



# Local community benefit sharing mechanisms for CCS projects

# LOCAL COMMUNITY BENEFIT SHARING MECHANISMS FOR CCS PROJECTS

This report was prepared for the CO<sub>2</sub> Capture Project by Sarah Bonham and Ioannis Chrysostomidis and reviewed by Lee Solsbery, from Environmental Resources Management.

The report has been prepared by Environmental Resources Management (ERM) on behalf of CCP. ERM or CCP or any of their affiliates or members accept no responsibility or liability of whatsoever nature to any party to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk. ERM or CCP or any of their affiliates or members make no representations, guarantees or warranties, express or implied, as to the accuracy, quality, fitness for purpose or completeness of the information contained in the report. Any use of this report and the information contained therein is at the sole risk of the user.

ERM or CCP or any of their affiliates or members shall have no duty of care or liability to any person or party in connection with the report and its contents. By using the report the user agrees to indemnify and hold ERM and CCP and any of their affiliates and members completely harmless from any claims arising from any loss, damage or injury (including but not limited to loss or damage to property and death) to the user, its employees and representatives and/or any third party, whether direct or indirect and whether caused by tort (including negligence) or otherwise (even if foreseeable) that may arise in connection with the use of the report and the information therein by the user. This does not affect ERM's or CCP's liability in so far as it cannot be excluded or limited under applicable law.

## About the CO<sub>2</sub> Capture Project (CCP)

The CCP was formed in 2000 to advance technologies and improve operational approaches to help make CCS a viable option for CO<sub>2</sub> mitigation. Today, this partnership of major energy companies is focused on delivering results from its demonstrations, field trials and studies. The group is made up of four teams; Capture, Storage, Policy & Incentives and Communications.

### About the CCP Policy & Incentives Team

The P&I Team is committed to providing technical, economic and social insights to inform the development of legal and policy frameworks and to helping public understanding.

Previous P&I reports, including *Regulatory Challenges and Key Lessons Learned from Real World Development of CCS Projects (2013)* and *CCS Stakeholder Issues Review and Analysis Report (2011)* are available online to download.

Please register on [www.co2captureproject.org](http://www.co2captureproject.org) to receive updates on new reports.



CO<sub>2</sub> Capture Project Phase Three participating organizations.

## CONTENTS

	<b>EXECUTIVE SUMMARY</b>	<b>II</b>
<b>1</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>1.1</b>	<b>BACKGROUND</b>	<b>1</b>
<b>2</b>	<b>APPROACH</b>	<b>3</b>
<b>3</b>	<b>METHODOLOGY</b>	<b>4</b>
<b>4</b>	<b>LOCAL COMMUNITY BENEFIT SHARING: INTERNATIONAL EXPERIENCE AND APPROACHES</b>	<b>5</b>
<b>4.1</b>	<b>BENEFIT SHARING WITHIN THE BROADER SOCIAL RISK AND IMPACT MANAGEMENT PROCESS</b>	<b>5</b>
<b>4.2</b>	<b>MANAGING THE NEGATIVE IMPACTS FROM A DEVELOPMENT</b>	<b>7</b>
<b>4.2.1</b>	<i>Monetary or in-kind compensation</i>	<b>8</b>
<b>4.2.2</b>	<i>Property value guarantees</i>	<b>8</b>
<b>4.2.3</b>	<i>Contingency funds</i>	<b>9</b>
<b>4.2.4</b>	<i>Property rights and payments</i>	<b>10</b>
<b>4.3</b>	<b>LOCAL COMMUNITY BENEFIT SHARING</b>	<b>11</b>
<b>4.3.1</b>	<i>Employment opportunities</i>	<b>11</b>
<b>4.3.2</b>	<i>Infrastructure development</i>	<b>13</b>
<b>4.3.3</b>	<i>Procurement of local goods and services</i>	<b>14</b>
<b>4.3.4</b>	<i>Local ownership opportunities and revenue sharing</i>	<b>14</b>
<b>4.3.5</b>	<i>Indirect positive economic impacts</i>	<b>15</b>
<b>4.3.6</b>	<i>Community investment</i>	<b>16</b>
<b>4.4</b>	<b>DISCUSSION: LOCAL COMMUNITY BENEFIT SHARING</b>	<b>23</b>
<b>5</b>	<b>BENEFIT SHARING IN THE CCS CONTEXT</b>	<b>25</b>
<b>5.1</b>	<b>DISTRIBUTION OF NEGATIVE AND POSITIVE IMPACTS ACROSS THE CCS CHAIN</b>	<b>25</b>
<b>5.2</b>	<b>ADDRESSING THE 'BENEFITS GAP' AT THE STORAGE STAGE</b>	<b>28</b>
<b>5.3</b>	<b>FUTURE SCENARIOS - THE DEVELOPMENT OF CCS 'CLUSTERS'</b>	<b>29</b>
<b>6</b>	<b>CONCLUSIONS</b>	<b>30</b>

## EXECUTIVE SUMMARY

In 2011, the CO<sub>2</sub> Capture Project conducted a review and analysis of carbon, capture and storage (CCS) stakeholder issues. The study identified and analysed a number of areas of concern in relation to the development of CCS to different stakeholder groups, including local communities, which can have significant influence on the success or failure of a CCS project. One of the key findings from the study was that local communities are more likely to become actively involved and oppose project developments when there are no apparent benefits to the local community itself.

The present study aims to explore this finding further and investigates experience and options for local community benefit sharing. Initially, a desk-based review of local community benefit sharing experience across the energy, mining, and waste sectors was conducted. Following this, four projects in the energy sector (including one CCS project) were explored in greater detail and interviews were conducted in order to gain 'on-the-ground' insights into the benefit sharing process, and specific mechanisms employed. Findings from the review were subsequently analysed in order to explore how community benefit sharing might apply in the context of a CCS or CCUS (carbon capture, utilisation and storage) development.

### *Findings*

The review shows that project developers are increasingly focused on enhancing local benefits associated with a project, by maximising direct and indirect positive local impacts associated with a development (such as employment and the procurement of local goods and services), and also through specific community investment programs. It is widely recognised that the sharing of benefits with local communities in this way can help to address the potential imbalance of local costs and national or global benefits that can arise with many projects in the energy, mining, and waste sectors. Whilst projects in these sectors can have national or even (in the case of a CCS) global benefits, the *negative* impacts or 'costs' of the development (such as noise, visual impacts, pollution, and perceived or actual health and safety risks) are often concentrated at the local level. Benefit sharing allows benefits to be transferred to local communities and can help projects be more acceptable at the local level.

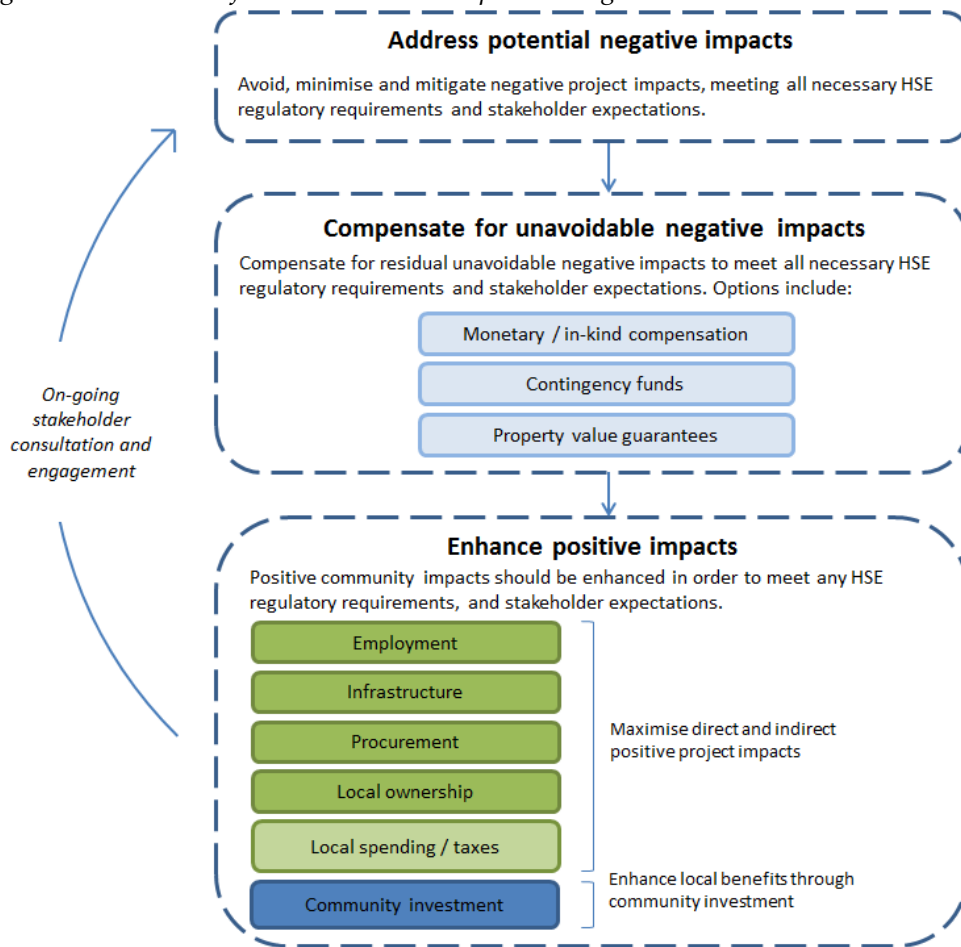
### *Benefit sharing within the broader social risk and impact management process*

Benefit sharing should not be approached in isolation, and must be considered in the context of the broader social risk and impact management process. Within an overall framework of public consultation and stakeholder engagement, there are three important components of a social risk and impact management process. Project developers should seek to:

- Address and minimise potential direct and indirect negative impacts to the community;
- Compensate for unavoidable negative impacts to the community; and
- Enhance positive impacts to the community, by maximising direct and indirect positive project impacts and enhancing local benefits through community investment.

The figure below illustrates a framework for social risk and impact management, incorporating the above components.

Figure i: Framework for social risk and impact management



Before options for benefit sharing are discussed in detail with local communities, developers should first seek to identify and manage any negative impacts from a development as far as practical. If detailed engagement on benefit sharing comes too early on in the stakeholder consultation process, communities may feel that their concerns are not being fully addressed and offers of benefits may indeed be counter-productive and increase local resistance. Community benefits must also remain distinct from agreements to meet all normal legislative and regulatory requirements: although a well-planned and implemented community benefits program has the potential to foster a sense of 'goodwill' with local legislators, community benefits should not be seen as a 'short cut' to obtain approvals.

