Hydraulic Fracturing: Public Image and Strategies for Maintaining Your Social License*

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Abstract

Unconventional oil and gas plays are typified by regionally extensive well pads hosting multiple horizontal wells each undergoing hydraulic fracture stimulation. Over the project life, thousands of wells may be drilled and completed. In host communities, generations of residents may be impacted by traffic, site development, and operations. As a result, there has been a very public discussion of the impacts of unconventional operations generally and the process of hydraulic fracture stimulation specifically. In the current communications environment, public opinion tends to evolve rapidly by reacting to different stimuli. Specific to unconventional oil and gas operations, hydraulic fracture stimulation is the lightning rod for many in the public. This has led to regulatory response in a number of jurisdictions, usually through a tightening of the rules. A recent report projects that the cost of a typical shale gas well may increase by 7% to address tighter regulation. For some operators, the cost may be higher due to delays from moratoria or outright bans. In response to concerns, many operators are developing corporate social responsibility (CSR) plans. Unfortunately, these plans are not followed which undermines the company's public image. To truly gain the social license to operate, firms need to incorporate an integrated systems approach to meeting the expectations of communities and governments. Geologists are an important part of this process. Rather than a cost, this approach can reduce the bottom line by increasing organizational efficiency and reducing development delays. Given the multi-decadal relationship between operations and the communities, a proactive CSR program can go a long way towards meeting community expectations during the project lifecycle. Ultimately, firms can achieve their business objectives while meeting their social commitments.

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The Revolution in Oil and Gas Development

Preface

- Unconventional oil and gas activity is occurring in areas that in the past have not played host to hydrocarbon development.

- Questions and concerns over industry practices and specifically to the process of hydraulic fracture stimulation have been voiced.

- Concerns include site development and ancillary infrastructure, air quality degradation, noise, increased truck traffic, and impacts on community character.

Intertemporal Operations:
The Development Cycle

Exploration/Early Development	Moderate Development	Large/Full-Scale Development	Post-Development Production
Dispersed pattern of few well pads with limited community impact. Limited, primarily indirect effects on jobs, spending and business revenues for other sectors of local economies. Landowners benefit from leasing revenue.	Multiple well pads, simultaneously in a localized area, some production begins along with the construction of the necessary infrastructure.	Many well pads, multiple operators, regional area, service centers emerge, production enters full-scale operation. Maximum production and revenues at this stage.	Due to the lifecycle of individual operating wells, this stage can overlap with Moderate and Full-Scale development nearby. Post-Development will see reclamation activities increase and production and revenues decrease. Development related effects abate.

Each stage of development results in differing socioeconomic and community character effects, depending on the characteristics of an area and its communities. The stages and transitions between stages are seldom discrete.

Martin J.P. et al. 2012. Can Community Planning and Context-Sensitive Design Contribute to an Improved Scenario for Local Oil and Gas Development? *Practicing Planner* **10** (4): 15 p.

Social Impacts by Community Types

- Rural:
  - Likely to be transformational
  - Who benefits and who doesn't
  - Jobs
- Small towns/villages
  - Development pressure can cause quality of life concerns
  - Community divisiveness
- Cities/ urban areas
  - Far less transformational
  - Relative scale makes a difference

Chesapeake Energy, 2007 Annual Report: Gary Wilson

http://energy.usgs.gov/GeneralInfo/HelpfulResources/MultimediaGallery/HydraulicFracturingGallery.aspx

The Social Response to the Revolution

Cooperstown, NY 2009

March 2009
Water Management
SPE Regional
Technology
Workshop
(John Martin co-chair)

Quebec 2010

http://montreal.ctvnews.ca/shale-gas-exploration-triggers-protests-1.547143

Downtown Philadelphia 2011

Photo: John Martin

Albany, NY 2012

"Opponents of natural gas hydrofracking take part in a rally at the Legislative Office Building on Monday, Jan. 23, 2012 in Albany, NY. Opponents held the rally prior to meeting with legislators to press for a ban on hydrofracking in the state." (Photos: Paul Buckowski / Times Union)

Read more: http://www.timesunion.com/local/article/Fracking-foes-push-drilling-ban-2681557.php#ixzz1kPb5Pf1h

Nearing, Brian, "Fracking foes push drilling ban," Times Union, January 23, 2012

Albany, NY 2013: "Drilling Foes Coming Together"

"John Lennon famously sang "Gimme some truth." His widow, Yoko Ono, invoked that lyric on Friday at the state Capitol as she and other activists dropped off some 204,000 comments at the state Department of Environmental Conservation."

