

## **Developing the Public Engagement Strategy for the Guangdong CCUS Demonstration Program**

### **发展公众参与低碳项目的策略**

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## Introduction

The China Resources Power (Haifeng) and China National Offshore Oil Corporation (CNOOC) Integrated Carbon Capture and Sequestration Demonstration Project (CRP Power Project) and the UK-China (Guangdong) CCUS Centre are committed to understanding and implementing carbon capture and storage (CCS) public engagement best practice throughout the lifecycle of the CRP Power Project as well as sharing the experience with the wider CCS community.

This report presents an analysis of work undertaken by the CRP Power Project and the UK-China (Guangdong) CCUS Centre which will help guide the project's future work program. It may also be useful to other CCS project proponents in China who are considering the development of a public engagement strategy.

This undertaking is the first of its kind in China and is an ongoing process. To date, the majority of CCS public engagement project case studies have analysed activity that has taken place in Europe, North America and Australia. An important next step is to reflect on how current best practice may apply in other regional contexts.

The UK-China (Guangdong) CCUS Centre is actively investigating this topic and this report seeks to capture the processes and analysis that have occurred so far.

**Part 1** is a discussion on the role of media in influencing public opinion of CCS and carbon capture utilisation and storage (CCUS) in highly populated areas in China. A workshop was held at the Guangdong CCUS Centre in December 2014 with a range of influential project stakeholders including project developers, members of the Chinese journalism community and local and international public engagement experts and researchers. Stakeholders were asked to share their experiences of public communication for energy infrastructure projects in China, and discuss how journalism, the internet and social media all influence public trust. The first report captures the outcomes and recommendations from this workshop.

**Part 2** reviews the suitability of the Global CCS Institute's Communication and Engagement Toolkit (the Toolkit) for application within the Chinese context drawing on the experiences of the CRP Power Project. The review does not include all Toolkit recommendations as the development of the public engagement strategy is an ongoing and iterative process.

## 前言

华润电力（海丰）电厂和中国海洋石油公司（中海油）一体化碳捕集与封存示范项目（华润电力发电项目）以及中英（广东）CCUS 中心致力于在华润电力发电项目的整个生命周期了解并实施碳捕集与封存（CCS）公众参与最佳实践，同时向更广大的 CCS 社区分享其中的经验。

本报告对华润电力海丰发电项目和中英（广东）CCUS 中心开展的工作进行分析，这将有助于为项目未来工作计划提供指引。这也可能有利于中国范围内的其他 CCS 项目支持者考虑发展公众参与的策略。

这项工作在中国属先例，并且在不断发展中。到目前为止，大多数 CCS 公众参与项目案例研究都是分析的欧洲、北美和澳大利亚的活动。接下来的重要步骤是思考如何把现有的最佳实践应用到其它的区域环境中。

中英（广东）CCUS 中心正在积极研究这一课题，本报告希望能获得到目前为止已进行的步骤和分析。

**第一部分**将讨论媒体在影响中国人口高度密集区域里公众对于 CCS 和碳捕集利用与封存（CCUS）的看法方面起到的作用。2014 年 12 月广东 CCS 中心举办的研讨会吸引了一批具有影响力的项目利益相关者参加，其中包括项目开发商、中国新闻行业成员和当地及国际公众参与专家和研究员。这些利益相关者在会上分享了他们在中国开展能源基础设施项目所积累的公众沟通经验，并讨论了新闻、网络和社交媒体对公信力的影响方式。第一部分总结了这次研讨会的讨论结果及建议。

**第二部分**将通过回顾华润电力海丰发电项目的运用经验来检验全球碳捕集与封存研究院的沟通和参与工具包（工具包）在中国国情下的实用性。基于攻占参与战略的制定是一个持续和反复的过程，该部分内容并不包括所有的工具包建议。

# The role of the media in influencing public opinion of CCS/ CCUS in highly populated areas in China

## Background

Developing large infrastructure projects in an efficient and cost effective manner has been a key driver for Chinese economic growth over the last three decades. In November 2014 the National Development and Reform Commission (NDRC) authorised plans to spend almost \$115 billion on 21 supersized infrastructure projects including new airports and high-speed rail lines<sup>1</sup>. A significant challenge to the actualisation of a number of these proposed energy infrastructure projects has been local opposition, causing delays and cancellations. There has been a noticeable rise in ‘not-in-my-backyard’ (NIMBY) situations and conflicts that have arisen around a specific locality - most often prompted by the local community<sup>2</sup> – a stakeholder group traditionally perceived as less prone to public opposition in China.

One example of public opposition to infrastructure developments was the Yunnan province Nu River Dams power generation project. On 14 March 2003, the China Huadian Corporation signed a Memorandum of Understanding for Exploring Electricity Generation in Yunnan with the Yunnan provincial government to build 13 dams on the Nu River, aimed at providing hydropower of 21 million kilowatts (total installed capacity) and assisting the

development of the local economy. By August of that year, the project was facing concerns over how planned works might affect the river, and the conflicting priorities of project development and river conservation became highly visible at the national level<sup>3</sup>. What transpired was a sustained campaign by scientists, academia, journalists and environmental activists to stop the project, culminating in the central government’s announcement that the project would be suspended.

The China Resources Power (CRP) Haifeng Power Plant project is a key project in China’s 12<sup>th</sup> Five Year Plan. The total planned capacity for the power plant is 4x1000MW+4x1000MW. Phase 1 (Units 1 and 2 - 2x1000MW) has recently been completed and it is planned that Phase 2 (Units 3 and 4 - 2x1000MW) will include a CO<sub>2</sub> capture facility.

In China, all new-build coal-fired power stations, including the CRP Haifeng project, must undergo an Environmental Impact Assessment (EIA) process, which includes four public consultations as well as a public hearing. The Municipal Department of Land and Resources also requires a public consultation process for land usage. The EIA-based public participation process is currently “the only official means available for the public to voice its concerns at the project level”<sup>4</sup>. However, public participation in

<sup>1</sup>[http://www.afr.com/p/national/work\\_space/in\\_china\\_mega\\_infrastructure\\_projects\\_l62GGphlbQTJG6QTAXnVSO](http://www.afr.com/p/national/work_space/in_china_mega_infrastructure_projects_l62GGphlbQTJG6QTAXnVSO)

<sup>2</sup> Sun, Y. (2015). Facilitating generation of local knowledge using a collaborative initiator: A NIMBY case in Guangzhou, China. *Habitat International* 46, 130.

<sup>3</sup> Huang, Y., Ning, Y., Zhang, T., Fei, Y., 2015. Public acceptance of waste incineration power plants in China: Comparative case studies. *Habitat International* 47, 11-19.

<sup>4</sup> Li, T.H.Y, Ng, S.T., & Skitmore, M. (2012). Public participation

infrastructure and construction projects is growing and becoming more influential in decision-making processes.<sup>5</sup> Recognising this, the CRP Power Project, in collaboration with the UK-China (Guangdong) CCUS Centre has committed to a public engagement process that extends beyond the formal EIA requirements. The project acknowledges the need for a deeper engagement with the public to ensure that the communities and key stakeholders surrounding the project have the opportunity to understand the project's objectives, reducing the risk of public opposition to the CCUS component of the project due to misunderstanding or misperception.

### **The Guangdong CCUS Demonstration Programme**

Early CCS projects have documented significant gains in the timely development of CCS public engagement best practices.<sup>6</sup> As a result, the UK-China (Guangdong) CCUS Centre has placed a great deal of importance on including a public engagement strategy as a core part of its development plan. To facilitate the creation of this strategy the Centre is working with leading Chinese science journalist, Ms Yamin Lin from Nanfang Media Group, to help communicate and engage with the broader community in the Guangdong province. Important elements of this work include thinking about the role of different stakeholders and how CCS public engagement best practice can be applied to Chinese CCS projects.

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in infrastructure and construction projects in China: From an EIA-based to a whole-cycle process. *Habitat International*, 36. 47.

<sup>5</sup> Li, T.H.Y, Ng, S.T., & Skitmore, M. (2012). Public participation in infrastructure and construction projects in China: From an EIA-based to a whole-cycle process. *Habitat International*, 36. 47.

<sup>6</sup> Global CCS Institute 2013, *The Global Status of CCS: 2013*, Melbourne, Australia, 138.

The UK-China (Guangdong) CCUS Centre was established with support from the NDRC, the Guangdong Development and Reform Commission, the UK Foreign and Commonwealth Office, the UK Department of Energy and Climate Change and the Scottish Government. The Centre is a non-profit organisation, which aims to boost industrial development and academic cooperation in CCUS, and other near zero emission technologies to mitigate greenhouse gas emissions to combat climate change.

The CRP Haifeng Power Plant is located in Xiaomo Town (population 13,000) in the Haifeng County (population 746,000). Xiaomo Town is located on the west end of Shanwei City, on the east coast of the Guangdong province. The town covers an area of 34.45 km<sup>2</sup> including 17 villages. Of the 13,000 population, 49.6% are farmers and 26.9% are fishermen. The town also accommodates approximately 1,000 Hong Kong, Taiwan, Macau and overseas Chinese people.

As the largest company in Haifeng, CRP has established and maintained close links with the local public in Xiaomo Town. For example, CRP have helped improve roads, donated stationery for local schools and helped improve local school facilities, as well as set up financial grants to support the tertiary study of local children.