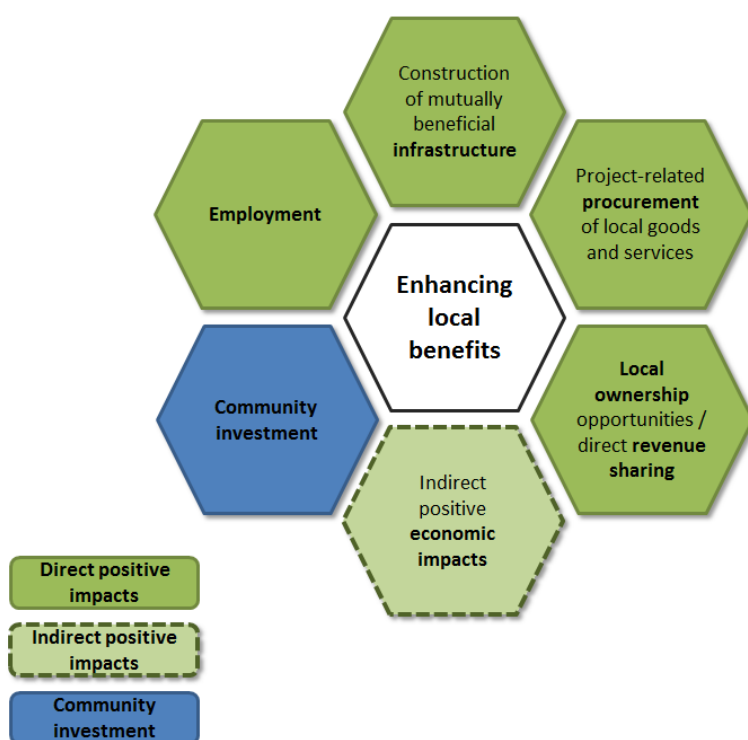
The first priority for a project developer seeking to manage the social impacts associated with a development should be to avoid, minimise, and mitigate potential direct and indirect negative impacts. For any residual impacts, compensation measures can be applied. For example, payments or in-kind goods could be provided to communities to compensate for specific negative impacts; property value guarantee schemes could be established to compensate residents in the event that the development causes a decline in property values in the area; or contingency funds could be put in place to compensate residents from damage should there be an unexpected event or emergency linked to the development. It might be necessary to

develop any or all of the above compensation measures in the context of a CCS development, depending on the project, and on specific local concerns.

### *Benefit sharing options and experience*

After potential negative project impacts and community concerns have been addressed and managed, project developers can initiate detailed engagement on community benefits. International experience with benefit sharing approaches highlights a number of different forms of benefits associated with developments, and a number of different channels through which these benefits can be distributed to local communities, as illustrated below.

Figure ii: Community benefit sharing measures



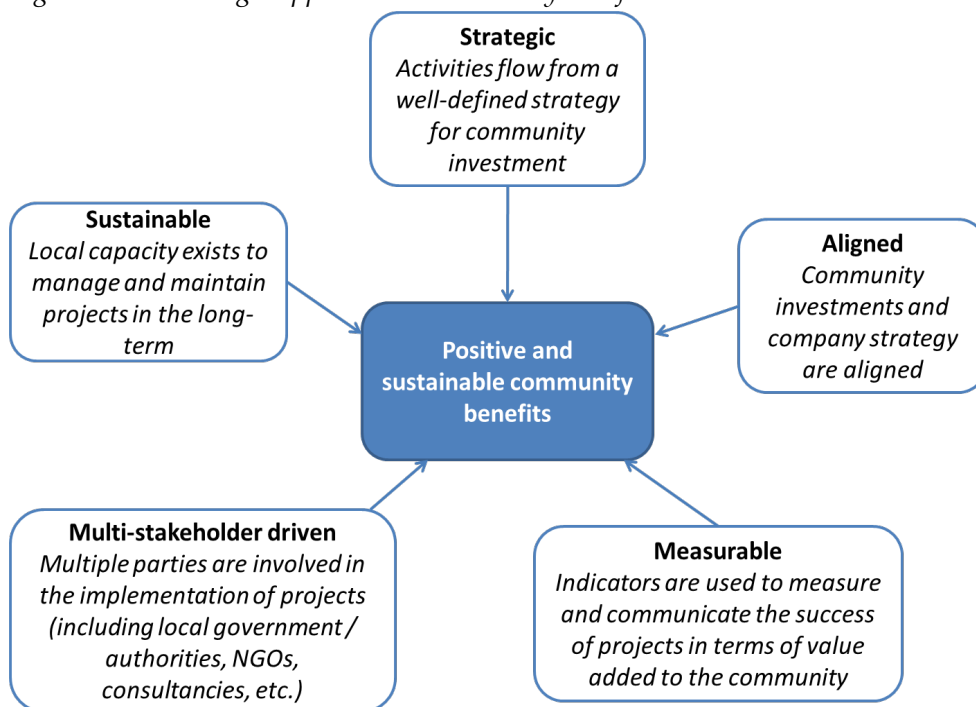
The above diagram shows that communities may benefit from the **direct and indirect positive impacts** of a project, including employment opportunities, the construction of mutually beneficial infrastructure, the procurement of local goods and services, local ownership and direct revenue sharing opportunities, and indirect positive economic impacts (including increased local spending by the workforce, and/or increased local tax revenues and expenditure on public services). The local community context, as well as the project context, will influence the extent to which a local community might benefit from these direct and indirect positive impacts. For example, local employment opportunities will only exist if workers with the required skillsets live in the nearby communities. Similarly, procurement is only likely to offer significant local benefits if the specific goods and services required by the project can actually be provided by local suppliers. Some developers, particularly with projects in developing countries, have invested in building local business capacity and/or training up the local workforce to ensure that the benefits associated with the project can be shared locally. On the project side, the scale of the development, and the timeframe for construction and operation, will influence how significant and long-lasting the direct and indirect local benefits are likely to be.



**Joint ownership and revenue sharing** is increasingly being used as a mechanism to deliver benefits to local communities in the renewables sector. A number of wind farm projects have sold shares to communities or established cooperatives to allow local communities to have ownership in projects. Other wind developments have established revenue sharing schemes whereby local communities gain a proportion of the revenues from the sale of electricity by the project. Both approaches can help to increase local awareness and buy-in to proposed development opportunities.

Another way to enhance local community benefits is through **community investment**. Globally, a vast number of community funds have been established by project developers, ranging in size from US \$1,000-10,000 to multi-million dollar funds. Experience suggests that it is important to approach community investment in a strategic way to ensure that the projects financed by the fund have a positive impact on the community, and are sustainable in the long-term. Principles for a successful and sustainable community investment program include involving multiple local stakeholders in the planning and management of the fund; having a set of principles and objectives governing the fund; allowing the community to guide how funding should be spent; and using indicators to measure the success of the fund and projects over time. Such principles for a ‘strategic approach’ should apply to any community investment and benefit sharing program, as illustrated below.

Figure iii: A strategic approach to community benefits



#### *Benefit sharing in the CCS context*

An important factor determining the extent to which a local community might benefit from a project’s direct and indirect impacts is the geographic spread of a project. This is particularly relevant in the CCS context, where the direct and indirect benefits associated with a new CCS development are likely to be concentrated at the site where a new industrial plant (with CO<sub>2</sub> capture) or a new CO<sub>2</sub> pipeline is to be installed. At the capture stage, and (to a lesser extent) at the transport stage, there



may be local benefits associated with job creation, procurement needs, infrastructure upgrades and improvements, and more broadly, indirect economic benefits. However, at the storage stage, where the greatest perceived negative impacts of a CCS project often reside, there is likely to be an absence of such local benefits, although enhanced oil recovery (EOR) activities in a CCUS project can create jobs, procurement opportunities, and indirect economic benefits at the storage stage.

For CCS projects where no new EOR activities are planned, developers may therefore need to think creatively about how to fill this 'benefits gap' at the storage stage and how, in turn, to create a value proposition for the community hosting the storage site. An analysis of the drivers for CCS may help developers to identify a preferred approach to benefit sharing. Commercially-driven projects may be able to consider revenue sharing as a benefit sharing option. If projects are not commercially driven and are instead government funded (e.g. with a view to progressing CCS to help meet national greenhouse gas reduction targets), opportunities to partner with local government or local authorities when engaging and consulting with local communities and other stakeholders could be explored, along with options for putting in place benefit sharing mechanisms and/or community investment programs to ensure the equal sharing of benefits across the CCS chain.

It is important to emphasise the importance of a robust stakeholder engagement process throughout the impact management and benefit sharing process. Developers should plan for and undertake targeted stakeholder engagement and consultation on the project at the earliest possible stage; take a balanced view; and should ensure that options agreed upon are carried out and stakeholder contact is maintained during the project's operation.

This summary report has been prepared for Phase 3 of the CO<sub>2</sub> Capture Project (CCP3) by Environmental Resources Management Limited (ERM). It builds and expands on the findings of the CCP/ERM report on carbon capture and storage (CCS) stakeholder issues, conducted in 2011<sup>1</sup>.

The report presents an overview of local community issues associated with industry activities, and explores options for sharing project benefits with local communities, something that is increasingly seen as a best practice approach to community engagement and social impact management.

## 1.1 BACKGROUND

Local communities can have significant influence on the success or failure of planned industrial developments. An overview of the type of influences that local communities can have on such developments is presented in Box 1.1.

### *Box 1.1 Influence of local communities on industrial developments*

- Policy makers, regulators, investors and civil society increasingly advocate for the consultation of local communities and assessment of impacts to communities in the development of major projects.
- Local communities can create significant delays to project, not only by influencing permitting processes, but also by physically restricting project activities with demonstrations and blockades if there are significant levels of concern about a project.
- Local residents can have direct access to media, giving them the ability to communicate their concerns to a wide audience.

Local communities have influenced the development of planned CCS projects in the past. For example, Shell's proposed CO<sub>2</sub> storage project in Barendrecht, the Netherlands, was cancelled in 2010 following significant local opposition to the plan. Opposition was primarily linked to environmental, health and safety concerns, and fears that house prices could fall. Some key community concerns are highlighted in Box 1.2 (and discussed in more detail in the 2011 CCS stakeholder issues study).

### *Box 1.2 Local community concerns with CCS project developments*

- Local nuisance caused by project activities including noise, odour etc.;
- Health and safety considerations, including concerns of environmental and health impacts in the event of CO<sub>2</sub> leakage, as well as ground subsidence; and
- Impacts on property values.

(1) <sup>1</sup> CCP (2012). CCS Stakeholder Issues Review and Analysis, [http://www.co2captureproject.com/reports/stakeholder\\_issues\\_report\\_March\\_2012.pdf](http://www.co2captureproject.com/reports/stakeholder_issues_report_March_2012.pdf)

Some of the findings of CCP's CCS stakeholder issues review and analysis study prepared by ERM in 2011 suggest that public understanding and awareness of CCS technical issues is not as important as is commonly believed by industry and government when it comes to engaging with local communities. Issues and concerns around environmental, health and safety impacts and CCS being an 'unproven' technology are important, but can be managed to some extent through preparatory work, and good, early communication.

The 2011 ERM study found that *communities are more likely to become actively involved and oppose project developments when an activity has no apparent benefits to the local community itself*. In the context of a CCS development (including the siting of a CO<sub>2</sub> storage site), the primary benefit associated with developments is global climate change mitigation – a non-local benefit – but the potential negative impacts and risks (both perceived and actual) associated with project developments are concentrated at the local level with the communities hosting CO<sub>2</sub> pipelines and storage sites. This imbalance of 'costs' and benefits is not uncommon- it applies in the context of oil and gas extraction, transport and processing projects, mining projects, and renewables developments, amongst others. Experience with project developments in the past suggests that project acceptance is influenced by the extent to which project developers can mitigate a project's negative impacts, *and* deliver local benefits through the maximisation of positive impacts (such as employment and local procurement of goods and services) and / or community investment. The concept of benefit sharing is discussed in more detail in Box 1.3.