SOURCE: Casey Seiler, 1-12-13
http://www.timesunion.com/local/article/Drilling-foes-coming-together-4186631.php#ixzz2JHAJCbUk

Photo Credit:
Geraint Lloyd

THE EPISCOPAL NEW YORKER
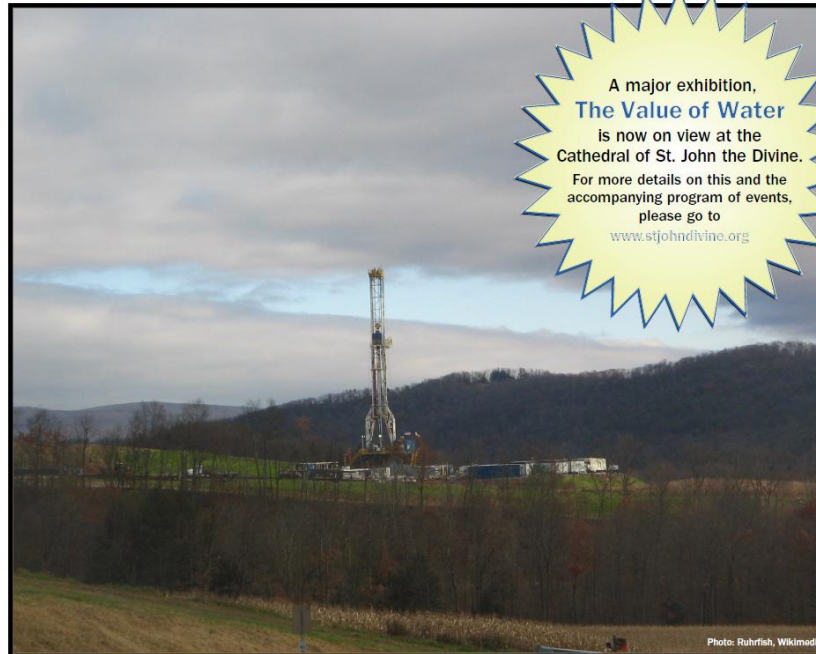
A major exhibition, **The Value of Water** is now on view at the Cathedral of St. John the Divine.

For more details on this and the accompanying program of events, please go to www.stjohndivine.org

Photo: Ruhrfish, Wikimedia

Would Jesus Frack?

By Stewart Pinkerton

Would Jesus approve of hydraulic fracking? That's a theological question perhaps best left to others, but we suspect the answer is probably not. "We pray for your beautiful creation as it suffers the effects of greed and carelessness. Help us to see a drop of water as life-giving." So went one of the Prayers for the People at the August 7, 2011 service at Holy Cross Church in Kingston, NY.
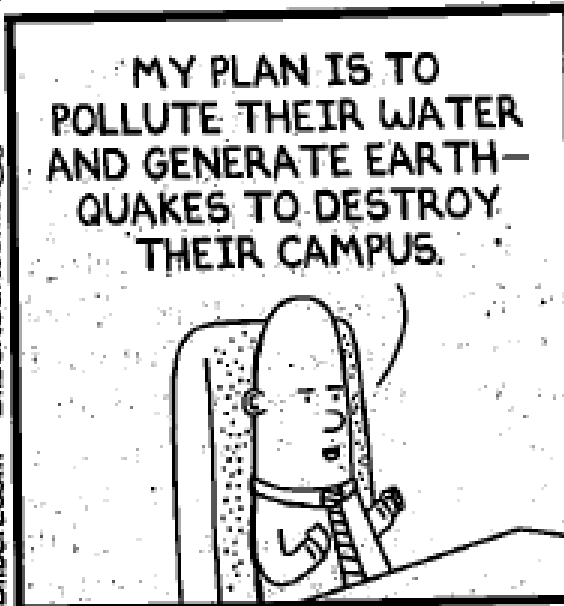
The prayer was the inspiration of Deacon Gail Ganter-Toback, a stealth environmentalist of sorts who lives in the college town of New Paltz and makes it a point of always trying to sneak something about saving the planet into the weekly prayers. But outside of church, she's anything but subtle when it comes to the issue *(continued on page 18)*
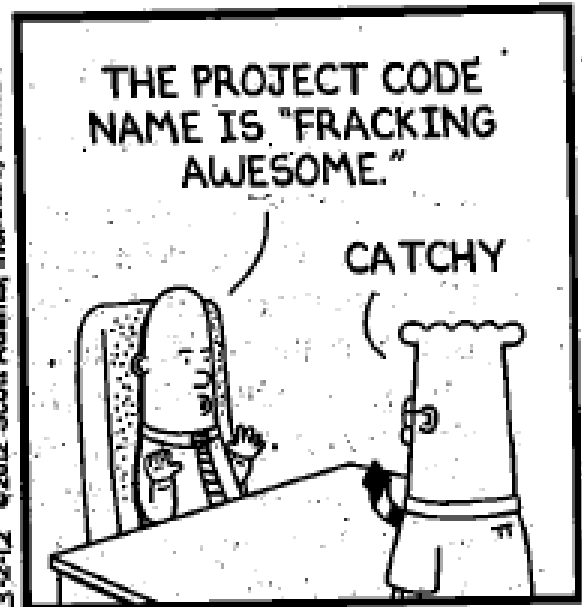
March 2, 2012