### **Developing the Public Engagement Strategy for the CRP Power Project**

There is already an impressive body of international research into public understanding and acceptance of CCS technology. The research highlights that the more highly populated a community is, the more challenging it will be to facilitate understanding and acceptance of new infrastructure and technology – making it increasingly important to conduct the

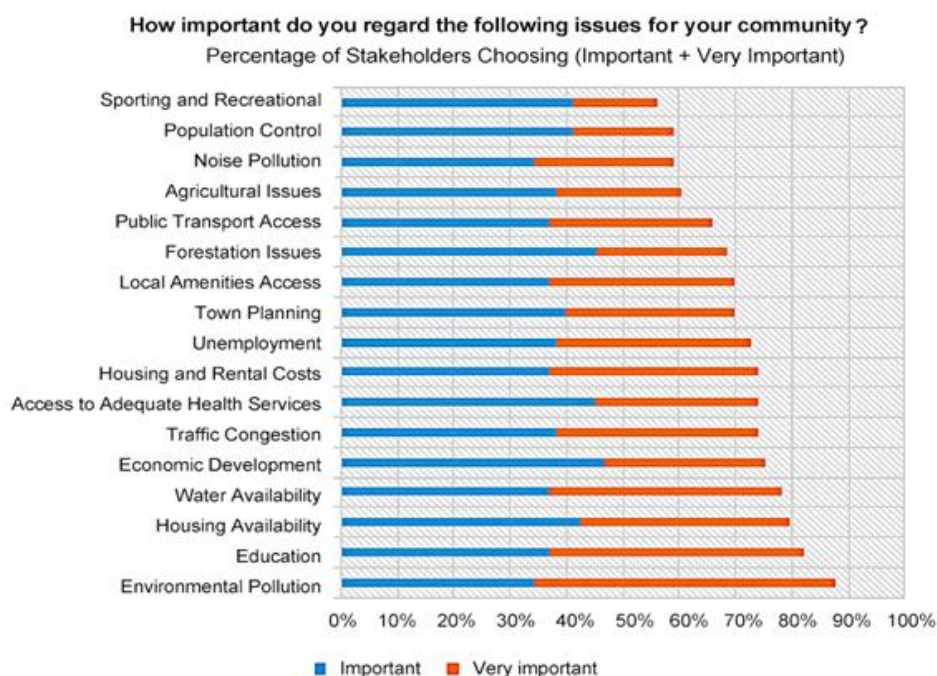
appropriate due diligence around stakeholder identification and understanding the needs and concerns of impacted communities at the earliest stages of project planning.<sup>7</sup>

To date, the majority of CCS project case studies review engagement practices that have been undertaken in low to moderately populated farming or industrial areas. Thus the emerging collection of Chinese CCS projects in highly populated residential areas is proving to be an important area for international collaborative research around public understanding and acceptance of projects.<sup>8</sup> To ascertain current understanding and attitudes towards CCUS across the Guangdong province the UK-China (Guangdong) CCUS Centre and partners undertook a study to identify public opinions.

## Key Findings of the Baseline Survey

Using the Global CCS Institute's *Communication and Engagement Toolkit*<sup>9</sup> the baseline questionnaire was revised to fit the Guangdong and CRP Power Project context. Focusing on the environment, climate change and energy technologies, including CCUS, the questionnaire was completed by 2,410 participants in August 2014. Of the total, 5.5% of participants were from the Haifeng County, Shanwei; 6.9% were from other areas of Shanwei; 1.4% from Huizhou; while 71.3% were from other cities in Guangdong and 15% came from other provinces.

**Figure 1** Ranking of priority issues



<sup>7</sup> Bradbury, J., Ray, I., Peterson, T., Wade, S., Wong-Parodi, G. and Feldpausch, A. (2009). The Role of Social Factors in Shaping Public Perceptions of CCS: Results of Multi-State Focus Group Interviews in the U.S. *Energy Procedia*, 1(1), 4665-4672

<sup>8</sup> Global CCS Institute 2014, *The Global Status of CCS: 2014*, Melbourne, Australia, 146.

<sup>9</sup> <http://www.globalccsinstitute.com/publications/communication-and-engagement-toolkit-ccs-projects>

When asked to rate the priority issues for local community, more than 87% of public stakeholders ranked environment as either important or very important. (Figure 1). This was followed by water pollution (82%), housing availability (79%), water availability (78%) and economic development (75%). In regard to the perceived reliability of information sources, academic papers, newspapers and books were selected as the three most trusted sources. The internet and social media were selected as the least trusted sources.

When asked if they had heard of CCUS 34.3% responded positively, meaning that two thirds of respondents had never heard of CCUS before. In contrast, research from Ashworth and colleagues shows that people from developed countries have higher awareness, with 84% in the Netherlands, 77% in Australia, 61% in Canada and 36% in Scotland aware of CCS technology.<sup>10</sup> When asked if they would support the concept of a CCUS project 58.9% said they would support such a project with 10.9% showing strong support. Additionally more than 50% said they would be interested in attending a workshop to learn more about CCUS.

The results suggest that there are opportunities for journalists, academics, other experts, and enterprises to engage with the public through education activities that encourages greater understanding of the role that CCUS might play in China's future energy supply.

## **The role of media in CCS public communication in China**

The Global CCS Institute and the British Consulate General to Guangzhou (BCG), supported a media communication workshop that was hosted by the UK-China (Guangdong) CCUS Centre, School of Journalism and Communication, Jinan University and Nanfang Media Research Institute in Guangzhou, China on the 11th December, 2014.

The purpose of the workshop was threefold. First, to bring together a range of key stakeholders with an interest in CCUS including project developers, members of the Chinese journalism community and local and international public engagement experts and researchers, to share their experiences and lessons of public communication for energy infrastructure projects in China. Secondly, to better understand the increasing importance of the public in terms of shaping government policy and shortlisting projects in China, and finally to identify the best methods for communicating with the Chinese public on CO2 emission reductions and CCUS technologies, with a particular focus on the media. A number of presentations were provided on the topic, followed by a facilitated discussion between presenters and participants. Throughout the presentations and following discussions three main issues were raised that are useful to explore to better understand the role of media with regard to CCS projects in China.

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<sup>10</sup> Ashworth, P. et al., 2013. Public Preferences to CCS: How does it Change Across Countries? *Energy Procedia*, 37, pp.7410–7418. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1876610213009260>.

*Journalism is playing a more important role for CCUS. The media needs to be engaged in all natural and environmental projects, which create a storm of media coverage because when we talk about a certain large scale project with potential environmental impact, public perception and opinion will be of great influence for the project and government.*

Prof Yijin FAN

Dean of the School of Journalism and Communication

Jinan University

### **The role of the Internet and social media in China**

It was recognised that in recent years, an increasing number of large infrastructure projects have been delayed, postponed or canceled due to negative public opinion in China. There was a general consensus amongst workshop participants that communicating with project stakeholders (including local communities) is critical, and that the media have a strong influence on the opinions of this wider 'public' group.

For many years print media had been almost the sole information source for many Chinese people. However, with the advent of more open access to the Internet in China, Wikipedia and Baidupedia were

thought to be having an increasing role in informing the public about new projects. Although this was seen as an important and helpful development, participants still recognised the importance of newspapers and website content developers to work in collaboration rather than opposition so as not to confuse people. For example, internet searches for technologies that are new or perceived as risky can lead to misinformation, resulting in a negative impact on overall attitudes and opinions about a technology, particularly if the technology is not well understood. One participant felt that it was essential that there was some coordination between newspapers and other forms of new media on the Internet so as not to confuse the public.

*Wikipedia and Baidupedia become the general source of knowledge for the public. Therefore, we should provide detailed information on these websites to popularise the technology and avoid the spreading of false information.*

Teacher, Jinan University

This sharp rise in the number of Wikipedia and Baidupedia users across China was also acknowledged by one leading Chinese academic who felt that the onset of the Internet in China was producing a number of ever changing opinion leaders

through bottom-up empowerment. Such a situation can make it difficult for government and industry to be fully across what the public is saying and their opinions.

*Social media has become an important portal for people to exchange their opinions; it is a bottom-up channel for changing opinions. Because of the popularisation of smart phones, nearly 700 million people in China express their opinions freely on the Internet. And these “Netizens” are especially active when their interests are closely related to a public event.*

Workshop Participant, China

During the workshop there was much discussion around how much the government would allow ‘heroes’ to emerge through Internet use. Regardless, it was noted that the public has much greater choice in the way they acquire information. One Chinese academic posited that most Chinese citizens now get their news through SMS rather than the conventional

services. Regardless of where they prefer to access their information, the role of face-to-face communication and hands on experiences were still seen as important methods for educating the public about CCUS and building trust in a project.

*The public has been transformed from a passive to positive mode in terms of searching for and acquiring information. It is difficult to find an answer as to which is the most reliable source of information.*

Workshop Participant, China

## Information Transparency

Transparency was identified as an important concept for gaining public confidence and trust in new technologies. As in other countries, it was recognised that there was a need to inform the public about all the factors (both positive and negative) that may influence their attitudes towards CCUS. These included outlining any potential damage from CO<sub>2</sub> leakage and negative impacts of construction, but also the benefits associated with CCUS technology. Experts and citizens with personal standing were also seen as important conduits of information for the public. It was recognised that the level of impact on personal interests would determine the degree of public pressure that arose towards a project.

## Building Trust

The CRP Power Project representative was clear on the need for trust to exist between project developers, the public, and the Government. He suggested that a positive relationship between the three stakeholder groups was not only vitally important to guarantee the smooth implementation of major infrastructure projects but would also engender community trust in the project. However, there were some concerns that when residents became interested in a project, they would actively seek large sums of money by way of compensation to induce them to sign the documents required to demonstrate public approval of the project.

Another social research expert noted that there is currently a low level of public involvement and engagement in the execution of certain projects.