### Box 1.3

#### *Benefit sharing*

The concept of benefit sharing stems from the acknowledgement that the siting of some facilities can have negative impacts on host communities that outweigh the benefits brought to communities by the development. With many infrastructure projects (e.g. large industrial developments and energy infrastructure), host communities may feel that whilst the benefits that projects bring are shared widely amongst regional or national stakeholders, the costs are borne predominantly by the host community.

Benefit sharing is a potential solution to this perceived imbalance of local costs and national or global benefits. Benefit-sharing provides a means for benefits to be transferred to local communities and can help projects be more acceptable to local communities. If local community benefit sharing programs are planned well and carried out effectively, developers may in turn benefit from increased support from local communities as well as local legislators.

A cautionary note is to make clear that benefit sharing is not a means for 'buying' permission. All necessary forms of health, safety and environmental approval, legislative and regulatory requirements must still be met. Benefit sharing should be seen as an additional, parallel approach to address local concerns that may otherwise be ignored.

As a follow up to the 2011 ERM work, the present study takes a practical, focused look at local community issues associated with industry activities where approaches for sharing project benefits with local stakeholders were considered to promote project acceptance. The aim is to draw parallels for CO<sub>2</sub> storage projects and explore possible options.

The overall approach includes a desktop review of industry sectors including the energy, mining and waste sectors, followed by discussions with specific projects (via targeted interviews) on how such issues were dealt with.

In order to achieve a comprehensive and coherent understanding of the full range of local community and benefit sharing issues potentially associated with CO<sub>2</sub> storage, the team:

- drew on previous practical experiences of projects in the energy, mining, and waste sectors that have been involved with compensating local communities in the past to identify possible benefit sharing approaches and mechanisms;
- contacted project developers associated with activities in other relevant sectors (focusing on the energy sector) to gain practical and on the ground experience;
- accessed ERM's full range of in-house knowledge of consultation and stakeholder engagement experience; and
- undertook an in-depth analysis of how previous experience addresses issues of relevance to CO<sub>2</sub> storage projects.

In order to respect several requests for confidentiality, findings and lessons learnt from some of the case studies have been anonymised in this report.

The methodology for this study included a scoping exercise to identify a representative and productive range of industrial sectors and relevant projects for review. Criteria included that projects should be well documented, accessible, with relevant experience, across different jurisdictions, and likely applicable to CO<sub>2</sub> storage at a first view.

Based on the results of the scoping exercise, ERM and the CCP P&I team selected key candidates for further study based on the expected potential for lessons learnt and findings relevant to CO<sub>2</sub> storage projects. The projects were chosen for study in order to provide concrete examples and identify barriers, solutions and lessons learned.

The next stage of work involved collation of information including the perspectives of project developers in the oil and gas sector, as well as social impact management and stakeholder consultation experts, on the effectiveness of different approaches to engaging with local communities and implementing benefit sharing mechanisms.

A pro-forma questionnaire for information collection was prepared and contact via telephone (and where practical face-to-face) interviews was carried out with a selection of project developers and social impact management experts. This was in order to:

- establish a practical insight into local community issues and the possible use of benefit sharing mechanisms to promote project acceptance; and
- highlight potential key issues to the successful implementation of such mechanisms.

Several benefit sharing mechanisms with their respective advantages and disadvantages were explored during the interviews including, amongst others:

- Employment opportunities;
- Infrastructure development;
- Procurement of local goods and services;
- Indirect economic benefits (e.g. from increased local investment and/or higher local tax revenues and expenditure); and
- Community investment and ownership opportunities.

Local community benefit sharing is increasingly recognised as an important component of the *social impact management process*. In various sectors such as mining, oil and gas, waste and renewables, developers are increasingly focused on improving direct and indirect positive impacts associated with a project (such as employment and procurement of local goods and services), and enhancing local benefits through community investment programs.

#### 4.1

##### **BENEFIT SHARING WITHIN THE BROADER SOCIAL RISK AND IMPACT MANAGEMENT PROCESS**

Benefit sharing can be an important component of major development projects and can help to increase local acceptance by answering the ‘*what’s in it for us?*’ question posed by communities. However, benefit sharing cannot be approached in isolation, and must be considered in the context of the broader social risk and impact management process through effective consultation and stakeholder engagement. Seeking to ‘provide’ benefits without a transparent and open process of community dialogue can lead to accusations of ‘influence peddling’, to the undermining of trust and confidence in the aims and intentions of the developer, and in some jurisdictions, to community opposition and legal challenge.

*‘Benefit sharing should not be done in isolation, and does not guarantee local acceptance of projects. Benefit sharing must be one component of a thorough and detailed social engagement and impact management process.’*

Interview: Social impact assessment and management expert, UK

It is therefore essential that any social risk and impact assessment process that includes provision for community benefit sharing is transparent, accountable, and fair to all parties.

Within an overall framework of public consultation and stakeholder engagement, there are three important components of a social risk and impact management process:

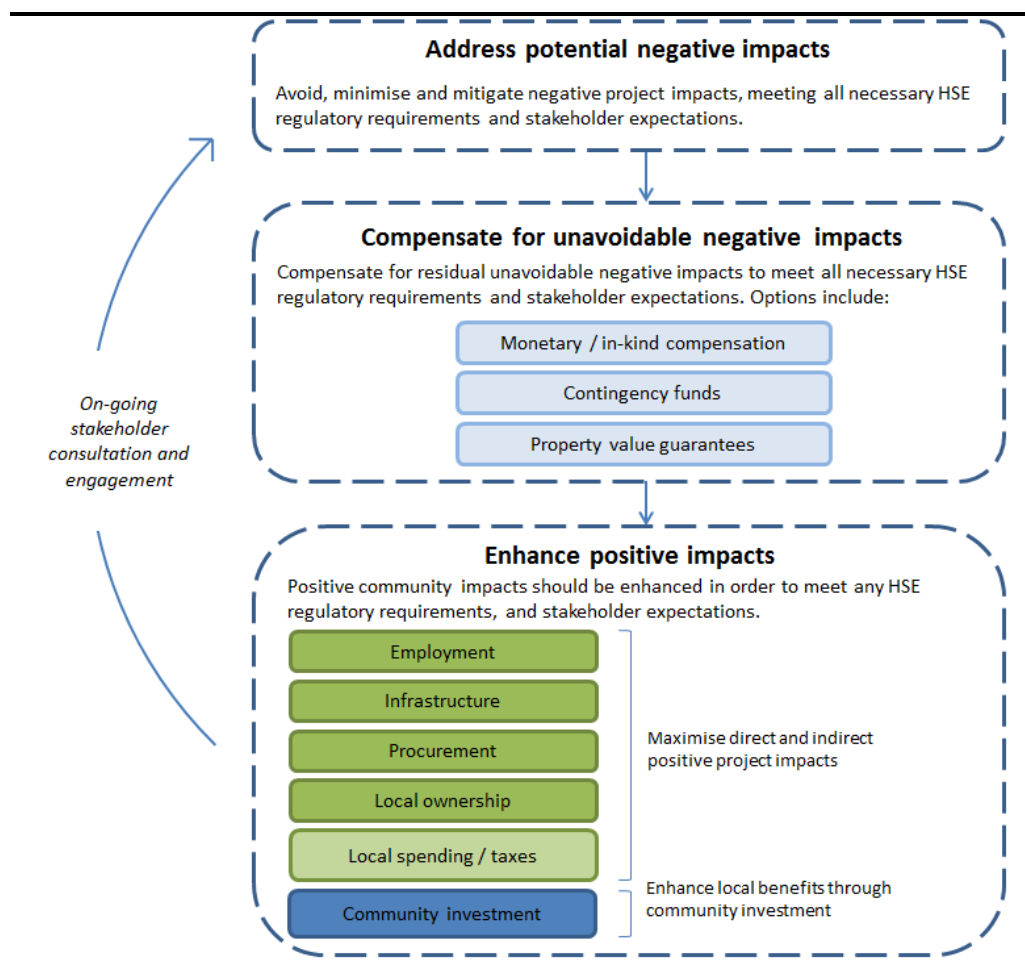
- Minimising direct and indirect negative impacts to the community;
- Compensating for unavoidable negative impacts to the community; and
- Enhancing positive impacts to the community, by maximising direct and indirect positive project impacts and enhancing local benefits through social investment.

It is important to note that projects must meet all necessary forms of health, safety and environmental (HSE) legislative and regulatory approval *before* using additional benefit sharing measures to address local concerns that may



remain. Figure 4.1 presents a framework for social risk and impact management.

**Figure 4.1** Framework for social risk and impact management



Source: ERM

Different States and cultures follow different traditions of consultation and community engagement that must always be respected. For example, some cultures defer to and rely upon the opinions of established community leaders and elders, while others demand a more democratic, public consultative approach. In addition, leading international investment organisations such as the World Bank, the European Investment Bank and some major corporations and publicly listed companies will have their own minimum requirements for local consultation.

Nevertheless, there are a set of universally accepted fundamental criteria of openness, accountability, transparency and fairness that apply. Once a developer is confident that local expectations and the fundamental criteria for social engagement can be met, then benefit sharing mechanisms may form an important element in achieving sustainable development for CCS.

In Sections 4.2 and 4.3, the management of a project's negative impacts, and the enhancement and sharing of a project's positive impacts, is discussed in more detail. Consideration is also given to how this may work in the context of a CCS development.

Before options for benefit sharing are explored in detail, developers should first seek to identify and manage any negative impacts from a development as far as practical. Developers should engage fully with communities on key topics of concern, and manage actual or perceived impacts as far as practical *before* undertaking detailed engagement on potential benefit sharing mechanisms. If a detailed discussion on benefit sharing comes too early on in the stakeholder engagement process, communities may feel that their concerns are not being fully addressed and offers of benefits may indeed be counter-productive and increase local resistance.

From a review of the literature, and discussions with project developers and stakeholder consultation and impact management experts, the essential lessons are:

- ***Plan for stakeholder engagement*** from the outset, with careful assessment of the local context for the CCS project development. Ensure a clear understanding of the affected community and its history, considering (for example) the extent to which it is familiar with industrial activities. It is important to understand how the project is likely to be perceived by local residents, local politicians, as well as other communities and groups with an interest but more distant from the site in question.
- ***Undertake targeted stakeholder engagement and consultation on the project.*** This should commence as early as possible so that local concerns (including those not initially conceived by developers) can be identified. Early engagement can also help to reduce the risk of suspicion and distrust arising amongst community members where there is a lack of information and/or engagement by developers. Experience suggests it can be helpful to involve third parties in the engagement process.
- ***Take a balanced view.*** Having identified and assessed the range of positive and negative impacts associated with the development, and technical options for their mitigation, compensatory measures may be employed to address residual negative impacts or effects of perceived concern.
- ***Ensure options agreed upon are carried out and stakeholder contact is maintained during project operation.*** A key component of success with local stakeholders will be delivering on commitments made and continuing to have effective stakeholder communication during project operation. Project managers and staff should be fully briefed on commitments made to the local community and key performance indicators for employees' effectiveness should include delivery of commitments to local stakeholders and effective on-going outreach.