Regulatory Response: Bans/Moratoria on Drilling and Hydraulic Fracturing

- **New York –** de facto moratorium since 2008 and the *original*

- **Vermont** – banned by law 2012

- **Maryland** – de facto moratorium since 2011

- **Massachusetts** – legislation for 10 year moratorium 2013. pending the Governor's approval 2014

- **Quebec, Canada** – commercial development moratorium

- **Newfoundland and Labrador, Canada** – "not accepting applications" with fracs starting October 2013

- **Nova Scotia, Canada** – moratorium pending independent review

- **France** – currently banned but being reconsidered

- **State of Victoria, Australia** – frac moratorium until 2015

- **Colorado** – five communities banned drilling via moratorium, 2013.

- **City of Los Angeles** – frac moratorium passed 2014

- **Town of Marcellus, NY** – shale namesake town passed frac moratorium in 2010 and a full ban of all exploration and production of natural gas and oil in the town in 2013! Many other NYS towns and cites have banned operations.

What is the Source of Social Outrage?

How are Opinions Influenced?

- Folks have opinions:
  - Formulated from experience or from the media (formal or informal)
- And someone, somewhere hates your business.
  - Don't believe me? See Harris Poll: "Less than 10% of adults think that tobacco, **oil,** social media, managed care and telecom industries are 'generally honest and trustworthy' People who hate you like to tell others"[1]
- And this information can go viral:
  - ***Availability Cascades***: "a self-reinforcing process of collective belief formation by which an expressed perception triggers a chain reaction that gives the perception increasing plausibility through its rising availability in public discourse. The driving mechanism involves a combination of informational and reputational motives"[2]
- This creates serious peril for project developers.

1 http://www.harrisinteractive.com/NewsRoom/HarrisPolls/tabid/447/mid/1508/articleId/1131/ctl/ReadCustom%20Default/Default.aspx
2 Kuran, Timur and Cass R. Sunstein, Availability Cascades and Risk Regulation, Stanford Law Review, Vol. 51, No. 4 (Apr., 1999)

Public Interpretation of "Risk"

- Model proposed by Peter Sandman:

Risk = Hazard X Outrage

- Industry focuses on "hazard" and underestimates risk when the hazard is low and outrage is high.

- Media (and the public) focuses on "outrage" and overestimates risk when hazard is low but outrage is high.

- Politicians and regulators are reactive; they tend to overregulate when outrage is high.

Rolf Schmid, Risk = Hazard + Outrage, Zurich Risk Engineering's magazine the linkbetween, Issue 33, Jan 2001, found at http://www.psandman.com/articles/zurich.pdf

"Telling people they are wrong doesn't work, no matter who they are or what the situation is."

Rolf Schmid, Risk = Hazard + Outrage, Zurich Risk Engineering's magazine the linkbetween, Issue 33, Jan 2001, found at http://www.psandman.com/articles/zurich.pdf