However, their research suggests that many of the Chinese people consider that their participation in projects will not make a big difference, because they feel the government and industry have strong pre-existing relationships which prioritise industries'

needs over the publics' needs. As such, it was suggested that it was important to establish ways that the public could be proactively brought into such relationships to open them up to a three-way public-government-industry initiative.

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*The different interests of business, government and the public need to be coordinated. In some projects like paraxylene projects, real estate developers will do all sorts of things to advance their own interests.*

Workshop Participant, China

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A leading communications researcher suggested that there were three important variables that affect the public's trust in projects:

1. Interest, including benefits and compensation, and the perceived fairness associated with these elements;
2. Community participation and the evidence of the impact of participation;
3. Regulation from the government.

The researcher outlined the results of a comparative study on attitudes towards mining in China<sup>11</sup> that had been carried out on these variables, where it was found that a profit-sharing arrangement is the most important factor in China for gaining support for a project. This was in contrast with other countries where all three factors appeared to have some influence.

Finally, the role of a third party advocate to communicate about a project was also suggested as a useful way of building trust. However, identifying who that third party person might cause some debate. Some workshop participants suggested that the public ultimately look to the Government for information in the absence of any other credible source of information besides their friends and family.

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<sup>11</sup> Zhang, A., Moffat, K., Boughen, N., Wang, J., Cui, L., & Dai, Y. Chinese attitudes toward mining: Citizen survey – 2014 Results. CSIRO, Australia. EP 151270.

## Concluding Remarks

Public support or opposition for new infrastructure projects in China is becoming an increasingly influential factor on whether or not projects are built. This is recognised by the CRP Power Project and the UK-China (Guangdong) CCUS Centre who are actively exploring how CCS public engagement best practice applies in the local context. To date there has been a strong emphasis on understanding who the stakeholders are and what their needs and issues may be. There was general consensus at the workshop that a public communication strategy will be critical to the ongoing development of CCUS demonstration in China.

To do this successfully any strategy will need to build on existing models, including those utilised by other international CCS projects as well as other sectors. Critical considerations include:

1. Addressing the needs and interests of key stakeholders (those impacted by, and/ or with influence on a project)
2. Finding appropriate communication tools in addition to print media, which may include online avenues and more proactive use of social media.
3. Ensuring that project proponents, including government and industry, act in a transparent manner that includes providing accessible and factual information.
4. Exerting additional efforts and creating awareness raising/ educational opportunities, in order to build positive relationships and trust between stakeholders and project developers.
5. Identifying key communication messages which should be consistent across all parties involved in a project. Messages may include:
  - a. Project goals
  - b. Addressing misconceptions associated with CO<sub>2</sub>
  - c. The role that CCUS technologies can play in addressing climate change
  - d. Economic and social benefits associated with the project.

The following section, Part 2 reflects on how the Global CCS Institute's Communication and Engagement Toolkit can be adapted to support the development of a CCUS public engagement strategy for the CRP Power Project in Guangdong.

# 媒体在影响中国人口高度密集地区的公众对于 CCS/CCUS 的看法方面的作用

## 背景

以高效和具有成本效益的方式发展大型能源基础设施项目成为过去三十年来中国经济增长的一大关键驱动因素。2014 年 11 月，国家发展和改革委员会（国家发改委）批准了耗资 1150 亿人民币的 21 个超大型基础设施项目，包括新建机场和高铁线路。<sup>12</sup>。实施这些计划的能源基础设施项目面临的一项重大挑战是由于当地居民的反对而引起的项目延迟或取消。“不要建在我家后院”（邻避效应）的情况明显增多，冲突一般发生在特定的地点——通常由当地社区提出<sup>13</sup>——中国传统来说认为这一利益团体比较不会倾向于公开反对。

公众反对开发基础设施的一个案例是云南省怒江大坝发电项目。2003 年 3 月 14 日，中国华电集团与云南省政府签订发展云南省发电能力的谅解备忘录，计划在怒江建造 13 座大坝，利用水力发电提供 2100 万千瓦时（总装机容量）电量，带动当地经济发展。到 2003 年 8 月，该项目就面临计划工作可能会影响怒江水文环境的质疑，项目发展和河流保护之间的优先级冲突在国家层面变得十分透明。<sup>14</sup>。接下来还发生了科学家、学者、新闻记者和环保积极分子的持续反对活动，最后以温家宝总理宣布将暂停该项目而告终。

华润电力（CRP）海丰电厂项目是中国十二五计划中的关键项目之一。该电厂的总规划容量为 8x1000 兆瓦。第一阶段（1、2 号机组-2x1000 兆瓦）日前已完成，第二阶段（3、4 号机组-2x1000 兆瓦）计划将建造一个碳捕集装置设施。

在中国，包括华润电力海丰电厂在内的所有新建燃煤电厂都必须进行环境影响评估（EIA），包括四次公众咨询和一场公开听证会。市政国土资源部也需要对土地的使用进行公开咨询。基于环境影响评估的公众参与过程是目前“公众表达他们对项目担忧的唯一可用的正式途径”<sup>4</sup>。但是，公众参与到基础设施和建设项目中来对于决策过程的所产生的影响正在不断增长<sup>15</sup>。鉴于此，华润电力海丰发电项目与中英（广东）CCUS 中心合作开展环境影响评估规定之外的非正式公众参与活动。该项目表明公众需要更深入的参与来确保项目涉及到的团体和关键利益相关者有机会了解该项目的目标，降低因误解或错误认知造成的公众反对项目中 CCUS 部分的风险。

## 广东 CCUS 示范项目

早期的 CCS 项目及时开发 CCS 公众参与的最佳实践被证明将有重大收获<sup>16</sup>。因此，中英（广东）CCUS 中心非常重视将公众参与战略作为其发展计划的核心部分。为促进这一战略的制定，中心正与中国领先的科技记者、南方传媒集团的林亚茗女士合作，帮助与广东省更广大的社区的沟通和衔接。

<sup>12</sup> [http://www.afr.com/p/national/work\\_space/in\\_china\\_mega\\_infra\\_structure\\_projects\\_l62GGphlbQTJG6QTAXnVSO](http://www.afr.com/p/national/work_space/in_china_mega_infra_structure_projects_l62GGphlbQTJG6QTAXnVSO)

<sup>13</sup> Sun, Y. (2015). Facilitating generation of local knowledge using a collaborative initiator: A NIMBY case in Guangzhou, China. *Habitat International* 46, 130.

<sup>14</sup> Huang, Y., Ning, Y., Zhang, T., Fei, Y., 2015. Public acceptance of waste incineration power plants in China: Comparative case studies. *Habitat International* 47, 11-19.

<sup>15</sup> Li, T.H.Y, Ng, S.T., & Skitmore, M. (2012). Public participation in infrastructure and construction projects in China: From an EIA-based to a whole-cycle process. *Habitat International*, 36, 47.

<sup>16</sup> Global CCS Institute 2013, The Global Status of CCS: 2013, Melbourne, Australia, 138.

这项工作的重要内容包括思考不同利益相关者的作用以及如何应用CCS公众参与最佳实践到中国的CCS项目中。

中英（广东）CCUS中心在国家发展和改革委员会、广东省发展和改革委员会、英国外交和联邦事务部、英国能源与气候变化部以及苏格兰政府的支持下成立。该中心是一个非营利组织，旨在促进CCUS和其他近零排放技术的工业发展和学术合作，以减少温室气体排放，对抗气候变化。

华润电力海丰电厂位于海丰县（人口74.6万）小漠镇（人口1.3万）。小漠镇位于汕尾市西部，坐落在广东省的东海岸上。这个小镇占地面积34.45平方公里，包括17个村庄。1.3万人口中，49.6%是农民，26.9%是渔民。镇上还有大约1000名来自香港、台湾、澳门地区的华人和海外侨胞。

作为海丰县最大的企业，华润电力与小漠镇当地居民建立并保持着密切的连系。例如，华润电力帮助修缮镇上的公路，为当地学校捐赠文具并帮助改善当地学校设施，以及设立奖学金支持当地孩子的高等教育学习。

## 为华润电力项目制定公众参与战略

在公众对CCS技术的理解和接受方面，已有一个引人瞩目的国际机构进行了研究。该研究强调，越是人口高度密集的社区，帮助他们理解和接受新的基础设施和技术就越具有挑战性，在项目规划的最初期阶段围绕利益相关者的认定以及理解人口密集社区的需求和关注点开展适当的尽职调查越来越重要<sup>17</sup>。

迄今为止，大多数CCS项目案例研究评估的都是在人口较少或中等密集的农业或工业地区开展。

因此，中国新兴的在高度密集的居民区进行的CCS项目被证明是围绕公众对项目的理解和接受度进行国际合作研究的一个重要领域<sup>18</sup>。为确定整个广东省目前对CCUS的理解和态度，中英（广东）CCUS中心和合作伙伴进行了一项研究来确定基线公众观点。

## 基线调查的主要结果

该调查问卷的题目设置参考了全球碳捕集与封存研究院提供的“沟通与参与工具箱”<sup>19</sup>，并根据广东省具体情况对问卷模板做出了修改。这项调查关注环境、气候变化和能源技术（以CCUS为重点调查目标）方面，于2014年8月开展实施，受访者共计2410人，其中5.5%的受访者来自汕尾市海丰县；6.9%来自汕尾市其他地区；1.4%来自惠州；71.3%来自广东省其他城市；还有15%来自其他省份。

当被问到把当地社区的重点问题进行排名划分时，超过87%的公共利益相关者把环境划分为重要或非常重要。

对水污染、住房问题、饮用水供应以及经济发展作出相同标注的人数比例分别为82%，79%，78%和75%。关于信息来源的信任度问题，利益相关者认为学术文章，报纸和书籍是三大最值得信赖的信息来源。“网络和社交媒体”被选为最不值得信赖的一项。

当被问及是否听说过CCUS技术时，34.3%受访者给出了肯定的回答，而这也意味着有三分之二的受访者从未听说过CCUS技术。相比之下，发达国家民众对该项技术的认知程度更高。Ashworth教授和她的同事的研究显示，了解过CCUS技术的受众在加拿大，荷兰，澳大利亚和苏格兰的比例分别为

<sup>17</sup> Bradbury, J., Ray, I., Peterson, T., Wade, S., Wong-Parodi, G. and Feldpausch, A. (2009). The Role of Social Factors in Shaping Public Perceptions of CCS: Results of Multi-State Focus Group Interviews in the U.S. Energy Procedia, 1(1), 4665-4672

<sup>18</sup> Global CCS Institute 2014, *The Global Status of CCS: 2014*, Melbourne, Australia, 146.