Having minimised negative impacts associated with a development as far as possible, compensatory measures may be employed *to manage residual impacts*. A number of mechanisms for compensation can be used, as presented in Table 4.1 below.

**Table 4.1** *Methods of compensation for negative project impacts*

Compensation mechanism	Summary	Advantages	Disadvantages
<b>Monetary or in-kind compensation</b>	Payments made or in-kind goods provided to communities that are negatively affected by a project or facility.	Can be used to address specific negative impacts, and can be tightly defined and formally agreed.	Monetary compensation can be perceived as an inappropriate form of influence or incentive. In-kind compensation requires careful discussion and agreement amongst diverse groups.
<b>Property value guarantee</b>	Measures that compensate residents for a decline in property values as a result of the nearby development. The level of compensation is normally linked to a benchmark property value for the area.	Loss of property values is a commonly expressed fear among local residents. Evidence of 'no effect' is often not believed. Some recognition of this issue can of itself alleviate many concerns.	There are few examples of large payments having been made in practice. Potentially open to exploitation and requires careful administration.
<b>Contingency fund</b>	A fund for emergency or unexpected events linked to a development, used in the event of an accident to cover any losses or damages affecting residents.	Can be considered as a form of insurance and therefore reassurance to the community.	Implies residual unknown or unanticipated risks. Ought not to be required if all other assessments are undertaken appropriately.

Source: ERM

#### **4.2.1** *Monetary or in-kind compensation*

As shown in Table 4.1, monetary or in-kind compensation can be used to address specific negative impacts associated with a development. In the context of a CCS development, monetary or in-kind compensation may be required if the installation of a new CO<sub>2</sub> pipeline or injection well results in displacement and/or damage during construction to local properties, facilities, and land uses (such as farmland). It is critical that any such monetary compensation be transparent and at 'fair market value' to avoid any appearance that such compensation is a form of inappropriate influence or incentive.

#### **4.2.2** *Property value guarantees*

Property value guarantees may be used to compensate residents for a decline in property value that is associated with the presence of a nearby facility. As noted in the preceding sub-section, any such guarantees should be transparent

and at 'fair market value'. This compensation measure is not widely applied, but some isolated examples have been identified, one of which is presented in Box 4.1.

#### **Box 4.1**

#### ***Case studies of property value guarantees***

- In Illinois, US, residents of DeKalb County insisted on a property value guarantee with the development of a large-scale onshore wind farm in 2009. The mechanism ensures that residents can sell their houses for a 'fair' asking price that is based on comparable property situated in an area with no wind turbines (formally assessed by an appraiser). In the event where residents are not able to sell their homes for the appraised value, the energy company will provide the difference<sup>1</sup>.

Designing and applying a property value guarantee scheme is by no means a straightforward exercise. There are challenges associated with defining what affect a development has had on property prices, and some project developers fear that pre-existing property values may be inflated by some in order to achieve a financial 'windfall'. Others have argued that such guarantees distort the property market in an unacceptable way. It is clear that any consideration of property value guarantees must be undertaken with careful legal advice on all sides and must be undertaken in a fully transparent and accountable manner.

#### **4.2.3**

#### ***Contingency funds***

Contingency funds serve to compensate for actual or perceived costs to communities that may occur in the event of a future incident. The use of Superfund arrangements in the USA under the CERCLA Environmental Protection Act for clean-up of contaminated sites is perhaps the best-known example of this type of approach, although Superfunds tend to be used to address known issues as opposed to unanticipated and unexpected events. Another example is the US Fishermen's Contingency Fund, which was established to compensate fishermen for economic and property losses caused by oil and gas obstructions on the Outer Continental Shelf.

Regulatory frameworks for carbon capture and storage activities can require a contingency fund to be established. As well as securing finance for on-going storage site monitoring costs, and (in Europe) climate liability (ensuring that sufficient CO<sub>2</sub> credits can be purchased in the unlikely event of a CO<sub>2</sub> leak), these funds can be used to finance potential remediation actions if a CO<sub>2</sub> leak should occur. Storage site operators are generally responsible for contributing to this fund during the injection and closure period of a project. After a project has been closed, liability for the stored CO<sub>2</sub> is generally transferred to the state, as are the funds established to cover this.

---

<sup>1</sup> FPL Energy Illinois Wind, LLC Property Value Guarantee Agreement  
[http://www.dekalbcounty.org/PlanningZoningBuilding/FPL/Exhibit\\_WAppendix.pdf](http://www.dekalbcounty.org/PlanningZoningBuilding/FPL/Exhibit_WAppendix.pdf)

It is important to understand the rules and laws in relation to property rights in the context of a new development. This is a separate issue to compensation for negative impacts, but an important consideration for land-owners in local communities. Depending on the jurisdiction in question and the property laws in place, local land-owners may be entitled to payments from leasing land or sub-surface pore space to developers, and/or royalties from the extraction of minerals, or from access routes crossing or impacting their property. Payments can arise in a number of contexts:

- **Payments for land easements:** In general, developers have to compensate landowners for the purchase of land easements required for development. This is seen, for example, with wind farm developments, and major pipeline projects.
- **Payments for access rights and/or right of way to cross over lands:** As well as purchasing land easements, developers may need to compensate landowners for access rights and/or right of way to cross over their land.
- **Payments for mineral rights and extraction:** In many US states, private landowners own surface and subsurface mineral rights. Third parties seeking access will likely need to negotiate the lease of mineral rights for exploration activity (sometimes called a signing bonus) and terms for the payment of royalties during production. A payment to acquire drilling rights may also be necessary. There may be state specific variations in gaining access to mineral rights from private landowners<sup>1</sup>.
- **Payments for sub-surface pore space rights:** In many nations, including Australia, Europe and South America, the Crown or State owns the sub-surface pore space rights. In the US however, the situation with pore space ownership is less clear. In some jurisdictions, pore space ownership is vested in the surface estate owner, and surface owners may be entitled to compensation for the use of the underlying pore space. Payments from the use of sub-surface pore space could therefore be an important consideration for communities hosting a CO<sub>2</sub> storage site.

*'In the context of local acceptance and benefit sharing, it is important to note that surface land owners will receive fair, negotiated compensation for the use of pore space under their land with this CCS project [in the US]. Compensation for pore-space use is paid over time – so not only linked to the current owner, but future owners as well.'*

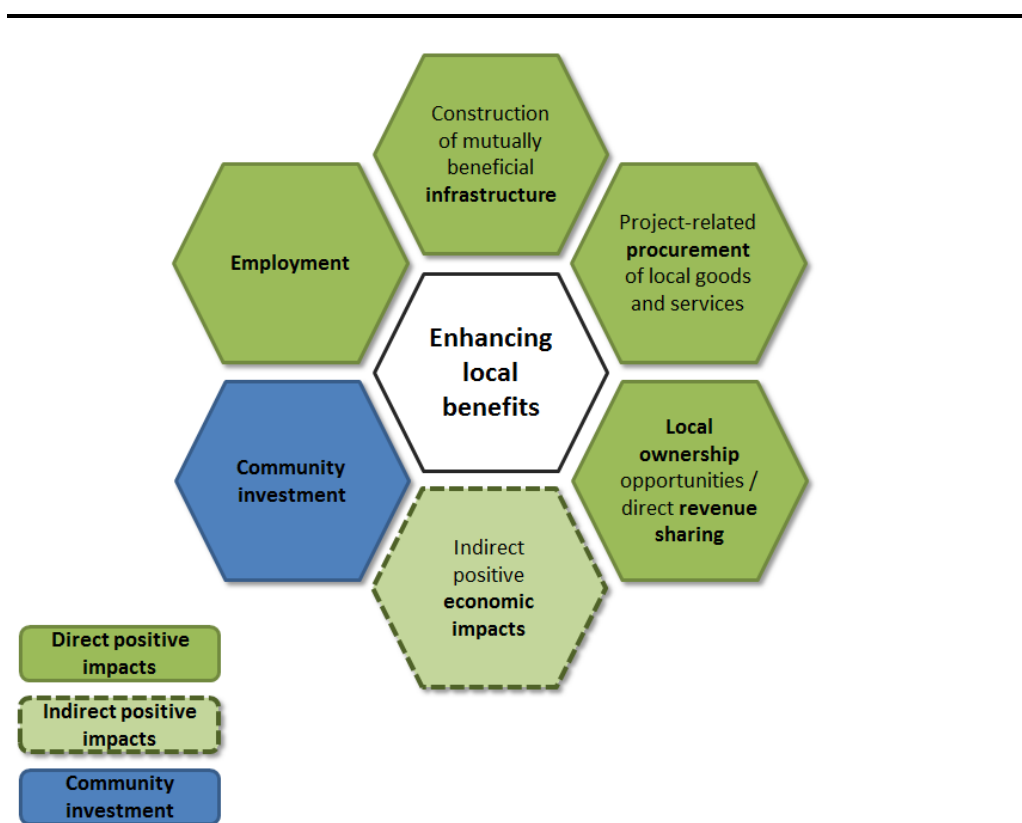
Interview: CCS stakeholder manager, proposed project in US (onshore power plant)

<sup>1</sup> In many jurisdictions including Australia, many EU Member States, and Latin America, mineral interests are vested in the state and there is no private ownership of minerals and therefore no compensation.

Separate from addressing the potential negative effects of a proposal are arrangements that seek to *enhance the beneficial effects* upon a community. Developers may have had some initial discussions with communities on potential benefit sharing options during the initial stages of stakeholder engagement. Only having managed potential negative project impacts and addressed any key community concerns (including for example actual or perceived health and safety risks, and impacts on property prices) as far as possible, should a more detailed engagement process on community benefits be initiated.

There are a number of different forms of benefits, and a number of different channels through which community benefits can be distributed, as illustrated in Figure 4.2 below. Broadly speaking, benefits can be categorised as direct or indirect positive impacts associated with a development, and community investment initiatives. These are discussed in the following sections.

Figure 4.2 Community benefit sharing measures



Source: ERM

#### 4.3.1 Employment opportunities

Some large infrastructure projects (such as renewable energy, mining, oil production, gas storage, and transport infrastructure projects) bring significant employment opportunities to the local community. If the majority of project employees are members of local communities, this could be a material source of socio-economic benefit to the community.