Impact of Outrage
Landowner Survey by Cornell and Penn State

% expressing "a great deal of trust" in…

Local natural gas task forces or committees

State departments of environmental protection/conservation

Local environmental groups***

Natural gas industry***

Cooperative Extension or other educators***

*** high level of statistical significance

Scientists/researchers

NY
PA

0   5   10   15   20   25   30
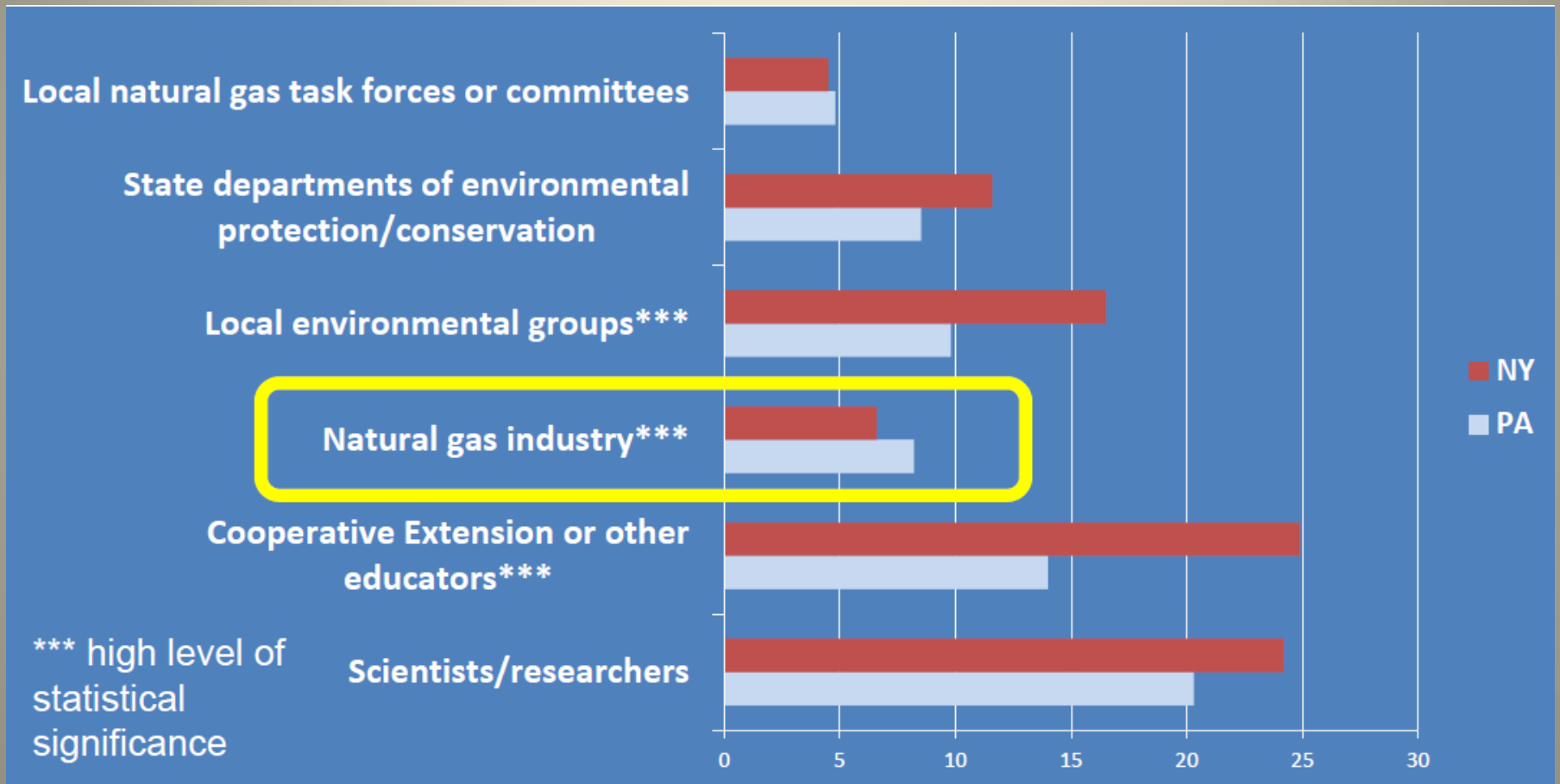
From License to Operate to License to Lead

Pyramid of
Influence
(Past)…
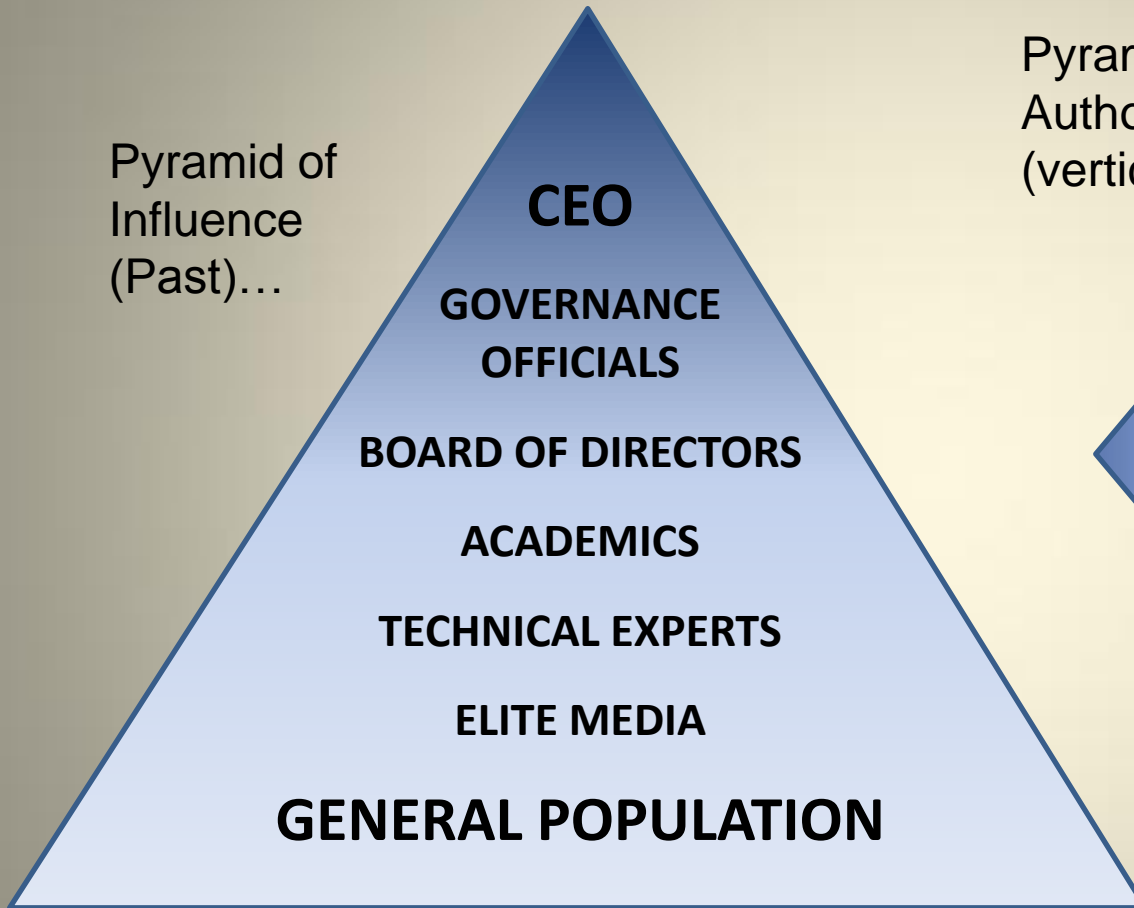
Pyramid of
Authority
(vertical)