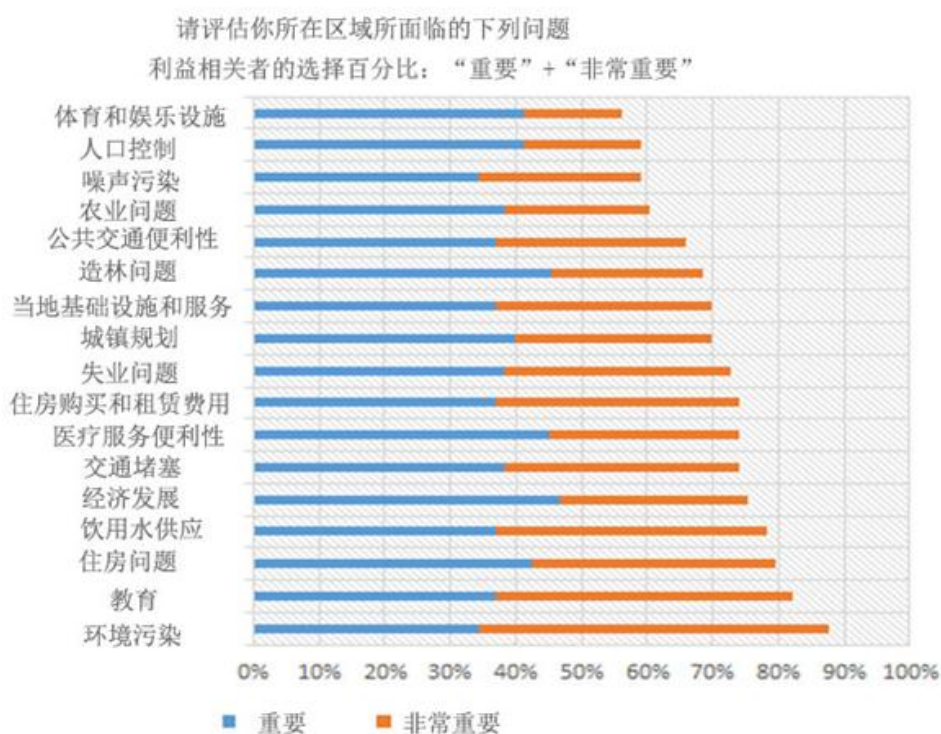
<sup>19</sup> <http://www.globalccsinstitute.com/publications/communication-and-engagement-toolkit-ccs-projects>

61%，84%，77%，36%<sup>20</sup>。当被问到是否支持CCUS项目的概念时，58.9%的受访者称他们将支持这样的项目，其中10.9%表示强烈支持。还有50%的受访者称他们有兴趣参加CCUS研讨会了解更多信息。

调查结果显示新闻记者、学者、其他专家以及企业有机会通过教育活动与公众建立良好关系，鼓励他们更深入地了解 CCUS 可能在中国未来的能源供应中起到的作用。

图 1

把重要问题进行排名划分



## 媒体在中国 CCS 公众沟通中的作用

2014年12月11日，在全球碳捕集与封存研究院和英国驻广州总领事馆（BCG）的支持下，中英（广东）CCUS中心、暨南大学新闻与传播学院和南方舆情研究院在广州共同举办了媒体沟通研讨会。

这次研讨会的目的有三个。首先，将对CCUS感兴趣的一系列关键利益相关者聚集起来，包括项

目开发商、中国新闻传媒团体成员和当地及国际公众参与专家和研究人员，分享他们在中国开发能源基础设施项目的公众沟通经验和教训。其次，为了更好地理解公众在影响中国政府制定政策和挑选项目中越来越重要的地位，并最终确定与中国公众、特别是媒体进行二氧化碳减排和CCUS技术沟通的最好方法。会上针对这一议题进行了一系列主题演讲，紧随其后的是演讲者和参会者之间的讨论。在整个演讲及后续讨论中提出了三个主要问题，有利于更好地了解媒体在中国CCS项目中起到的作用。

<sup>20</sup> Ashworth, P. et al., 2013. Public Preferences to CCS: How does it Change Across Countries? Energy Procedia, 37, pp.7410–7418. Available at: <http://linkinghub.elsevier.com/retrieve/pii/S1876610213009260>.

新闻传媒对于 CCUS 越来越重要。媒体需要参与所有的自然和环境项目，引发媒体报道风潮，因为当我们谈论某大型项目的潜在环境影响时，公众看法和意见会对项目 and 政府产生很大的影响。

范以锦教授  
暨南大学新闻与传播学院院长

## 网络和社交媒体的作用

近年来，中国越来越多的大型基建项目因为负面的公众舆论而被延迟或取消。研讨会参与者有一个共识，即与项目利益相关者（包括当地社区）的沟通十分关键，媒体对这个更广大的“公众”团体的观点有着强大的影响力。

纸媒曾在很多年时间内几乎是许多中国人的唯一信息来源。但随着在中国访问互联网更加开放，维基百科和百度百科被认为是越来越多中国人获取新项目信息的渠道。虽然这被视为是一项重要级有

利的发展，但参会者仍意识到报纸和网站内容开发者合作而不是对立的重要性，这样才能不让公众感到困惑。例如，网络上对于新的或被认为有风险的技术的搜索可能导致误解，以至于对关于某种技术的整体态度和看法产生负面影响，尤其是那些未被充分了解的技术。一位专家认为，报纸和其他形式媒体有必要在网络上进行一些合作，以避免误导大众。

公众一般倾向于从维基百科和百度百科中获取信息，因此我们应在这些网站上提供详尽的信息来普及这些技术知识，避免错误信息的传播。

暨南大学某教师

一名中国领先学者也承认中国维基百科和百度百科用户激增，他认为中国互联网的出现通过自下

而上的赋权不断产生新的意见领袖。这种情况下，政府和行业很难完全地掌控公众的话语和观点。

社交媒体已经成为人们交换意见的重要门户；这是一个自下而上改变意见的渠道。由于智能手机的普及，在中国有近 7 亿人在互联网上自由表达他们的观点。而当这些“网民”的利益与某个公共事件密切相关时，他们尤其活跃。

中国领先专家

在研讨会上，有很多讨论都围绕着政府以何种程度允许互联网“英雄”的出现。无论如何，要注意的是，公众在他们获取信息的方式上有更广泛的选择。一位中国学者提出，现在大多数中国公民通

过短信而不是传统服务来获得消息。不管他们喜欢以什么渠道获取信息，面对面的交流和动手实践经验仍被视为教育公众 CCUS 知识以及在一个项目中建立信任关系的重要方法。

公众搜索和获取信息的模式已经从被动变主动。很难回答出哪里是最可靠的信息来源。

中国领先专家

## 信息的透明度

透明度被认为是新技术获得公众信心和信任的一个重要概念。在其他国家，都认为有必要告知公众所有可能会影响他们看待 CCUS 的态度的因素（包括正面和负面的）。其中包括列出任何二氧化碳泄漏的潜在危害和建设的负面影响，以及 CCUS 技术能带来的效益。拥有个人立场的专家和公民也被视为重要的公众信息来源。我们意识到，对个人利益的影响程度将决定一个项目面临的公众压力大小。

## 建立信任

华润电力发电项目的支持者明确项目开发商、公众和政府之间需要存在信任。他建议三个利益相关者团体之间的积极关系不仅是重大基础设施项目

的顺利实施的极其重要的保证，也能促进社会对该项目的信任。然而，有些人担心当居民对一个项目感兴趣，他们会积极通过以签署显示公众支持该项目所需的文件索取补偿的方式获得大笔资金。

另一位研究专家指出，目前某些项目在实施过程中公共参与水平很低。但是，他们的研究表明，许多中国人认为他们参与项目不会产生很大的影响，因为他们觉得政府和行业有很强的预存在的关系，政府会优先考虑行业需要而不是公众需求。因此，该专家认为制定公众可以主动进入这种关系、以形成公众-政府-行业三方参与的新关系的方法很重要。

商业、政府和公众的不同利益需要进行协调。在对二甲苯项目等某些项目中，房地产开发商会做各种各样的事情来促进他们自身的利益。

中国领先专家

一位著名沟通研究学者提出，以下三个变量将影响公众对项目的信任：

1. 利益，包括福利和补偿，以及在這些元素上感知到的公平；
2. 社区参与和参与产生影响的证据；
3. 政府监管。

研究者提出了围绕这些变量进行的中国公众对于采矿的态度的比较研究<sup>21</sup>的结果，发现利益分配安排是在中国获得对此类项目支持的最重要因素。

这与其它国家形成对比，在其它国家所有三个因素似乎都有一些影响。

最后，第三方角色参与进来推动项目沟通也被认为是建立信任的一种有效方式。然而，第三方的入选问题可能会引起一些争议。一些研讨会参与者建议，公众在除朋友和家人外没有任何其他可靠的信息来源的情况下，最终可从政府获取信息。

在面对具体问题时，公众仍然更愿意相信政府。

中国领先专家

<sup>21</sup> Zhang, A., Moffat, K., Boughen, N., Wang, J., Cui, L., & Dai, Y. Chinese attitudes toward mining: Citizen survey – 2014 Results. CSIRO, Australia. EP 151270.