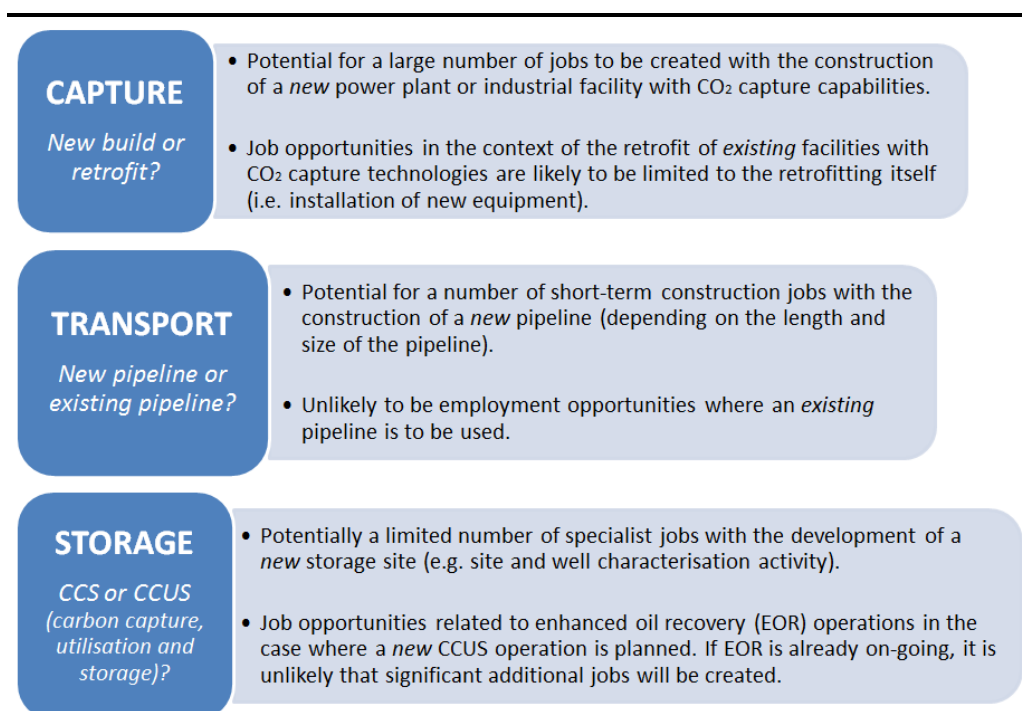


The extent to which local communities benefit from employment will depend on a number of factors, including:

- **The availability of skilled workers in the nearby communities.** New developments may require skilled construction workers for the building of a new project, and/or skilled engineers for the running of a project. If the development is not located in an industrialised area, it may be necessary to train up a local workforce if employment benefits are to be recognised.
- **The duration of the employment opportunities.** It may be that a new development brings significant construction jobs to the local area. However, the construction phase may not extend beyond a few years, meaning that the job opportunities are relatively short-term. On the other hand, the operational phase of the project may offer longer-term job opportunities- though these opportunities are likely to be fewer in number.

Employment opportunities in the context of a new CCS project will depend on the type of project in question. Developers may want to consider if it is practical to offer training in the local community in order to build local capacity and increase the number of local staff hired. Figure 4.3 below highlights some of the main contextual factors in each CCS stage that may influence the magnitude of potential employment opportunities.

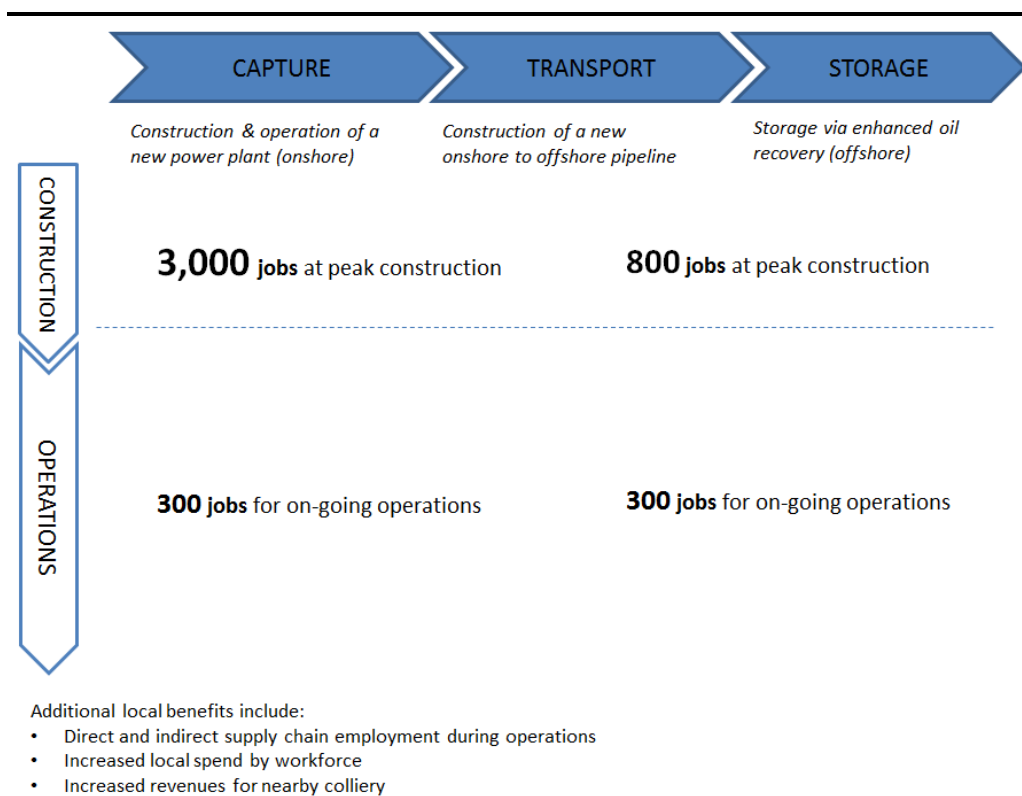
**Figure 4.3** *Employment opportunities under different CCS project scenarios*



\* **CCUS** (carbon capture, utilisation and storage) refers to operations where carbon is captured and 'utilised' for the added extraction of additional hydrocarbon recovery, for example in the process of enhanced oil recovery. Through this process, and over time, CO<sub>2</sub> is permanently stored.

New CCS projects (i.e. projects involving the construction of a new power plant or industrial facility with CO<sub>2</sub> capture, the construction of a new CO<sub>2</sub> pipeline, and/or the initiation of enhanced oil recovery operations) have the potential to offer significant employment opportunities. Figure 4.4 below illustrates potential employment opportunities predicted by a planned carbon capture, utilisation and storage (CCUS) project in Europe, which would involve the construction of a new onshore power plant and the initiation of offshore EOR activities.

**Figure 4.4** Case study: Potential employment from a proposed CCUS project, Europe



Source: Confidential case study conducted by ERM on a planned CCUS project

### 4.3.2 Infrastructure development

Some projects are able to provide mutually beneficial project infrastructure. For example, new roads may be built, or existing roads repaired, in order to allow access to a new site or development. Careful planning can ensure that new infrastructure benefits both the community and the developer. In the UK, major power station construction commonly involves agreement to upgrade roads and road junctions, and in some cases, new roads to by-pass small communities that would otherwise be detrimentally affected. Clearly, there is overlap here with construction impact mitigation, but the potential is also there to ‘enhance’ provisions to a standard that offers long-term community benefit, rather than just mitigation during the construction phase.

*'In order for the company to gain access to the designated pipeline route for pipeline construction, it had to upgrade many of the local village roads. The communities along the route benefitted from the improved road infrastructure.'*

Interview: Social impact management expert's experience on a multinational oil and gas pipeline project, western Asia

In a CCS context, benefits to local communities from infrastructure development are likely to be limited to cases where a new CCS power or industrial facility is being built, and where there is a concurrent need to improve existing transport infrastructure in the local community, or indeed put in place new infrastructure. It should be noted that the local benefits from infrastructure development in this scenario are likely to apply only to the communities hosting the capture phase of the CCS project.

Operation of a CCS injection and storage site is not expected to involve significant numbers of staff. It will be important to reassure local communities that monitoring and emergency equipment are adequate given the relatively low number of people at an injection and storage facility.

#### **4.3.3** *Procurement of local goods and services*

Procurement spend can result in positive impacts on local communities if project suppliers employ workers or source goods locally. The extent to which a community will benefit from a development's procurement will depend on the scale of the development, and the ability for local enterprises to supply and deliver the required goods and services. Developers may want to consider investing in training programs to help develop the skills and capabilities of local suppliers and increase local procurement. This approach has been adopted by various mining and oil and gas projects across the world.

Developers in many sectors have in the past established lists of preferred local suppliers, helping to support the procurement of local goods and services. Others have taken steps to make it a requirement that non-local suppliers must recruit a proportion of their staff locally and also themselves procure their own goods and services locally. All the above approaches are intended to maximise the local economic 'backwash and spread' effects from investment.

#### **4.3.4** *Local ownership opportunities and revenue sharing*

A more radical, recent trend has been for developers to grant or offer shares in a project to local communities. There are a number of examples of local ownership in renewable energy projects including dam, wind energy, solar energy projects. Community members may be offered to purchase shares at a fixed price, or cooperatives may be established. The main difference in this type of approach to benefit sharing is that local communities can take ownership and therefore responsibility for the projects, increasing buy-in and local tolerance for the long-term.

Direct revenue sharing is another approach that can be used to share the economic benefits of a project with local communities. Examples of revenue sharing schemes exist in the renewables sector, and have been put in place for a number of major dam projects and wind farm developments. Typically, beneficiaries gain a portion of revenues from the sale of electricity by the project.

With both community ownership and revenue sharing, communities have a vested interest in the success of a project and have the opportunity to share the economic benefits that the project brings. There is growing recognition of the potential for local ownership and revenue sharing to help increase local involvement and local acceptance of projects, particularly in the renewables sector.

**Box 4.2**      *Community wind projects in Denmark*

There is growing recognition of the potential for local ownership to help increase local involvement and acceptance of projects in the renewables sector. In Denmark, a law introduced in 2009 requires developers to offer a minimum of 20% of a project to people living within 4.5km of the site.

Denmark is viewed as a world leader in wind energy, which in 2011 accounted for 28% of the country's electricity mix. There is widespread social acceptance of wind projects in the country and this has been attributed to the high levels of community co-ownership (70-80% of wind turbines are co-owned by local groups).

**4.3.5**      *Indirect positive economic impacts*

Large developments and their associated workforce can bring indirect positive economic impacts to communities in the form of increased local spend. In some cases the local retail, hospitality and leisure industry may benefit significantly from increased demand during the construction and operation of a project, depending on the nature and scale of the project and the timeframe over which it will be operating.

Where developers are required to pay local taxes in addition to national and (if applicable) state taxes, communities may see indirect economic benefits from the increased tax revenues being reinvested in the local community in areas such as education, transport, and social care (amongst others).

*'Local residents and local authorities see the increased tax revenue that the [CCS] project will bring as an important benefit to the community. This is important for this particular area, which has recently a proportion of its tax base as a result of the closure of a number of industrial plants.'*

Interview: CCS stakeholder manager, proposed project in US (onshore power plant)

The key factor from a CCS perspective will be to seek to ensure, through engagement with the local authorities, that any increased revenues and associated benefits are acknowledged as related to the CCS project. Developers would also want to ensure that spend is focused on additional and

sustainable services, and not merely replacing existing commitments (which central government may wish to 'claw back' from the local administration).

#### 4.3.6 *Community investment*

Another way for developers to provide community benefits is by direct investment in local communities. This can be either by paying money into a community fund or Trust, or by investing in specific community projects. This approach may be important in situations where a community is negatively impacted by a development *and* where that same community is unlikely to benefit from the direct and indirect positive impacts of the project. Communities hosting a CO<sub>2</sub> storage site provide one such example (discussed in detail in Section 5). It will be important to assess the extent to which investments will be viewed by local stakeholders as benefiting the broad community, not just narrow interests.