CEO

GOVERNANCE OFFICIALS

BOARD OF DIRECTORS

ACADEMICS

TECHNICAL EXPERTS

ELITE MEDIA

GENERAL POPULATION

Vertical flow & Controlled Information

CEO

GOVERNANCE
OFFICIALS
BOARD OF DIRECTORS
ACADEMICS
TECHNICAL EXPERTS
ELITE MEDIA
GENERAL POPULATION
EMPLOYERS
ACTION CONSUMERS
SOCIAL
ACTIVISTS
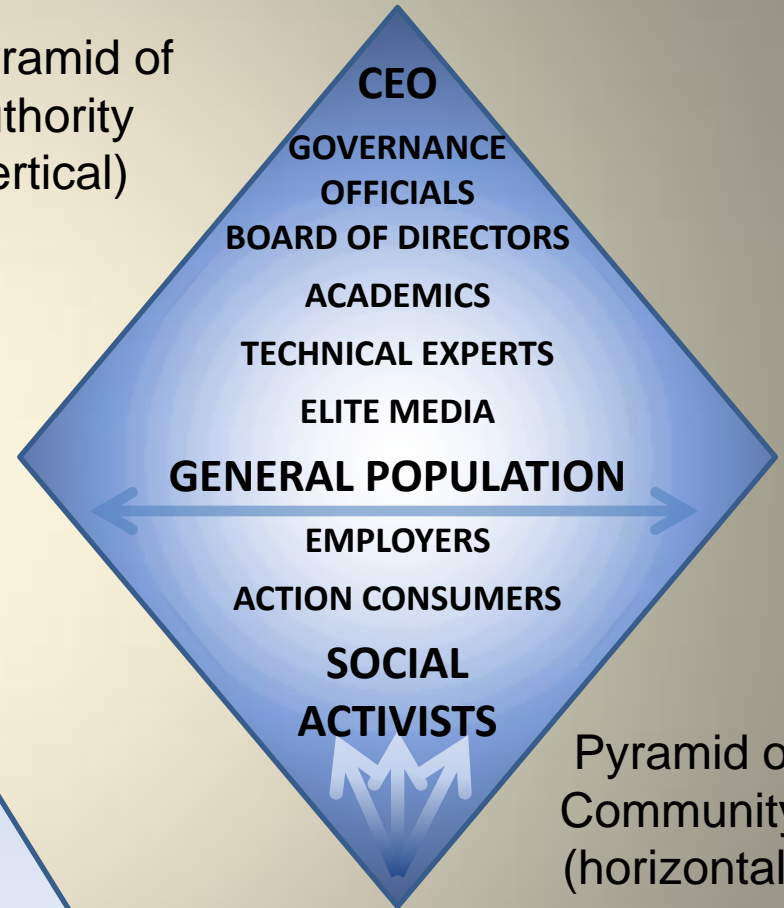
Pyramid of
Community
(horizontal)

FROM 2000	TO 2013
FEW	MANY
DICTATE	CO-CREATE
FIXED	FLEXIBLE
MONOLOGUE	DIALOGUE
CONTROL	EMPOWERMENT

Corporate Social Responsibility: From Theory to Action

Background on CSR

- Unlike many engineering concepts, no one definitive theory of what is corporate social responsibility; it continues to evolve.

