduction during hydraulic fracturing, to reduce impacts at wellpad and in local communities; -Utilize emissions reducing technologies for vehicles, including utilizing sustainable energy vehicles where possible; -Where appropriate, employ best practice to reduce dust emissions on dirt roads -Assist local authorities with or	-Hotline for stakeholder complaints related to activity -Provide complaint mechanism for organizations, individuals, or community organizations with traffic congestion related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns

			<p>repair extraordinary damage to local roads due to traffic intensity of activity;</p> <p>-Train employees (including subcontractors) on local traffic regulations, behaviors etc. with a view to reduce local traffic congestion and other impacts where possible;</p>	
- Methane leaks	<p>Right to atmosphere</p> <p>Right to climate</p> <p>Right to a healthy environment</p> <p>Right to health</p> <p>Right to water</p> <p>Right to property</p>	<p>-Mandate companies to take measures to reduce methane leaks in fracturing procedure</p> <p>-Mandate company purchase of methane measurement devices and equipment for operations</p> <p>-Mandate companies to daily monitor, measure and publish methane in the site air and nearby communities during fracturing operations</p> <p>-Require best practice to reduce methane contamination in fracturing procedures</p> <p>- Systematically monitor aquifer for methane content</p>	<p>-Monitor methane leakages from hydraulic fracturing and related processes</p> <p>-Utilize best practice and install equipment to reduce methane leakages</p> <p>-Establish measuring points and measure methane content in the air at or near fracturing operations.</p>	<p>-Provide complaint mechanism for organizations, individuals, or community organizations with methane related impacts concerns and /or complaints</p> <p>-Publish treatment and resolution of grievance concerns</p>
- Tremors/Earthquakes	<p>Right to a healthy environment</p> <p>Right to property</p>	<p>-Carry out baseline assessment of geological conditions and risks, appropriate seismic studies to identify faults, preexisting tremor and quake periodicity, etc.</p> <p>-Monitor tremor / quake in fracturing region during fracturing procedure</p> <p>-Mandate companies to produce and publish company assessment of geological instability risks and monitoring information due to fracturing activities</p>	<p>-Carry out baseline assessment of geological conditions and risks, appropriate seismic studies to identify faults, preexisting tremor and quake periodicity, etc.</p> <p>-Monitor tremor / quake in fracturing region during fracturing procedure</p>	<p>-Hotline for stakeholder complaints regarding tremors/quake felt during all phases of hydraulic fracturing related to activity</p> <p>-Provide complaint mechanism for organizations, individuals, or community organizations with tremor/earthquake related impacts concerns and /or complaints</p> <p>-Publish treatment and resolution of grievance concerns</p>
<b>V. Extraction/Separation</b>				



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<p>- Water contamination (transport and management of effluents on surface)</p>	<p>Right to health Right to life Right to property Right to a healthy environment Right to livelihood Right to agriculture</p>	<p>-Determine vulnerability of water resources due to possible contamination by extracted effluents in their transport and storage on site -Establish rules/regulations on best practice on transportation and management of water extracted from wells -Establish recycling requirements of extracted water and effluents -Establish rules of proximity between well site, ponds/pits/impoundments, holding tanks, to community or other water resources / supplies</p>	<p>-Employ all best practice to avoid fresh water resource contamination during extraction and separation activities; -Monitor and publish information on water measurement points on and off site;</p>	<p>-Provide complaint mechanism for organizations, individuals, or community organizations with water contamination related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns</p>
<p>- Natural resource risks</p>	<p>Right to a healthy environment Rights of nature</p>	<p>-Identify and establish vulnerability and potential impacts to natural resources from extraction process and possible spills -Establish any necessary natural resource protection measures based on vulnerability assessment -Establish and mandate best practice for natural resource risk protection during extraction, separation and temporary storage phase</p>	<p>-Publicly inform on the natural resource risk monitoring plan and results of monitoring throughout extraction and separation activities</p>	<p>-Provide complaint mechanism for organizations, individuals, or community organizations with natural resource contamination related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns</p>
<p>- Methane leaks</p>	<p>Right to atmosphere Right to climate Right to a healthy environment Right to health Right to water Right to property</p>	<p>-Identify methane escape risks during extraction and separation phases -Mandate best practice and monitoring of methane leakages during extraction and separation phases -Systematically monitor / audit company performance during extraction and separation</p>	<p>-Monitor methane leakages at all pipe joints, tanks, separation containers, etc. during extraction and separation activities; -Utilize best practice and install equipment to reduce methane leakages throughout the process -Report all methane leaks</p>	<p>-Provide complaint mechanism for organizations, individuals, or community organizations with methane related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns</p>