## 结论

在中国发展新的基础设施项目，公众的支持或反对成为项目是否能建成越来越有影响力的因素。华润电力发电项目和中英（广东）CCUS中心都认可这一点，并积极探索如何将CCS公众参与最佳实践应用于当地的情况。到目前为止，已经特别强调了解利益相关者是谁，以及他们可能提出的需求和问题。研讨会上一致认为，公共沟通策略将是继续在中国示范CCUS技术的关键。

要成功地做到这一点，任何战略都将要依据现有的模型制定，包括那些其他国际CCS项目以及其他行业所用的。关键注意事项包括：

1. 解决关键利益相关者（那些对项目产生影响以及/或受到项目影响的人）的需求和利益；
2. 除了纸媒外找到合适的沟通工具，其中可能包括在线渠道以及为了某些利益相关者群体更积极的使用社交媒体；
3. 确保包括政府和行业在内的项目支持者行为公开透明，包括提供易懂的、真实的信息；
4. 做出额外的工作，创造提高意识/教育机会，以建立利益相关者和项目开发人员之间的良好关系和信任；
5. 找出关键的沟通信息，并且项目各参与方应该就这些信息保持一致。这些信息可能包括：
  - a. 项目目标
  - b. 解决对于二氧化碳的误解问题
  - c. CCUS技术在解决气候变化问题中的作用
  - d. 项目将产生的经济和社会效益。

以下第二部分的内容将回顾怎样调整全球碳捕集与封存研究院的沟通和参与工具包以让其支持广东CCUS公众沟通战略的发展。

# Application of the Global CCS Institute's Communication and Engagement Toolkit in the Chinese Context

## Background

This section examines the Global CCS Institute's Communication and Engagement Toolkit (the Toolkit) and its suitability for application within the Chinese context, making specific reference to the CRP Power Project. Drawing on the experiences of the CRP Power Project, recommendations have been made throughout this section that may assist the development of future public engagement strategies for CCS projects in China. The discussion does not include all elements of the Toolkit as the development of CRP Power Project public engagement strategy is an ongoing process.

The Toolkit was designed as a universal guide for CCS projects developers and is a practical tool for designing communication and outreach activities associated with a CCS project. It is worth noting that

as the China Resources Power (CRP) Haifeng is in the early stages of planning and investigating the potential for CCUS, some of the activities (see Table 1) proposed in the Toolkit, although suitable for the project, have not been applied yet the comments relating to these activities are based on the authors opinions rather than evidence from the field.

A key goal of the Centre is to promote public engagement best practice and to involve the local community in the project, hence the Toolkit has been a helpful tool for informing the early communication and engagement considerations of the project.

**Table 1**

**Communication and Engagement Toolkit: list of suggested activities required to develop a CCS project communication and engagement strategy.**

Suggested activities	Undertaken
Gathering social data	√
Baseline survey	√
Forming an independent steering committee	√
Citizen task force/advisory board	
Community liaison officer	
Stakeholder identification	√
SWOT analysis	
Establishing a communication and engagement plan	
Education	√

## Gathering social data

The aim of gathering social data is to learn and understand the consequences of a proposed CCS project on the population and local community. Examples of social data categories include; demographics, political trends, job growth and unemployment, local experience with industry, history between community and developers/regulators, local advocacy groups as well as authority structures. Gathering social data helps the project developers to learn and understand about potential consequences of the proposed CCS project on the local population and wider community.

During the early development of the CRP Power Project, the National Government and the Guangdong Provincial Government provided substantial input into the power station location, taking into consideration opportunities such as employment and economic growth that the project would bring to Xiaomo.

To date the CRP Power Project has not gathered social data as input into the public engagement strategy. Information on the social data categories identified in the Toolkit are not readily available to project developers in China. This is partly due to the way national, regional and local governments interact with one another which is different to much of the existing documented public engagement literature. However, the proactive approach of the CRP Power Project Management Team has meant they have engaged with a number of key representatives from the local area to develop an intricate knowledge of the social context and local community. The proposed stakeholder groups identified in the Toolkit act as a good foundation for developing a social data collection plan for the CRP Power Project. However, may be worthwhile to amend some of the social data categories that will be investigated. This will align the

Toolkit more closely with Chinese governance approaches. For example in China, hierarchies of stakeholder influence may differ from authority structures that exist in other communities.

## Baseline survey

Baseline surveys collect information from individuals within the local community regarding knowledge, opinions and attitudes towards climate change, CCS and other energy technologies. The survey acts as an accompaniment to the social data collection process and provides insight into the opinions of the community and potential issues in relation to the CCS project.

As mentioned in Part 1, the CRP Power Project undertook an internet baseline survey around the Guangdong province. The skeleton questionnaire from the Toolkit provided the basis of the questionnaire. CCS is not a well-known technology in China, therefore, Nanfang media released a number of opinion pieces prior to the implementation of the survey. These were helpful in building knowledge and awareness of CCS in the lead up to the activity.

The survey provided some interesting information about public attitudes, however on reflection it may have been useful to include one or two open-ended questions to gather more detailed information in the local participants' language. Open ended questions allow survey participants the opportunity to raise issues and concerns that may be relevant to the exercise but haven't been covered in the questionnaire. This would have engendered a result that was more complete in assessing views and opinions of the public.

### Recommendation:

Drawing on the experiences of the CRP Power Project these six recommendations may assist the development of future public engagement strategies for CCS projects in China.

**R1.** When developing a baseline survey, take the opportunity to include open-ended questions as well as those which focus on the specific local communities involved with the project.

**R2.** Consider the development of a database that provides examples of pre-existing survey measures (e.g. survey questions). Such a database can be useful for other CCS projects.

**R3.** Ensure that materials developed for the baseline survey are easily accessible by members of the CCS community. These materials may include media clippings, blog posts, survey questionnaires and analysis. Share the articles developed on CCS by Nanfang Media for future reference.

- Communications expert
- Environmental non-government organisation representative
- Community Liaison Officer (see below)

This Toolkit activity has been implemented to a certain degree. The UK-China (Guangdong) CCUS Centre has formally engaged a range of international experts to act as independent advisers to the project. Of these advisers there are some that have expertise in communications/engagement and are representatives from leading Chinese and international media, industry and academia sectors.

Almost all of the Toolkit's recommended representatives have been included in the CRP Power Project's advisory group, however, the Community Liaison Officer post may be required to be somewhat different based on established practices in China (discussed in more detail below). It is worth noting that because this is an international panel it requires a number of resources to coordinate and bring the group together. This has proven challenging as it is early in the project lifecycle and funds are limited for operational activities. Despite the CRP Power Project recognising community engagement as a priority, as is the development of the public engagement strategy there are practical and financial reasons why the Project has chosen to take a slow, phased approach.

### Forming an Independent Steering Committee Group (ISCG)

Trust has been identified as a critical component for any CCS project to be accepted by a community. However it is not always easy to build trust if a project proponent is seen to have a vested interest in the project. One way to assist and overcome the issue of building trust is to establish an ISCG early in the life of the project which can be used to oversee the communications of the overall project plan. The Toolkit recommends including the following representatives:

- Independent Chair
- Project representative
- Technical experts
- Government representative

### Citizen Task Force

The goal of a Citizen Task Force is to increase awareness and understanding of a proposed CCS project and to facilitate ongoing communication and effective working relationships between project staff and the community.

There has been a series of engagement activities with key local leaders in Xiaomo. However, no specific

citizen task force has been recruited for this project and formalising such a group is not a priority for the CRP Power Project or the UK-China (Guangdong) CCUS Centre. However, it could possibly become more important as the project progresses as a way of liaising more proactively with the community.

### **Recommendation:**

**R4.** Establishing a Citizen Task Force may not yet be an effective public engagement mechanism in China due to the traditional roles local communities have had in the development of infrastructure.

However it has been noted throughout this report that the importance of engaging with local communities is increasingly recognised as an important part of the development of Chinese infrastructure projects. Therefore, the relevance of this Toolkit activity to CCS projects in China will need to be monitored and updated.

## **Establishing a Community Liaison Officer (CLO)**

A CLO provides a link between the local community and project developers. The ideal CLO has a solid understanding of the specific project, can answer technical questions in an accessible manner and communicates effectively across stakeholder groups. Ideally a CLO is a well-respected member of the community<sup>22</sup> (for example a teacher). The Toolkit advises that a CLO takes on the following responsibilities:

- Fostering an environment that supports community involvement and ownership.

- Providing community members with opportunities to express their concerns and raise issues with experts.
- Establishing and maintaining an effective relationship between the local community and the project developers.
- Building community spirit around the project.

The CRP Power Project and UK-China (Guangdong) CCUS Centre have established a strong relationship with the Mayor of Xiaomo who has an excellent understanding of the local community and has the skills required for building respectful relationships with community members. He has been helpful in advising key stakeholders and willingly engages with ISCG representatives when they visit the town or power station. There may be merit in considering an alternative representative who does not hold a formal position in the town and has a different relationship with the community. Such a position would have to be carefully managed. At this stage no formal position has been advertised, but it is being considered how best to adapt the duties of this role to the Chinese context and potentially still boost local employment opportunities.