- Early publications:

  - Howard R. Bowen's 1953 *Social Responsibilities of the Businessman:* "What responsibilities to society may businessmen reasonably be expected to assume?"

  - Joseph W. McGuire 1963 *Business and Society:* "The idea of social responsibilities supposes that the corporation has not only economic and legal obligations but also certain responsibilities to society which extend beyond these obligations"

    Carroll. A. 1999. Corporate Social Responsibility: Evolution of a Definitional Construct. *Business & Society* **38** (3): 268-295.

What CSR is NOT

- It is not just simply:
  - public relations
  - a marketing strategy
  - corporate philanthropy
  - environmental compliance

"Since the 'business case' drives CSR, it is not surprising that many corporate social initiatives do not go beyond narrowly philanthropic gestures; for example donating objects such as schoolbooks, mosquito nets or lifejackets to local communities, without any attempt to consult either the community itself or development specialists. Even such simple gestures sometimes end up as failures."

Frynas, J.G. 2005. The false developmental promise of Corporate Social Responsibility: evidence from multinational oil companies. International Affairs 81 (3): 581-598.

Definitions of CSR

- World Business Council for Sustainable Development:
  - "continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large."

- Vaaland and Heide:
  - "Corporate social responsibility is management of stakeholder concern for responsible and irresponsible acts related to environmental, ethical and social phenomena in a way that creates corporate benefit."

Rahman, S. 2011. Evaluation of Definitions: Ten Dimensions of Corporate Social Responsibility. World Review of Business Research 1 (1): 166-176.
Vaaland, T.I. and Heide, M. 2008. Managing corporate social responsibility: lessons from the oil industry. Corporate Communications: An International Journal. 13 (2):212-225.

Global Model of CSR

The interaction of this figure shows the scope of a general CSR model that moves from basic compliance to global corporate citizen.
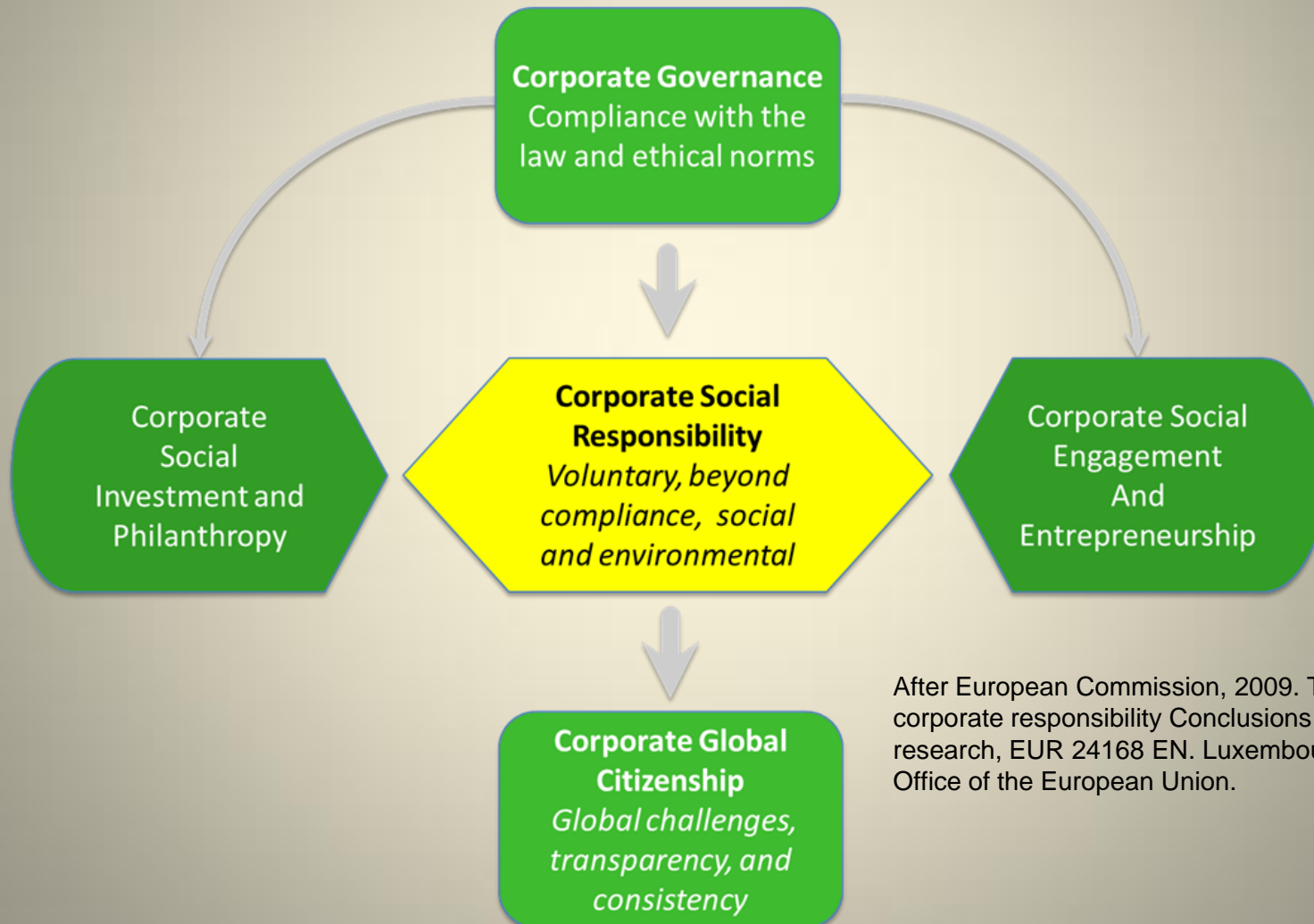
After European Commission, 2009. Towards greater corporate responsibility Conclusions of EU-funded research, EUR 24168 EN. Luxembourg: Publications Office of the European Union.