		<p>phases</p> <ul style="list-style-type: none"> <li>-Mandate company real time publication of methane content of air during extraction and separation phases by well</li> </ul>	<p>during extraction and separation activities.</p>	
<b>VI. Disposition of Industrial Effluents (Produced Water)</b>				
<ul style="list-style-type: none"> <li>- Industrial effluent treatment (immediate risks/impacts)</li> </ul>	<p>Right to health Right to life Right to property (of nearby community) Right to a healthy environment Right to livelihood Right to agriculture Rights of nature</p>	<ul style="list-style-type: none"> <li>-Identify human and environmental risks due to disposition of industrial effluents (flowback water / produced water)</li> <li>-Establish bans for entry of fracking waste water in water resources that do not yet have oil/gas sector contamination to date;</li> <li>-Set regulations of handling and disposition of fracking effluents;</li> <li>-Establish fracking effluent as a hazardous waste to be handled under hazardous waste laws and regulations;</li> <li>-Periodically test water quality to ensure safety and degree of contamination;</li> <li>-Establish best practice on and disposition rules / regulations / governing process</li> <li>-Mandate and or establish recycling volumes and guidelines / rules for recycling of effluents;</li> <li>-Set strict regulations for holding tanks, including provision for secondary containment tanks;</li> </ul>	<ul style="list-style-type: none"> <li>-Identify human and environmental risks due to disposition of industrial effluents (flowback water / produced water);</li> <li>-Desist from direct discharge of effluents to waterways;</li> <li>-Utilize best practice for disposition of industrial effluents, toxic chemicals, metals and polluted water separated from fluids;</li> <li>-Recycle as much water and flowback effluent, extracting chemicals and metals as possible in the process;</li> <li>-Ensure safety of people and wildlife vis a vis the disposition of effluents, sludge, water, etc.;</li> <li>-Ensure that drilling waste does not contaminate fresh-water resources;</li> <li>-Establish worker and handling protocols for radioactive materials, and inform public of existence and/or risks of such materials;</li> <li>-Ensure that subcontractors can appropriately handle, treat, and dispose of effluents in a safe and responsible manner</li> <li>-Avoid sending hazardous wastes to land fills or other</li> </ul>	<ul style="list-style-type: none"> <li>-Provide complaint mechanism for organizations, individuals, or community organizations with water contamination related impacts concerns and /or complaints</li> <li>-Publish treatment and resolution of grievance concerns</li> </ul>

			<p>facilities that are not equipped to handle such wastes; if sending to local facility, pre-treat waste water as necessary to reduce contaminants before sending;</p> <p>-Provide secondary containment protection for containment tanks;</p>	
<p>- Industrial effluent ponds/pits/impoundments (long term implications)</p>	<p>Right to a healthy environment Right to water (risks to water supply) Right to health Right to life Right to livelihood Right to agriculture Rights of nature</p>	<p>-Ban open air pond/pits/impoundments or strictly regulate percentage of water that may be directed to open impoundments;</p> <p>-If impoundments are allowed, establish best practice and strict rules for disposition pond/pits/impoundments design and materials</p> <p>-Establish monitoring obligations for pond/pit/impoundment risks to local environment</p> <p>-Mandate a long-term contingency plan for contamination from effluent ponds/pits/impoundments</p>	<p>-Recycle as much water as possible to minimize need of disposing contaminated water;</p> <p>- Follow industry best practice for construction of ponds/pits/impoundments;</p> <p>- Insure all safety precautions, overflow considerations, measures for handling emergency flood events;</p> <p>-Consider potential wildlife impacts, installation of fencing and other measures to protect wildlife from consuming contaminated water;</p> <p>-Avoid road-spreading effluents or effluent by-product (for uses such as ice-treatment or dust suppressant) as a solution to recycling;</p>	<p>-Provide complaint mechanism for organizations, individuals, or community organizations with pond/pit/impoundment related impacts concerns and /or complaints</p> <p>-Publish treatment and resolution of grievance concerns</p>
<p>- Flowback re-injection into underground</p>	<p>Right to water Right to a healthy environment Right to health Right to life</p>	<p>-Establish ban or set rules regarding ground re-reinjection of effluents</p> <p>-Establish rules and procedures for monitoring and servicing underground injection in long-term scenarios</p>	<p>-Reduce or eliminate reinjection of flowback and produced effluents into underground</p> <p>-Maximize recycling and reuse of effluents in subsequent fracking activity or destine to other industrial use,</p> <p>-Properly pre-treat (as necessary) any injection liquid waste utilizing best practice and safety guidelines for maximum long term security;</p>	<p>-Provide complaint mechanism for organizations, individuals, or community organizations with effluent injection related impacts concerns and /or complaints</p> <p>-Publish treatment and resolution of grievance concerns</p>