## **Stakeholder identification and analysis**

Stakeholders are:

...those who have an interest in a particular decision, either as individuals or representatives of a group. This includes people who influence a decision, or can influence it, as well as those affected by it<sup>23</sup>.

The stakeholder identification process recommended in the Toolkit assesses the attitudes of stakeholders toward the proposed project. Analysing these

<sup>22</sup> Global CCS Institute, Commonwealth Scientific and Industrial Research Organisation (CSIRO) 2011, Communication/Engagement Toolkit for CCS Projects, Canberra 24.

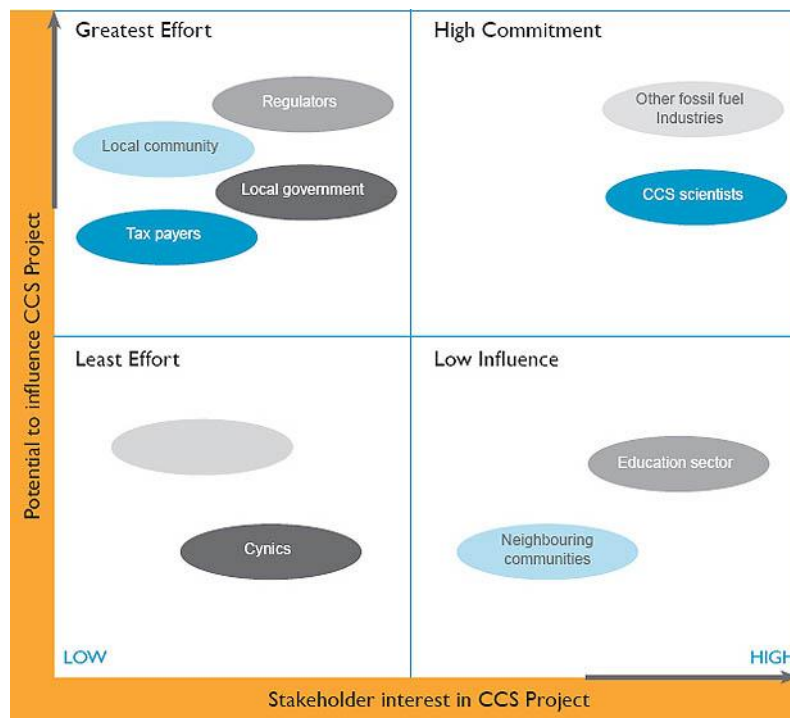
<sup>23</sup> Hemmati (2002). Multi-Stakeholder Processes - Beyond Deadlock and Conflict. London: Earthscan, 2.

attitudes will help determine the level of interest and influence these stakeholders will have. Stakeholders' attitudes may change over the duration of a project so it is crucial to monitor these attitudes.

The CRP Power Project has highlighted stakeholder management as a crucial element to the overall strategy and key stakeholders have been identified. Whilst these stakeholder categories are yet to be documented in the public engagement strategy (as advised by the Toolkit) the project team is well aware

of who the influential stakeholders are from across government, industry and academia. Due to limited resources, much of the engagement activities for the UK-China (Guangdong) CCUS Centre has focused on those influential stakeholders critical to technical outputs. Now that the CRP Power Station is operational, stakeholder analysis is a priority activity. The analysis will be done using the stakeholder identification matrix tool available in the Toolkit **(Figure 2)**<sup>24</sup>.

**Figure 2** Stakeholder Identification Matrix



<sup>24</sup> Global CCS Institute, Commonwealth Scientific and Industrial Research Organisation (CSIRO) 2011, *Communication/Engagement Toolkit for CCS Projects*, Canberra

## **Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis**

A SWOT analysis involves identifying the strengths, weaknesses, opportunities and threats of each of stakeholders.

A formal SWOT analysis has not been undertaken at this stage. There are plans to do so at a later stage of the project's development.

## **Establishing a Communication and Engagement Plan**

From the stakeholder mapping and identification process a communication plan can be developed. The process requires project teams to identify the most appropriate engagement methods for each individual stakeholder. The range of stakeholders will be broad and diverse and therefore will require the team employ a combination of engagement processes that are both formal and informal. The social data collection and baseline survey analyses are integral information for the development of engagement activities. The types of engagement activities that could be employed include:

- Briefings and presentations
- Public Displays
- Public Meetings
- Newsletters
- Websites
- Workshops and focus groups
- Open days and site visits
- Social networking
- Media releases

A rough draft of proposed activities has been developed in conjunction with the ISCG. However the plan has not been finalised or implemented in a

concerted way due to the lack of dedicated resources. That being said there have been a number of activities such as the baseline survey, workshop and this report that have proven helpful in analysing and documenting the community's knowledge and understanding of CCS.

## **School Education**

School Education is an important and prized component of Chinese life. It is also a way of engaging with the parents and families of children on learning and educational topics. The Toolkit emphasises the importance of education and suggests a number of resources that would be useful to draw upon.

In December, 2014 seven public engagement experts from Australia, America and the UK visited two schools in Xiaomo to demonstrate science lessons based on the Institute's CO<sub>2</sub>degrees material. CO<sub>2</sub>degrees provides free CCS educational resources for students learning about energy, CO<sub>2</sub>, climate change and low-carbon technologies.

The Mayor of Xiaomo is supportive of any additional educational activities that can be undertaken with the schools in the region. The Mayor commented on the importance of the activities and opportunities to continue these activities with the broader community.

*As the smallest town in Haifeng County, Xiaomo is honored to be the location of the China Resources Power Plant. But at the same time, people in Xiaomo, which has the best natural environment in Haifeng, mainly live on fishing as well as breeding shrimps and crabs, so they care particularly about environmental changes. Acting responsibly for the people in Xiaomo, the China Resources Power Plant spent an extra 200 million yuan to install environmental protection*

*equipment, which shows their sincerity. However, the communication work cannot be done all at once, and more work needs to be done especially once the plant is operational. I suggest that people should, group by group, be invited to visit the plant, particularly to view the operation of the environmental protection equipment. For example, fishermen may care about its effects on quality of water, thus it is necessary to invite them to see the quality of the water treatment. People generally care for air quality, so they can be invited to look at air purification. In order not to disrupt electricity production, the plant can set aside a specific day to popularize science, to explain how electricity is generated and the theory of environmental protection and its status. At the same time related questions could be answered through the creation of a centre for science popularization so that everyone can actually be reassured.*

Mayor Meichun TAN  
Xiaomo

More recently, the Institute's educational materials have been used by the UK-China (Guangdong) CCUS Centre to deliver information to more schools across the region and there is potential for future educational collaboration. According to the Deputy Secretary of the CRP Haifeng Power Plant project, the Guangdong Department of Education is very supportive of including a focus on the environment and energy in their ongoing curriculum. There is the possibility of working with them to adapt the CO2degrees materials and incorporate it into a formal education program.

### **Recommendation:**

**R5.** Education has been identified as a key influencing factor in China. Projects should consider including an education program as part of a project's public and communication strategy. This should be done through engagement with the appropriate government departments.

**R6.** Seek opportunities to educate the wider community on CCS. This can be done through open days and site visits to specific projects. The engagement should include discussions on how potential environmental impacts of projects will be managed.

### **Next steps**

This is the first time the Toolkit has been formally applied in a Chinese context, however given the early stage of development of the CRP Power Project it is too early to draw a full set of conclusions about the applicability of the Toolkit in the Chinese context.

To date the Toolkit resource has provided a solid framework for the CRP Power Project to scope its own public engagement strategy and there is definitely potential to implement further elements of the Toolkit.

The CRP Power Project team has expressed an interest in dedicating a few days with a small group from the Centre and the ISCG to develop a complete public engagement strategy for the project. Once in place this could be formally implemented, monitored and adapted as the project progresses and would provide valuable insights into best practice methods of communication and engagement on the topic of CCS/CCUS in China.

Additionally the CRP Power Project, UK-China (Guangdong) CCUS Centre and regional education authorities are seeking support to implement further education activities across Guangdong.

The key recommendations from this early application on the Global CCS Institute's Communication and

Engagement Toolkit in the Chinese context are summarised below. The recommendations have been developed for consideration by CCS projects in China based on the experiences of the CRP Power Project and UK-China (Guangdong) CCUS Centre.

### **Recommendation:**

- R1.** When establishing a baseline survey, take the opportunity to include open-ended questions as well as those which focus on the specific local communities involved with the project.
- R2.** Consider the development of a database that provides examples of pre-existing survey measures (e.g. survey questions). Such a database can be useful for other CCS projects.
- R3.** Ensure that materials developed for the baseline survey are easily accessible by members of the CCS community. These materials may include media clippings, blog posts, survey questionnaires and analysis.
- R4.** Establishing a Citizen Task Force may not yet be an effective public engagement mechanism in China due to the traditional roles local communities have had in the development of infrastructure. However it has been noted throughout this report that the importance of engaging with local communities is increasingly recognised as an important part of the development of Chinese infrastructure projects. Therefore, the relevance of this Toolkit activity to CCS projects in China will need to be monitored and updated.
- R5.** Education has been identified as a key influencing factor in China - consider including an education program as part of a project's public and communication strategy. This should be done through engagement with the appropriate government departments.
- R6.** Seek opportunities to educate the wider community on CCS. This can be done through open days and site visits to specific projects. The engagement should include discussions on how potential environmental impacts of projects will be managed.

## Concluding Remarks

The CRP Power Project is a leading example of how a CCS project in China is undertaking the development of a communication and engagement plan. The lessons that have emerged, and will continue to emerge out of this process will be useful for other Chinese CCS projects.