CSR: Public Image and Social License

- Projects are developed where the deposits are found and projects will ultimately impact the local environment and community in profound ways.

- Articulating a strategy remains a public relations activity until there is a corporate commitment from top to bottom to carry out the strategy.

- Actions and corporate image will be judged more harshly when behavior fails to match the strategy.

- Successful execution can gain trust and protect one's social license to operate.

CSR Strategy - Corporate

- Developing a CSR policy may cause some short term costs but will likely improve the company's long-term operating environment and efficiency:

  - A recent report projects that the cost of a typical shale gas well may increase by 7% to address environmental and social concerns. (International Energy Agency 2012)

  - A large lawsuit settlement, regulatory action, or ban may be far more costly compared to the cost of adopting and implementing a CSR policy.

- Successful CSR programs can create both a positive public relationship and an improved corporate image.

International Energy Agency. 2012. Golden Rules for a Golden Age of Gas: World Energy Outlook Special Report on Unconventional Gas. Paris, France: OECD/IEA.

CSR Strategy - Operations

- Since a successful CSR program relies on good data and information, implementation can help operations staff increase efficiency by organizing and managing stakeholder and environmental data and improving appropriate internal controls.

- Implementing a successful CSR system can avoid duplicative activities and failing to meet commitments by creating a complaint response system.

- Empowers employees to take initiative creating a corporate culture of broad social awareness rather than a narrow profit awareness.

Developing a CSR Approach

- Firms should consider an integrated systems approach:
  - The process begins with collecting baseline data, developing processes to capture and quantify commitments and integrating tracking and compliance requirements.
  - The data can help develop better processes that mitigate social risks and impacts. Using this baseline, integrated CSR activities including stakeholder engagement, social investment and environmental compliance can be developed.
  - Following international leading practices, this systems approach can be integrated into business policy and processes.

| Seismic Exploration | Site Surveys | Exploration Drilling | Early Development Activities | Full Development Activities | Decommissioning |

Integrated Approach to CSR Management

Leading Practice

International Finance Corp / Equator Principles

International Standards (ISO)

Industry Associations (ICMM, IPIECA, MAC)

Research

Operations

System Processes

Planning

Performance Tracking

Reporting

- Land Management
- Stakeholder Engagement
- Compensation and Resettlement
- Social Investment
- Local Business Development
- Local Employment
- Environment

Business Processes

Corporate Policies

Business Rules

Standard Operating Procedures

Reporting Requirements

Naming Conventions

Security Protocols

source: borealis

Example of CSR Integration: APLNG

Case Study of Proactive CSR: Australia Pacific LNG Project

- APLNG is a large-scale coal seam gas (CSG) to liquefied natural gas (LNG) project in Queensland.

- Joint venture between Origin Energy, ConocoPhillips and Sinopec

- Throughout permitting and construction, the project developer's approach has focused on an integrated approach towards the approvals process and stakeholder engagement.

- This case study is built on a review of numerous publicly available documents and media outlet reports.

Australia Pacific LNG. 2013. The Australia Pacific LNG Project Fact Sheet. Brisbane, Australia: Australia Pacific LNG. http://www.aplng.com.au/pdf/factsheets/_APLNG012__Fact_Sheet_The_APL_Project_FINAL.PDF (accessed on 5 December 2013).