			-If injecting, ensure that wells are appropriate for long-term containment;	
<b>VII. Compression</b>				
- Methane leaks	Right to atmosphere Right to climate Right to a healthy environment Right to health Right to water Right to property	-Mandate company methane leakage monitoring and information publication during compression process -Conduct systematic audits of methane presence at compression facilities	-Monitor methane leakages at all pipe joints, tanks, compression containers, etc. during compression phase; -Utilize best practice and install equipment to reduce methane leakages throughout the process -Report all methane leaks during compression.	-Provide complaint mechanism for organizations, individuals, or community organizations with methane related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Noise pollution	Right to a healthy environment Right to health Right to property	-Establish noise regulations for compression facilities according to proximity to community and times of peak noise emissions -Mandate best practice measures for ambient noise reduction at compression facilities -Mandate site worker health and safety requirements for noise impacts	-Ensure on-site personnel utilize proper gear to protect against noise impacts during compression; -Measure and report decibel levels during compression; -Utilize best possible construction materials of compressor motors for noise suppression to outside environment; -Employ best practices to reduce noise reduction; -Periodically monitor noise levels on site and near housing of motors including outside of the compression facilities; -Respect community and wildlife in off peak hours, particularly at night and especially quiet times	-Provide complaint mechanism for organizations, individuals, or community organizations with noise pollution related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Air contamination	Right to health Right to climate Right to a healthy environment	-Establish baseline data for air quality at compression sites -Systematically audit / inspect site air quality and worker safety -Encourage low emissions and/	-Monitor air quality prior to, during and after compression activity; -Be especially sensitive to methane contamination; -Measure, monitor and report	-Provide complaint mechanism for organizations, individuals, or community organizations with air pollution related impacts concerns and /or complaints -Publish treatment and resolution

		or alternative fuel use for compression power -Mandate CO2 efficiency in compression engines	air contamination from compression, in real-time and accessible format;	of grievance concerns
<b>IIX. Transport to Market</b>				
- Traffic congestion	Right to property Right to a healthy environment Right to life	-Establish rules/regulations for industrial traffic flow and timing during transport to market	-Establish protocol for traffic impact reduction during transport to market, to reduce impacts in local communities and along transport routes; -Utilize emissions reducing technologies for vehicles, including utilizing sustainable energy vehicles where possible; -Where appropriate, employ best practice to reduce dust emissions on dirt roads -Assist local authorities with or repair extraordinary damage to local roads due to traffic intensity of activity; -Train employees (including subcontractors) on local traffic regulations, behaviors etc. with a view to reduce local traffic congestion and other impacts where possible;	-Provide complaint mechanism for organizations, individuals, or community organizations with traffic related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Deforestation (to introduce new pipelines)	Right to a healthy environment Right to climate Right to atmosphere	-Establish rules for deforestation for pipeline introduction (limits, off limit areas or species of trees, etc.) -Mandate compensatory forestation of deforested lands	-Keep deforestation due to pipeline introduction to minimum; -Reforest native species deforested for pipeline introduction; -If pipeline is retired, remove pipeline and repair and reforest land with native species	-Provide complaint mechanism for organizations, individuals, or community organizations with deforestation related impacts concerns and /or complaints -Publish treatment and resolution of grievance concerns
- Methane leaks	Right to atmosphere Right to climate Right to a healthy environment Right to health Right to water	-Mandate methane leak monitoring during transportation -Establish and mandate best practice during transportation	-Monitor methane leakages on all transport vehicles; -Utilize best practice and install equipment to reduce methane leakages throughout the	-Provide complaint mechanism for organizations, individuals, or community organizations with methane related impacts concerns and /or complaints



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	Right to property		transport process -Calculate and report all methane leaks during transport.	-Publish treatment and resolution of grievance concerns
<b>IX. Labor Issues</b>				
- Worker health and safety	Right to a healthy environment Right to health Right to equality and non-discrimination Right to family Rights of Migrant Workers	-Establish adequate minimum standards for Operational Health and Safety conditions at the work place -Ensure cohesiveness between policies of different governmental branches and ministries -Establish standards for maximum safe working hours and minimums for leisure time during the workday and workweek -Ensure that any laws and standards put in place also apply to migrant workers	-Create specific and cohesive policies on working conditions at every stage of fracking operations -Ensure compliance with set working standards by implementing a monitoring system -Continuously consult with workers to re-evaluate the effectiveness and quality of labor standards	-Provide complaint mechanism for organizations, individuals, or community organizations focusing specifically on Worker health and safety -ensure that complaint systems are impartial and do not jeopardize worker's job security