##### *Investment in specific community projects*

In some cases, developers may choose to invest in specific community projects as well as, or instead of, creating a community fund. This may occur if a developer or company has particular expertise and skills that lends itself towards a certain type of community project, or if a particular community project can be identified that helps to enhance local benefits from the development. For example, in Scotland, ScottishPower Renewables funded the construction of a £2m visitor centre as part of its Whitelee wind farm development. This has attracted thousands of visitors, including school groups.

This type of opportunity could apply in the context of a CCS development, particularly if the project is 'first-of-a-kind' in the region. There may be an opportunity for CCS developers to encourage CCS research and training activities at a CO<sub>2</sub> capture, transport or storage site. One CCS project in the US is planning on funding a visitor, training and research facility at the storage site location.

*'An important part of the value proposition to the local community at the storage site, along with the jobs and other economic benefits that the project will bring, has been the CCS visitor, research and training facility.'*

*'The community recognises the educational and training opportunities that stem from its hosting a 'first-of-its-kind' CCS project. The project will also benefit from the independent monitoring and research activities being undertaken at local colleges.'*

Interview: CCS stakeholder manager, proposed project in US (onshore power plant)

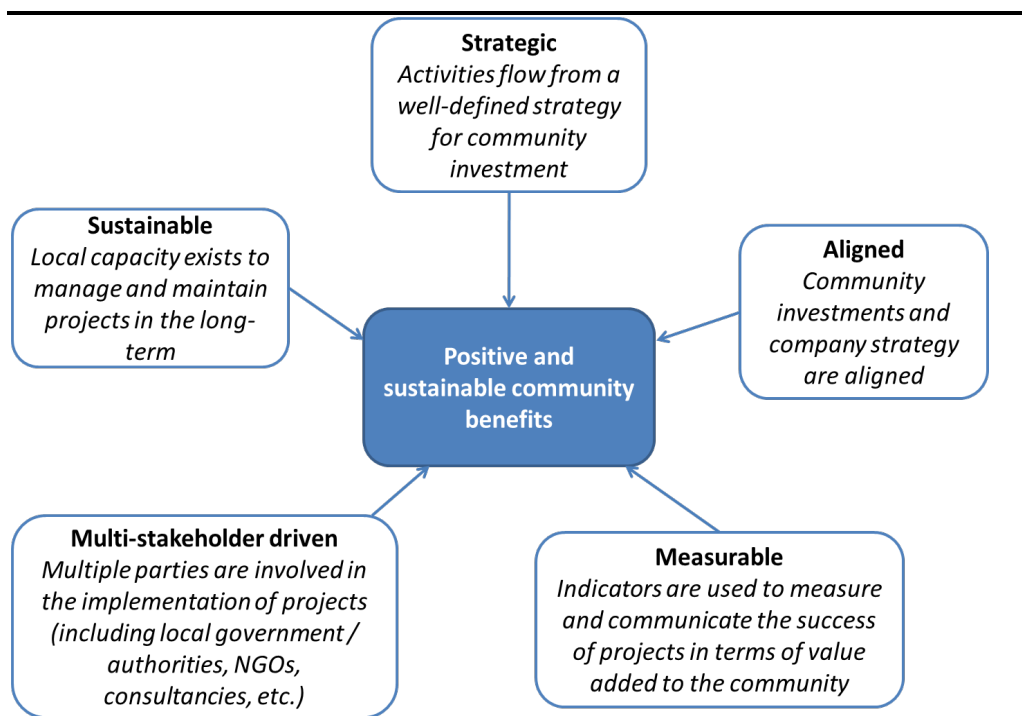
##### *Strategic investment in local communities*

Community investment should be approached in a strategic way, so that investments have a lasting and positive impact on the community and are not 'frittered away' on less meaningful or less popular initiatives.

Historically, where community investment has not been applied in a strategic manner, community investment has underperformed. Where there is a limited understanding of the local context, a lack of strategy (for example where ad-hoc payments or investments are made), and insufficient participation and ownership by local stakeholders, investments are not likely to be successful or sustainable in the long term.

Key elements of a strategic community investment approach are summarised in Figure 4.5.

**Figure 4.5** *Good practice principles for strategic community investment*



Source: Adapted by ERM from the IFC handbook on Strategic Community Investment

The main actions and considerations in the development and implementation of a community investment program are discussed below.

*Consultation with key stakeholders*

The first step in community investment is to identify stakeholders to consult with on the development of a community investment plan. Stakeholders should include those who will be affected by the project, and those who will influence the success of the project, and this could include:

- Local Authority / government;
- Ward members;
- Parish councils;
- Community leaders;
- Community groups (e.g. youth groups, farmers, etc.); and
- Local NGOs and other interested organisations.



If a community investment program is to be effective and sustainable, important local stakeholders should be involved in the implementation of the program and the projects funded. Project managers must ensure that such programs continue to be supported effectively throughout the project's life. These stakeholders may sit on the fund's Board or Committee (see *Fund management and distribution* below).

*'It can be beneficial to involve local authorities in the planning and delivery of funding. In some cases, local authorities will help to support and multiply funds (sometimes matching funds), so the overall level of benefits increases.'*

*'Furthermore, local authorities can be instrumental in helping with the implementation and longer-term upkeep of projects.'*

Interview: Project planning and community engagement expert, UK

In cases where communities have limited experience with major developments, they may need guidance, specialist support and expertise in order to participate effectively in the community benefit sharing process. For example, in the renewables sector in Scotland, an initiative has been established to provide local communities with best practice guidance on how to establish and manage local mechanisms for managing community investment (see Figure 4.6 below).

**Figure 4.6** *Community Energy Scotland's Community Benefits Guidance*



Source: Community Energy Scotland's website - [http://www.communityenergyscotland.org.uk/register/community\\_benefits/guidance\\_for\\_communities](http://www.communityenergyscotland.org.uk/register/community_benefits/guidance_for_communities)

Experience with previous projects suggests a number of key lessons for project developers when it comes to engagement with local communities on benefit sharing, summarised in Box 4.3 below.

### *Community engagement and benefit sharing: Key lessons for project developers*

- It is essential to separate out the discussion on potential Community Benefits from Planning Permission and Approvals to avoid any sense of influence peddling.
- Developers may engage with different local stakeholders in relation to planning permission and approvals vs. community benefits.
- The establishment of community investment funds requires a great deal of commitment, time and resources of local communities involved.
- There is no single preferred mechanism or solution. Different consultation methods include workshops, open meetings, focus groups, and advertisements.
- There are perceived to be 'Good' and 'Bad' Developers. Bad developers are perceived to be those who try to offer the minimum level of benefits. 'Good' developers agree initiatives with local stakeholders, deliver on promises and remain in active communication with the community over the project life.
- The larger operators are perceived to be not the best in dealing with local communities.
- Issues with anti-groups will still remain but mediation can help, and good governance is important.

#### *Funding mechanisms*

A number of different funding mechanisms can be used to build up a community fund:

- **Direct payments (one-off or paid over time):** A developer may contribute a certain amount of money into a fund either as a 'one-off' lump sum, or as a set of payments over time. The developer may specify a timeframe over which funding is available. For example, funding may be available during certain phases of the project, or for a set number of months or years.
- **Revenue-linked payments:** Developers may seek to invest a proportion of the project's revenue or profits to a community fund. In this way, the fund will be linked to the 'success' of a project and this can help reduce the risk placed on the developer (for example by helping to avoid having to make substantial payments when the project is less profitable). This approach may lead to concerns of the project becoming commercially exposed, in which case a minimum payment level could be established.
- **Direct + revenue-linked payments (combined):** In some cases, projects may make an upfront lump sum payment into a fund and subsequently make more modest revenue-linked payments.

Consideration of the community context, and the likely use of a community fund, can help to decide which of the above approaches is most suitable for building a community fund. Box 4.4 highlights some key issues that can help to assess which funding mechanism is most suitable for the specific context.

- Has the community already identified the need for a specific investment? If so, would it be beneficial to make an initial payment into the fund such that the project can be financed?
- How much money is available to be paid 'upfront' by the developer? What do the project finances look like; is it instead necessary to make smaller investments over time in order to avoid significant upfront capital costs?
- What is the timescale of the development? Should future residents affected by the project also be able to access the funding or is it justifiable to limit it to current residents?
- Who is responsible for ensuring that investments are delivered and managed according to plans that have been agreed with the community and stakeholders?

Also important when setting up a fund is determining the size and scale of the fund. Globally, a vast number of community funds have been established by developers, ranging from small community funds of US \$1,000 - 10,000, to multi-million dollar community investment programs. Clearly, the size of the fund should be related to the scale of the project in question, and the potential impact of the project on local communities. However there is no agreed method on how developers can establish what level of funding is 'right'. Context is also important: what may be considered as an 'acceptable' or promising level of funding in one location may not be viewed so positively in another.

#### *Fund management and distribution*

When developing a fund, the following components should be considered and put in place:

- **Committee or Board:** The Fund Committee or Board should be tasked with the running of the fund. It should comprise key community stakeholders, such as the project developer, members of local government and local authorities, and community leaders.
- **Principles and Objectives** governing the fund should be established that will focus how the fund is managed, how the money is spent, and how the success of the community investment program can be measured over time using quantitative and/or qualitative indicators.
- **Funding criteria:** If a community fund is to be used effectively and if the projects it funds are to be sustainable, it is important that the *community* (rather than the developer) steers the investment decision-making process. A community-led investment decision will help to ensure that money is invested where it is needed most, and will help to make sure there is capacity to maintain projects in the long run (for example if and when other stakeholders are not involved). With this in mind, community investments may not necessarily be in an area where the developer has a core competence (for example if projects related to a company's specific expertise were not highlighted as 'priority' community development areas during stakeholder consultation).

- **Review procedure and mechanism to ensure stakeholder involvement:**  
A good practice would be to establish a feedback and review process so that local communities and stakeholders can be kept abreast of the activities of a community fund, provide comments over time to fund managers and receive reports on the results of the fund's activities.

*'Project developers should not seek to link particular projects and impacts with particular community benefits: rather, the local community context will determine what the most appropriate and successful benefit sharing approaches and mechanisms will be.'*

Interview: Social impact assessment and management expert, UK

One way to allow communities to direct investments is to invite applications from community members and groups for the funding of particular projects. A list of criteria can be established and used to judge the funding applications. Box 4.5 highlights the key elements of UK-based community fund explored as a case study.

**Box 4.5** *Case study: Management of a UK community fund at a natural gas storage site*

**Community Liaison Committee**

**Role:** Hold regular meetings on the progress of the project (including any complaints); discuss the funds, applications for funding, and projects developed.

The Committee comprises representatives from the Company, local communities (Parish Councils), and local government (District and Regional Councils).

**Scoring criteria to assessing applications for funding:**

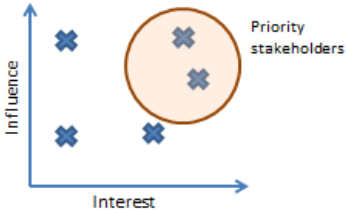
- **Need** – establishing a clear need for the project, backing-up with research if possible
- **Community use** – establishing how likely a community is to use the project or facility
- **Community involvement** – allowing committed and resourceful people to get involved
- **Value** – demonstrating value for money
- **Sustainability** – ensuring projects will add value to the community for years to come

**Example community projects funded:**

- Village hall refurbishment
- New play park
- Energy-efficient Sports Club

If projects are operating on a larger scale, the challenges around defining the project's footprint, identifying and prioritising relevant local stakeholders, and identifying broad community areas to be targeted by a community investment program, can be great. Box 4.6 illustrates how community investment by major developments can be approached, as exemplified by a multi-national oil and gas pipeline project case study.