This report provides an overview of the development process of a public engagement strategy for the CRP Power Project and the UK-China (Guangdong) CCUS Centre. Part 1 focused on the role of the media as a key influencer in China, while Part 2 expanded on the application and appropriateness of the Global CCS Institute's Communication/Engagement Toolkit for CCS projects in China drawing on the experience of the CRP Power Project and the UK-China (Guangdong) CCUS Centre. It is clear from the analyses of both sections that public communication and engagement on large infrastructure projects is increasingly a priority within the Chinese context, particularly as projects are being held more accountable by the broader public and communities impacted by projects.

Although the CRP Power Project is currently focused on other components of the CCUS project, communication and engagement remains a priority. There has been active and ongoing engagement with influential stakeholders both at the international, national, regional and local levels. There is potential to engage more proactively with other stakeholders and, as identified by the CRP Power Project it would be worthwhile hosting a small workshop to fine tune and plan a series of engagement activities.

## 全球碳捕集与封存研究院的沟通与参与工具包在中国环境下的应用

### 背景

本节探讨全球 CCS 研究所的交流和参与工具包<sup>25</sup>（工具包）和其是否适合在中国范围内的应用，特别提到了华润电力海丰发电项目。利用华润电力海丰项目的经验提出了可以帮助未来在中国开发 CCS 项目公众参与策略的建议。由于华润电力项目的公众参与策略仍在发展当中，因此讨论内容并未包含工具包的所有要素。

该工具包旨在为全球 CCS 项目开发商提供指导，并成为设计 CCS 项目沟通和外联活动的实用指南。值得注意的是，华润电力（CRP）海丰电厂还只

在规划和调查 CCUS 潜力的早期阶段，因此工具包中提出的一些活动（见表 2）虽然适合这个项目，但可能还没有被应用。所以，有关这些活动的评论将不会得到确凿证据的支持。

中心的一个关键目标是推动公众参与的最佳实践并让当地社区参与该项目，因此该工具包是了解项目早期沟通和参与的注意事项的一个有用工具。

表 1

沟通和参与工具包中建议的活动列表：列举发展一个 CCS 项目的交流和参与策略所要求的活动清单。

建议的活动	开展情况
收集社会化数据	√
基线调查	√
形成独立的指导委员会	√
公民工作组/顾问委员会	
社区联络官	
利益相关者的认定	√
SWOT 分析	
制定一个沟通和参与计划	
教育	√

<sup>25</sup> Global CCS Institute, Commonwealth Scientific and Industrial Research Organisation (CSIRO) 2011, Communication/Engagement Toolkit for CCS Projects, Canberra

## 收集社会数据

收集社会数据的目的是学习和了解 CCS 项目可能对当地人口和社区产生的影响。社会数据的类型包括：人口、政治趋势、就业增长和失业、本地行业经验、社区和开发者/监管机构之间的渊源、地方团体以及权力结构。收集社会数据能帮助项目开发商学习和了解 CCS 项目可能对当地人口和更广泛的社区产生的正面和负面的潜在后果。

在华润电力海丰项目发展初期，国家政府和广东省政府提供为电站的选址了大量投入，同时考虑到该项目将给小漠镇带来的带就业和经济增长机遇。

迄今为止，华润电力海丰项目没有收集社会数据输入到公众参与的策略。工具包所确认的社会数据类别信息目前还未能普遍应用在中国的项目开发商中。部分原因是由于国家、地区以及地方政府在相互交流往来是所采取的方式与概念上的参与方式有很大的不同。然而，华润电力海丰项目管理团队通过积极主动地参与到一些当地的活动来拓展了其对于这种错综复杂的社会背景以及当地社区的了解。工具包中提出的利益相关者团体是华润电力项目开发社会数据收集计划的良好基础。但可能有必要修改将要调查的一些社会数据的分类。这将让工具包能更紧密地与中国治理方法相结合。例如，在中国，利益相关者影响的阶层可能因其他社区存在的权力结构有所差别。

## 基线调查

基线调查收集了当地社区内个人在气候变化、CCS 和其它能源技术的知识、观点和态度方面的信息。该调查作为社会数据采集过程的一部分，洞察了社区意见和与 CCS 项目相关的潜在问题。

如第一部分中提到，华润电力项目在广东省进行了一项网络基线调查。工具包中的调查问卷模板为基线调查提供了基础。鉴于 CCS 在中国并不广为人知，南方传媒在调查实施之前收集了部

分民意。这对于在项目开始前构建 CCS 知识和意识基础很有帮助。

这项调查反映出了关于公众态度的一些有趣的细节，然而经过再三考虑，我们认为增加一个或两个开放式的问题来收集更详细的以当地参与者的语言传达的信息可能是有用的。调查的人口统计结果也存在一些问题，这仍需要进一步分析以提供对广东省居民态度的更深刻的理解。

**建议 1.** 设立一个基线调查，并借机利用开放式的问题来集中调查某些当地社区对项目的参与。

**建议 2.** 考虑开发能够提供预存在调查措施案例的数据库，从而为项目在不同阶段的发展提供支持，例如：社会认同度、信任度以及社会经营许可证等。

**建议 3.** 确保基线调查资料的开发能够容易地被 CCS 社区成员获取到。这些资料可能包括媒体剪报、博客、问卷调查和分析。

## 建立一个独立的指导委员会小组

社区接受任何 CCS 项目很关键的一点是信任。然而如果项目发起者明显在项目中有既得利益，便很难建立信任。化解并解决建立信任这一问题的方法之一是在项目初期成立独立的指导委员会，监督项目总体计划中的沟通。工具包建议包含以下几个代表：

- 独立主席
- 项目代表
- 技术专家
- 政府代表
- 沟通专家
- 非政府环保组织代表

- 社区联络主任（如下）

以上职位人选几乎都被列入该项目的总顾问组，但是社区联络主任一职可能在政府相关政策的基础上有所调整。值得注意的是，由于这是一个国际性的专家组，它需要大量的资源来把该组织协调和整合在一起。这也显示了作为项目的开端以及活动经费短缺的所面临挑战。尽管该项目把社区参与看作是项目的重要组成部分，但依然有一些实际的以及财务方面的因素使得该项目不得不采取缓慢、分阶段进行的方法。

## 公民工作组

公民工作组的目标是增加对提出的 CCS 项目的认识和理解，并促进项目工作人员和社区之间有效的沟通以及工作关系。

在小漠镇，当地主要领导开展了一系列的参与活动。但是在现阶段，这个项目并没有成立特殊公民工作组，而且建立这样一个小组也并非海丰项目和中心的首要任务。不过随着项目的推进，它将发展成为一个与社会各界联系的重要且积极的方式。

**建议 4.** 由于当地社区曾在基础设施发展中所扮演的传统角色，建立一个公民特别工作组也许并不是一个有效的公众参与机制。然而，这份报告指出当地社区参与对于与中国的基础设施项目的重要性越来越被认可。因此，工具包活动与中国 CCS 项目的关联需要被监管以及更新修正。

## 确定社区联络官

CLO 是当地社区和项目开发者之间的纽带。理想的 CLO 人选应对特定项目有扎实的了解，能

够用让人理解的方式回答技术性问题，并在利益相关者团体之间进行有效的沟通。一个理想的 CLO 可以是当地社区中受人尊敬的成员<sup>13</sup>（如教师）。工具包中建议，CLO 应承担如下责任：

- 打造支持社区参与和所有权的环境。
- 为社区成员提供表达他们的担忧并向专家提出问题的机会。
- 建立和维护当地社区和项目开发人员之间的有效关系。
- 建立社区对于开发项目的士气。

小漠镇镇长对当地十分了解以及具备通过参与社区事务而建立与社区成员之间互相尊重关系的能力，华润电力海丰项目与中英（广东）CCUS 中心也与之建立了良好的关系。他在推动利益相关方参与事务以及独立指导委员会代表访问当地以及电站时表现积极。在当地没有正式官方职位但是和社区有着不同关系的候选人代表可能会被优先考虑。这样的职位的安排需要非常的谨慎，在这个阶段并没有公告正式的职位，但如何使这个角色的职责能够最大程度地适应中国国情和幫助提高当地的潜在就业机会非常值得考虑。