*Case study: Community investment on a large scale – multinational oil and gas pipeline project, western Asia*

<p><b>Stakeholder mapping</b> was used to identify and prioritise stakeholders in terms of:</p> <ul style="list-style-type: none"> <li>• who will be <i>affected</i> by the project</li> <li>• who will <i>influence</i> the success of a project</li> </ul> 	<p><b>Identifying community areas for investment:</b></p> <ul style="list-style-type: none"> <li>• <b>Needs</b> – what are the biggest needs in the area, in terms of e.g. education, jobs, infrastructure, energy?</li> <li>• <b>Gaps</b> – are there any areas receiving less attention from governments or NGOs?</li> <li>• <b>Potential implementation partners</b> – who are the viable partners that could help to implement and run projects in the long-term?</li> </ul>
<p><b>Project footprint</b> Communities within 2km of the pipeline or 5km of a pumping station were included in the community investment program</p>	<p><b>Example programs and initiatives</b></p> <ul style="list-style-type: none"> <li>• Infrastructure upgrades</li> <li>• Health and sanitation programs</li> <li>• Farmer training</li> <li>• Micro-financing</li> </ul>

Box 4.7 below illustrates the types of community projects that have been implemented in a developing vs. developed country context, as revealed from a review of community investment programs across the world.

*Example community investment projects in a developed vs. developing country context*

<p><b>Example community projects - Developed country context</b></p> <ul style="list-style-type: none"> <li>• Village or town hall improvements / new facilities</li> <li>• Sports, recreation and leisure facilities</li> <li>• Energy / geology / environmental centres</li> <li>• Sustainable energy initiatives</li> <li>• Environmental initiatives (e.g. habitat restoration projects; walking trails)</li> <li>• New school facilities</li> <li>• Youth projects</li> <li>• Cultural events and initiatives</li> <li>• Infrastructure improvements / upgrades</li> </ul>	<p><b>Example community projects – Developing country context</b></p> <ul style="list-style-type: none"> <li>• Health and sanitation programs</li> <li>• Community capacity building and training</li> <li>• Natural resource management programs and training</li> <li>• Micro-credit schemes</li> <li>• Educational support</li> <li>• Farmer training</li> <li>• Enterprise centres / SME development and support initiatives</li> <li>• Training for local companies and suppliers</li> <li>• Infrastructure projects</li> </ul>
---	--

In both contexts, project selection may be influenced by:

- The *developer's own expertise, skills and experience*,
- The *specific needs* of the community,
- Any *gaps* in current government or NGO funding and focus,
- The existence of potential *local implementation partners*.

### *Measuring the success of a community investment program*

If a community investment program is to be strategic and effective, it is important to monitor and evaluate the success of the program. When setting out the principles and objectives of a community investment program, a set of indicators should be developed that will enable the 'success' of community investment (in terms of meeting the fund's objectives) over time. The local community and stakeholders should be consulted and should agree upon the indicators to be utilised. Indicators will be linked to the specific goals of the community investment program, but some examples are illustrated below:

- In a developing country context where community investment aims to facilitate development in certain areas, indicators might include employment rates, average incomes, and literacy levels.
- In a developed country context, if (for example) community investment is focused on improving public facilities and spaces, indicators on the use of town halls, sports centres, local parks and nearby rivers, could be used.
- Independent of the context for community investment, developers may want to measure public opinion and explore awareness and attitudes towards the developer, the project, and the community investment program (for example through public surveys).
- Media coverage, political support, and local community or NGO feedback, can be helpful in assessing the extent to which a project's stakeholder engagement and benefit sharing strategy has been 'successful' in encouraging local acceptance.

Results from the monitoring process can be used by a funding committee or Board to adapt or improve the program over time, and to communicate results to project stakeholders. A process should be followed to allow for feedback from the local community and stakeholders, and adjustments/improvements should be considered over time based upon such feedback and comments.

#### **4.4**

#### ***DISCUSSION: LOCAL COMMUNITY BENEFIT SHARING***

A number of available options for addressing both the process and the content of community benefit sharing have been presented so far in this report. Key observations and findings are summarised in Box 4.8 below.



- Community benefit sharing is now a well-established process in many countries and for many industries.
- Community benefits must be distinct from agreements to meet all normal legislative and regulatory requirements – they are not a ‘short-cut’ to obtain approvals.
- Community benefit sharing sits within a broader social risk and impact management process that involves avoiding or minimising direct and indirect negative impacts to communities, compensating for unavoidable impacts, and maximising positive impacts (see earlier Figure 4.1). Actual or perceived impacts to communities should be managed as far as possible *before* detailed engagement on potential benefit sharing is undertaken.
- Community benefits can be a result of direct and indirect positive impacts of a development, and/or a specific community investment program. There is no single approach to community benefits but a ‘menu’ of possibilities may be tabled for consideration.
- A strategic approach to community benefit sharing and community investment is preferable for attaining more effective and sustainable solutions.
- The governance or procedural mechanisms and accountability of a community investment program is essential to ensure that everything is transparent and beyond criticism.
- Communities may require specialist support and expertise in order to participate effectively in the community benefit sharing process.
- Determining what constitutes the ‘local’ community to receive the benefits is of itself a major task. Traditional political boundaries may be followed but these may not help target the most affected or potentially involved and concerned. Some approaches may wish to distinguish between, and therefore distribute benefits differently among, very local communities and communities in the local area or region.
- Modern trends are towards joint ownership, profit sharing and cooperative agreements in an attempt to achieve heightened levels of community awareness and buy-in to proposed development opportunities.

As with any industrial development, CCS project developers need to manage the social impacts associated with a project, ensuring that negative impacts are avoided, mitigated, or compensated for, and that positive impacts are maximised. This section describes how project benefits may be shared with the local communities as far as possible.

### **5.1 DISTRIBUTION OF NEGATIVE AND POSITIVE IMPACTS ACROSS THE CCS CHAIN**

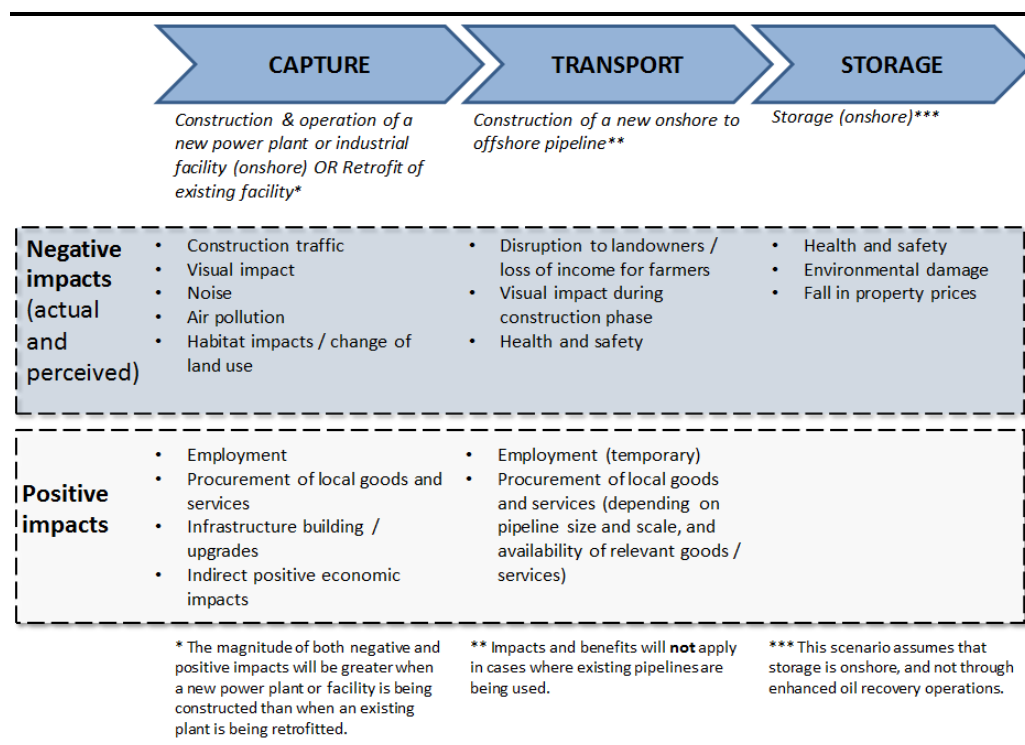
A key consideration for CCS projects is the distribution and location of positive impacts and negative impacts. Real or perceived negative community impacts may result from activities at the capture stage, with the construction of a new industrial facility; in the transport stage, with the construction of a new CO<sub>2</sub> pipeline; and at the storage stage, where communities may lie above CO<sub>2</sub> storage sites.

However, in most cases, the *positive* impacts from a CCS development, including job creation, procurement, and indirect economic benefits, will be concentrated at the capture stage with the construction of new CCS facilities or upgrade of existing facilities such as power stations or large industrial plants, and potentially also at the transport stage if a new pipeline is being constructed. It is unlikely that significant positive impacts will result for local communities at the injection and storage stage.

One exception could be CCUS projects where the injection of CO<sub>2</sub> has a beneficial use such as Enhanced Hydrocarbon Recovery. There would be real and perceived local benefits at the injection and storage stage from CCUS.

Figure 5.1 below illustrates this uneven balance of negative and positive impacts across the CCS chain.

Figure 5.1 Distribution of negative and positive impacts across the CCS chain



The magnitude of both the negative and positive impacts from a CCS development will be dependent on the type of CCS project that is being developed. For example, if a new power plant or industrial facility is being constructed, the positive impacts associated with employment and procurement of local goods and services could be significant. Retrofitting an existing power plant may still offer some positive benefits but these are likely to be lower in magnitude. Similarly, if CO<sub>2</sub> storage is offshore, actual or perceived negative impacts associated with health and safety risks and falling property prices are likely to be less significant or absent.

The distribution of positive social impacts from a CCS project across four different CCS project ‘scenarios’ is explored in more detail in Figure 5.2 below.