## 利益相关者的认定和分析

利益相关者是：

*那些作为个人或团体的代表对一个特定的决定感兴趣的人。这包括那些会影响决定，或可能影响决定以及受到决定影响的人<sup>26</sup>。*

*工具包中推荐的利益相关者的认定过程评估了利益相关者对于计划项目的态度。分析这些态度将有助于判断这些利益相关者相关和影响的程*

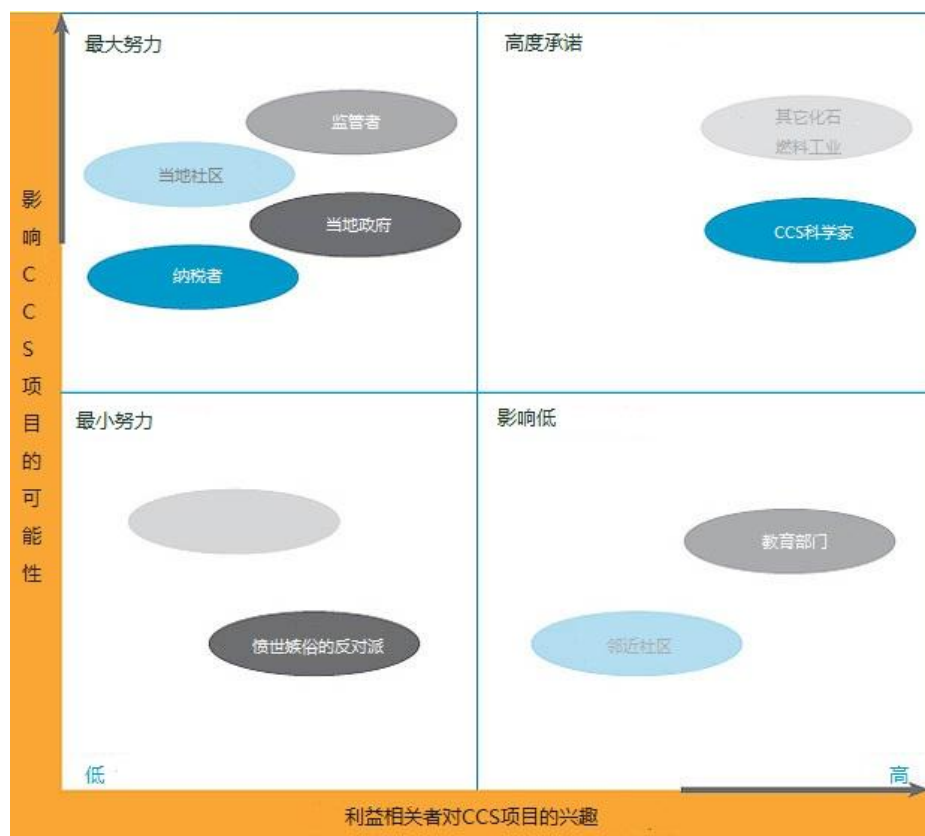
<sup>26</sup> Hemmati (2002). Multi-Stakeholder Processes - Beyond Deadlock and Conflict. London: Earthscan, 2.

度。利益相关者的态度可能在项目发展过程中发生变化，因此监控他们的态度很关键。

华润电力项目将利益相关者管理作为整体策略的关键要素，并研究了关键的利益相关者。在这些利益相关者类别尚未（如工具包建议的）被记录在公众参与策略中时，项目团队就非常清楚地认识到政府、产业和学术界颇具影响力的利益

相关者是哪些人。由于资源有限，中英（广东）CCUS 中心举办的大多参与活动都聚焦在那些在技术成果方面有影响力的利益相关者身上。由于现在华润电力电厂已经开始运行，利益相关者分析是首要工作。分析将使用工具包中的利益相关者认定矩阵工具（图 2）

图 2 利益相关者认定矩阵



### 优势、劣势、机会和威胁 (SWOT) 分析

SWOT 分析涉及对于利益相关者的优势、劣势、机会以及威胁四个方面。

关于对项目关键合作方的 SWOT 正式分析目前还没有实施，但是这个举措将对于正在进行的沟通和参与的整体规划有着重要的意义。

### 建立一个沟通和参与计划

通过利益相关者的反映和鉴定过程可以建立一个沟通交流计划。这个过程需要项目组来为每个利益相关者确定最合适的参与方法。利益相关者也具有广泛和多样性，因此这就要求项目组把正式与非正式的参与过程集合起来。社会数据的收集和基线调查分析是参与活动发展的整体信息。可供采用的参与活动包括：

- 说明会和演讲
- 公开展示
- 公开会议
- 简讯
- 网站
- 研讨会和讨论组
- 开发日和实地考察
- 社交网络
- 媒体发布

结合独立指导委员会的建议，拟议活动的初稿已经制定了，但还没有正式定稿。这还尚未通过协调一致的方式实施，是由于项目缺乏专用资源。尽管如此，一些初步的活动已经开始试行，这也证明了对当前知识理论的评估以及项目的理解是有用的。

## 学校教育

学校教育对于中国人来说是非常重要及最有价值的组成部分。同时这也是使参与活动的孩子的父母和家人正式参与其中的学习和教育主题的一种方式。工具包也强调了教育的重要性，以及建议投入相当量的资源将会是非常有成效的。

2014 年 12 月，在小漠镇小学的六年级和中学的初一，来自澳大利亚、美国和英国 7 位专家利用机构的 CO<sub>2</sub>degrees 资料 16 为学生开展科普课。CO<sub>2</sub>degrees 为学生了解能源、二氧化碳、气候变化以及低碳技术提供了免费的 CCS 教育资源。

小漠镇镇长也非常支持一些额外的教育活动在当地学校的实行。小漠镇镇长总结了这些活动的重要性，以及如何才能再继续在教育中进行并且推广到更广的地区。

小漠是海丰最小的镇，能够争取到华润来落户是荣幸。但同时，小漠是海丰自然环境最好的地方，群众主要以捕鱼以及养殖虾

蟹为生，因此对环境的变化特别关心。华润电厂本着对小漠人民负责的态度，多花了 2 亿元来增加环保设备，这让我们看到了他们的诚意。但这个沟通工作不是一劳永逸的事，尤其在电厂投产后还有更多工作要做。我建议，将来要分批地邀请群众去参观电厂，特别是环保设施的运作。比如渔民可能关心对水质的影响，就要请他们看看水质处理情况。一般百姓关心空气，也请他们看看空气的净化情况。为了不影响电厂的生产，电厂可以设立专门的科普日，并建立一个简易的科普中心，介绍如何发电以及环保的原理和现状，同时回答有关的疑问，让大家真正地放心。

镇长谭梅唇  
小漠镇

最近，中心把机构材料用于向更多地区的学校传递信息，发掘将来在教育领域合作的潜在可能性。根据华润电力海丰项目的副秘书长反馈，广东省教育厅对于把环境和能源学科纳入将来的课程非常支持。在适应和合并 CO<sub>2</sub>degrees 材料与他们正在进行的教育项目上，双方是有合作的可能性的。

**建议 5.** 在中国教育被认为是最重要的影响因素一应该考虑通过教育部门在广东地区参与实施到正式的教育项目上。

**建议 6.** 寻找在更广泛的社区内推广 CCS 的教育机会。这可以通过某些特定项目的开放日以及实地考察来实现。这种参与应该包括就如何对项目存在的环境影响进行管理的讨论。

## 下一步

这是工具包第一次正式地在中国背景下使用，然而，其在中国环境下的适用性结论还言之尚早，因为在广东项目还处在早期发展阶段。

目前工具包资源已经给广东项目提供了坚实的框架，并使其能够初步构建自己的公众参与策略以及确定了工具包继续进一步在广东实施的潜力，即使这将会对所需资源提出更高的要求。

对于中心的顾问小组以及华润电力的项目组代表会花一些时间来组建研讨会以及设立一个项目的沟通和参与计划，项目组表示非常感兴趣。一旦实施，这将会得到正式执行、监管以及根据项目的进展而调整适应，并会为中国的 CCS/CCUS 主题在沟通和接触最佳实践方法上提供有价值的见解。

此外，华润电力海丰项目、中英（广东）CCUS 中心和地区教育机构正在寻求支持在广东实施长远教育活动。

全球碳捕集与封存研究院的沟通和参与工具包在中国国情下的应用给出的关键建议总结如下。根据华润电力项目和中英（广东）CCUS 中心的经验，这些建议可供中国 CCS 项目参考。

建议 1. 设立一个基线调查，并借机利用开放式的问题来集中调查某些当地社区对项目的参与。

建议 2. 考虑开发能够提供预存在调查措施提供案例的数据库，从而为项目在不同阶段的发展提供支持，例如：社会认同度、信任度以及社会经营许可等。

建议 3. 确保基线调查资料的开发能够容易地被 CCS 社区成员获取到。这些资料可能包括媒体剪报、博客、问卷调查和分析。

建议 4. 由于当地社区曾在基础设施发展中所扮演的传统角色，建立一个公民特别工作组也许并不是一个有效的公众参与机制。然而，这份报告指出当地社区参与对于与中国的基础设施项目的重要性越来越被认可。因此，工具包活动与中国 CCS 项目的关联需要被监管以及更新修正。

建议 5. 在中国教育被认为是最重要的影响因素—应该考虑通过教育部门在广东地区参与实施到正式的教育项目上。

建议 6. 寻找在更广泛的社区内推广 CCS 的教育机会。这可以通过某些特定项目的开放日以及实地考察来实现。这种参与应该包括就如何对项目存在的环境影响进行管理的讨论。

## 结论

润电力项目是中国CCS项目如何制定沟通和参与计划的典型案例。这一过程中已经得到的和将要得出的经验将有助于未来其它CCS项目在中国的发展。

这份报告对华润电力项目和中英（广东）CCUS中心开发沟通与参与策略的过程进行了整体的概述。第一部分主要是关于中国传媒作为关键影响角色的作用；第二部分主要根据华润电力项目和中英（广东）CCUS中心的经验阐述了全球CCS研究院的沟通/参与工具包在中国CCS项目中的应用和适当性。两部分都清楚描述了大型基础设施项目的沟通和参与在中国国情下是优先考虑的问题，特别是这种由在中国各级政府负责的同时还具有更广泛的公众和社区影响的项目。

虽然目前华润电力海丰项目着眼于CCUS项目的其它方面，但沟通和参与依然是首要任务。其他参与者包括国际的、国内的、地方的和当地的有影响力的利益相关者也一直很活跃以及坚持着参与和投入。同时，将来会有其它利益相关者更积极地加入其中，因此主办一个小型的研讨会进行相应的微调以及规划一系列参与活动是非常必要的。

## **UK-China (Guangdong) CCUS Centre**

### **中英（广东）CCUS 中心**

The UK-China (Guangdong) CCUS Centre is a part of a not-for-profit institute, Guangdong Southern CCUS Centre registered in Guangdong, China.

中英（广东）CCUS 中心是由一家非牟利机构广东南方 CCUS 中心管理，在中国广东省注册成立。

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