Figure 5.2 CCS benefits gap analysis\*

<b>1 New plant with CCS: Construction of a new power or industrial plant; new CO<sub>2</sub> pipeline; onshore storage</b>			
	Capture	Transport	Storage
Employment (direct and contracted)	✓	✓	
Construction of mutually beneficial Infrastructure	✓		
Procurement of local goods and services	✓	✓	
Indirect positive economic impacts	✓		

<b>2 CCS - retrofit: Retrofit of power or industrial plant with CO<sub>2</sub> capture; new CO<sub>2</sub> pipeline; onshore storage</b>			
	Capture	Transport	Storage
Employment (direct and contracted)	✓	✓	
Construction of mutually beneficial Infrastructure			
Procurement of local goods and services	✓	✓	
Indirect positive economic impacts	✓		

<b>3 CCUS: New power or industrial plant; new CO<sub>2</sub> pipeline; new EOR activities</b>			
	Capture	Transport	Storage
Employment (direct and contracted)	✓	✓	✓
Construction of mutually beneficial Infrastructure	✓		✓
Procurement of local goods and services	✓	✓	✓
Indirect positive economic impacts	✓		✓

<b>4 CCUS: Retrofit of existing power or industrial plant; new CO<sub>2</sub> pipeline; existing EOR activities</b>			
	Capture	Transport	Storage
Employment (direct and contracted)	✓	✓	✓
Construction of mutually beneficial Infrastructure			
Procurement of local goods and services	✓	✓	
Indirect positive economic impacts	✓		✓

✓	Significant benefits
✓	Minor benefits
	Minimal or no benefits

Note that the above scenarios assume the storage site is located at a significant distance from the CO<sub>2</sub> source facility (i.e. benefits from the capture stage will not be available for communities hosting the storage site).

\* The four scenarios illustrated here, and the significance of the direct and indirect benefits as illustrated by the checkmark ticks, is based on professional opinion and not on concrete case studies and figures. It was not possible to explore in detail the relative benefits associated with the different CCS project scenarios owing to a lack of potential case studies and data.

Figure 5.2 illustrates a number of important points:

- Most of the significant direct or indirect positive impacts associated with major developments, including employment, infrastructure improvements, local procurement, and local spend, are focused at the *capture* stage of a CCS project.
- If a new CO<sub>2</sub> pipeline is being constructed, there is a potential for some short-term benefits related to employment and procurement to arise at the *transport* stage.
- There is a lack of direct and indirect positive impacts at the *storage* stage of a CCS project, assuming this is located at some distance from the capture stage, unless new or expanded EOR operations are planned. Experience suggests that frequently the greatest public concerns with CCS developments lies with the perceived health, safety and environmental risk at this stage, however.

## 5.2

### ADDRESSING THE 'BENEFITS GAP' AT THE STORAGE STAGE

CCS project developers need to think creatively about how to address this imbalance of positive and negative impacts across the CCS chain. There are a number of ways to ensure benefits are distributed across each stages of the CCS chain, such as:

- Adopting, from the outset, a more strategic perspective and encouraging the flow down of benefits such as jobs and procurement opportunities from the capture and (if applicable) transport stages to the storage stage;
- Exploring means of sharing the financial benefits associated with the CO<sub>2</sub> storage activities (royalty sharing) with the communities hosting the storage site, if a project is commercially driven; and
- Investing in communities hosting the CO<sub>2</sub> storage site through a community investment program or the development of a community fund.

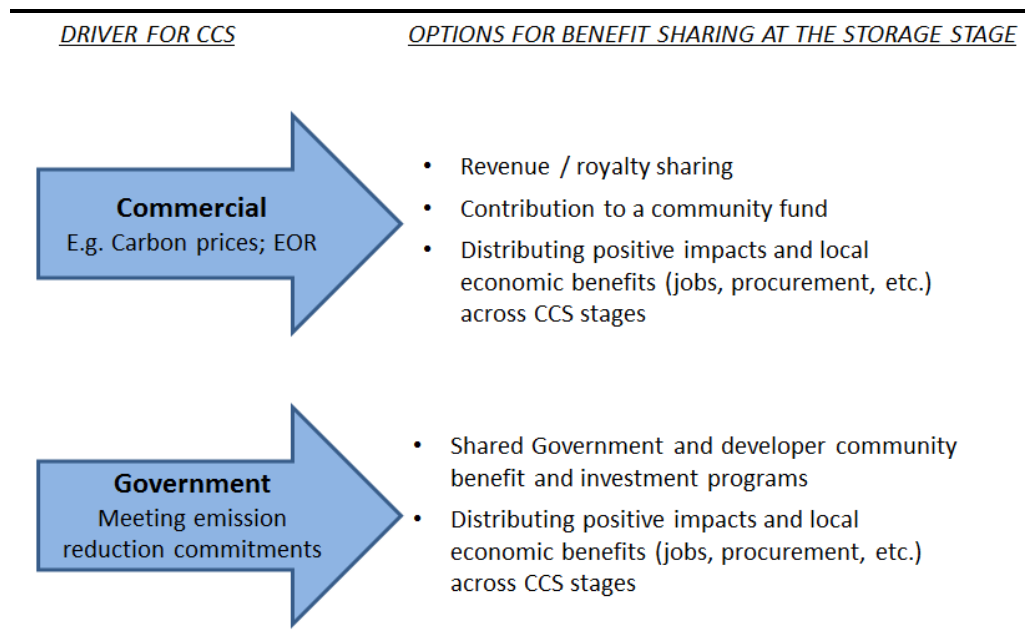
#### *Assessing the drivers*

An analysis of the drivers for a CCS project can help to identify options and possible avenues to address a 'benefits gap' in a community hosting a CO<sub>2</sub> storage site. Where the drivers for CCS are commercial, developers could consider options for revenue sharing with communities hosting the CO<sub>2</sub> storage site, or could consider dedicating a proportion of a the project's profits or revenues to a dedicated community fund.

If a project is not commercially driven and instead is partly funded by government (for example as part of efforts to progress CCS at a national level in order to help meet CO<sub>2</sub> emission reduction targets), efforts could be made to partner with the local government or authorities to ensure an even distribution of benefits across the CCS chain. This is in recognition that it is in

both the project's and the government's wider interest to strive to maximise community benefits across the CCS chain and increase local acceptance of CCS projects in order to reduce the risk of project delays or cancellations that could result in communities feeling that they are bearing a disproportionate amount of risk compared to benefits by hosting a project.

**Figure 5.3** *CCS drivers and benefit sharing approaches*



Source: ERM

### 5.3 *FUTURE SCENARIOS – THE DEVELOPMENT OF CCS ‘CLUSTERS’*

A longer-term view of the future of CCS can be helpful when assessing the potential socio-economic benefits that CCS projects can bring. In the future, if increasing numbers of CCS and CCUS projects are developed as a result of stronger carbon pricing regimes coming into play across different jurisdictions, it is possible that CCS hubs or ‘clusters’ could develop. These CCS clusters could result if existing and/or new energy-intensive facilities are strategically sited in close proximity to existing CO<sub>2</sub> transport and storage infrastructure in order to minimise carbon emission costs. In this scenario, economic hubs may develop in and around areas hosting CCS transport and storage infrastructure, and there may be widespread socio-economic benefits to the region that communities hosting storage sites may be able to benefit from.

#### **Box 5.1** *UK Yorkshire and Humber CCS cluster*

In the UK, there are plans to develop a ‘CCS cluster’ in Yorkshire and Humber (northeast UK). Here, CO<sub>2</sub> emissions from heavy emitters in the area would be captured and stored in an offshore saline aquifer. Under a future scenario of increasing CO<sub>2</sub> emission costs, as a result of higher carbon prices, widespread access to CO<sub>2</sub> transport and storage infrastructure in the region could help to ensure the continued operation of existing heavy emitters, whilst attracting new investments in the area. This could bring about significant direct and indirect socio-economic benefits for local communities.

This study has reviewed local community benefit sharing experience and approaches and has considered how such approaches might apply in the context of a CCS development, where risks and negative project impacts to local communities at the CO<sub>2</sub> transport and storage stages could outweigh any potential positive impacts and benefits associated with the development. Following a review of case studies and discussions with project developers and social impact management experts, the following conclusions can be drawn:

- Local community benefit sharing is increasingly recognised as ‘best practice’ with major developments, and it can form an important part of a project’s social impact management plan. Community benefits must remain distinct from agreements to meet all normal legislative and regulatory requirements: although a well-planned and implemented community benefits program has the potential to foster a sense of ‘goodwill’ with local legislators, community benefits are not a ‘short-cut’ to obtain approvals.
- There are some barriers to be overcome. These include:
  - The need to address the imbalance of positive and negative impacts across the CCS chain. There may be a number of ways to ensure benefits are distributed across each stage of the CCS chain but they require careful appraisal.
  - Potential for consultation ‘burn-out’. Communities without experience of major developments may need guidance, specialist support and expertise in order to participate effectively in the community benefit sharing process. Project operators need to ensure that effective communication with the local community is maintained throughout project life.
  - Determining what constitutes the ‘local’ community to receive the benefits to ensure that an overall sense of fairness applies throughout the process.
- International experience across sectors (including the oil and gas sector) highlights a number of local community benefit sharing options associated with: 1) maximising the direct and indirect positive impacts of a project (such as employment, local procurement, and wider economic benefits); and 2) enhancing local benefits through strategic community investment programs.
- In the context of a CCS project (whilst noting that CCS project contexts may differ significantly), benefit sharing needs to be considered particularly at the storage stage. The storage stage of a CCS project frequently harbours the greatest public concerns around perceived health, safety and environmental risk, yet activities at this stage offer no real ‘value proposition’ to local communities in terms of local benefits.
- A number of benefit sharing approaches could be used to increase the attractiveness of a proposed CCS project to communities hosting the storage site. These include revenue sharing (if the project is

commercially driven), ensuring that benefits are shared across the CCS chain (i.e. distributing positive project impacts across capture, transport and storage stages as far as possible), and community investment. For non-commercial, government driven CCS projects, community investment likely to be most applicable.

- Some broad principles for community investment are summarised in Box 6.1 below.

**Box 6.1**

***Principles for a strategic community investment approach***

- A strategic approach to community investment is required if community benefits are to be positive and sustainable.
- Involving multiple stakeholders in the planning and implementation of projects will help to ensure projects are effectively implemented and can be maintained in the long-term.
- A fund Committee or Board comprising the project developer and key community stakeholders can be established to manage the fund. The governance or procedural mechanisms and accountability of the process is essential to ensure that everything is transparent and beyond criticism.
- A set of Principles and Objectives governing the fund should be established to help focus how the fund is managed and spent, and how the success of the funding can be measured over time.
- The choice of funding mechanism (e.g. direct or revenue linked payments) may be influenced by the type of project being implemented, and the community context.
- Decisions on what funds should be spent on should be led by the community.

- The drivers for a CCS project may influence what type of benefit sharing approach is preferable in different CCS contexts. Commercially-driven projects may be able to consider revenue sharing as a benefit sharing option. If projects are not commercially driven but instead are government funded (e.g. with a view to progressing CCS to help meet national GHG reduction targets), there may be options to partner with local government or local authorities when engaging and consulting with local communities and other stakeholders, putting in place benefit sharing mechanisms and/or community investment programs to ensure the equal sharing of benefits across the CCS chain.
- It is important not to lose sight of the fact that benefit sharing is not a 'silver bullet' when it comes to local acceptance of developments, and instead must be incorporated into a robust social impact management process that incorporates targeted stakeholder engagement and consultation, and the management of project impacts.
- Modern trends are towards joint ownership, profit sharing and cooperative agreements in an attempt to achieve heightened levels of community awareness and buy-in to proposed development opportunities.





Download further copies of the report from the CCP website  [WWW.CO2CAPTUREPROJECT.ORG](http://WWW.CO2CAPTUREPROJECT.ORG)



CO<sub>2</sub> Capture Project Phase Three participating organizations