Project Location

http://www.australia.edu/international/About-Australia/
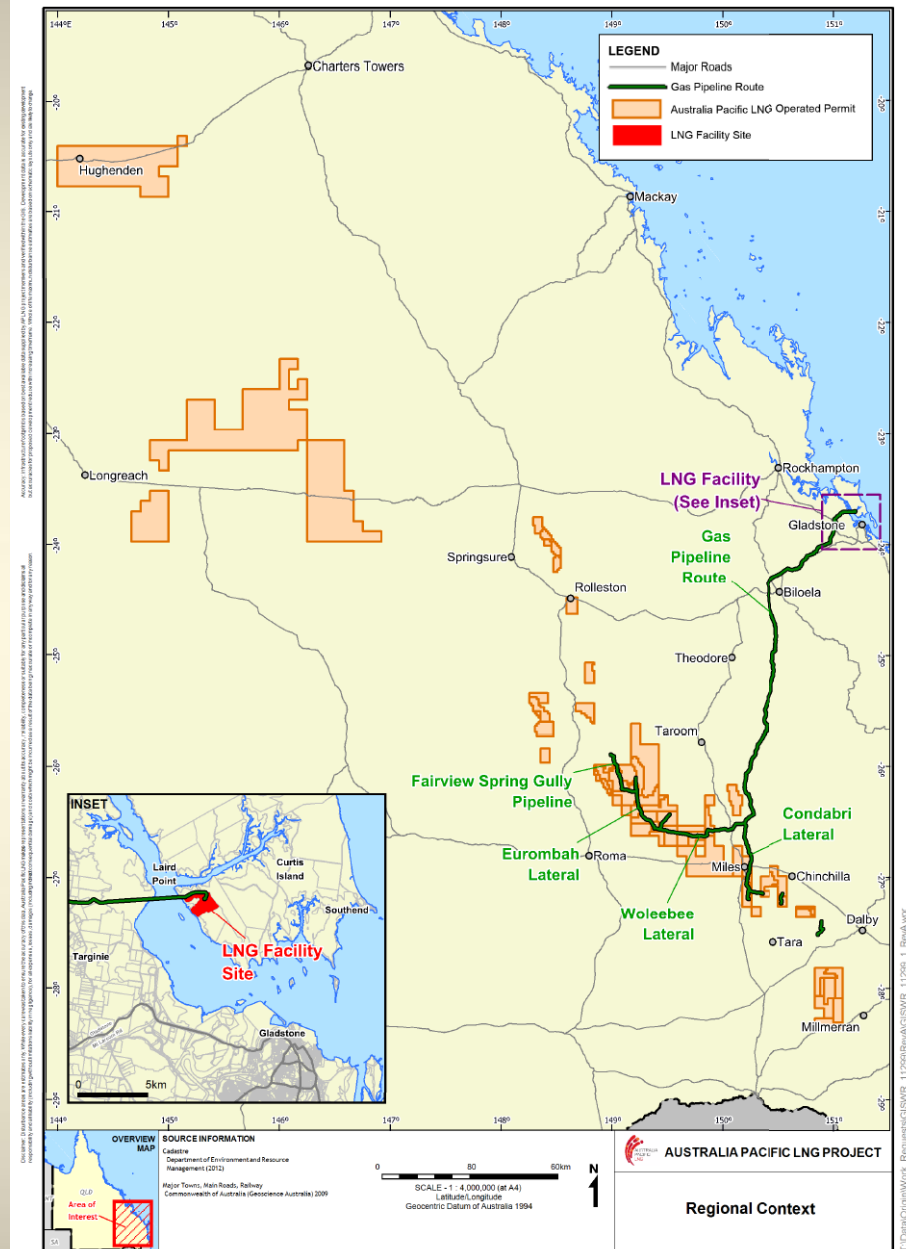
Managing Environmental and Social Issues

KEY STAKEHOLDERS

Lenders   Shareholders   Regulators   Public   NGOs

HSE and SD Management Plan

Environment and Social Management Plan

ESMP Sub Plans

Labor and Working Conditions	Pollution Prevention and Abatement
Community Health, Safety and Security	Land Acquisition and Involuntary Resettlement
Biodiversity Conservation	Sustainable Resource Management
Indigenous Peoples	Cultural Heritage

STANDARDS AND GUIDELINES

Parent Company Policy and Systems

Regulatory Requirements

IFC Environment and Social Standards

Equator Principles and US Export-Import Bank Policies

HSE AND SD PLAN ELEMENTS

Strategic Planning

Risk Assessment

Training

Communication

Reporting and Audit

Management Review

Actions

Operator Management Plans
Contractor Management Plans

After http://www.aplng.com.au/pdf/ APLNG_ESMP_Sub_Plan_1 _(Labour_and_Working_Con ditions).pdf

Commitments Data Collection and Reporting Categories

Stakeholder engagement	Climate
Noise and vibration	Geology and soils
Waste	Land use and planning
Traffic and transport	Landscape and visual amenity
Indigenous cultural heritage	Terrestrial ecology
Non-indigenous cultural heritage	Aquatic ecology
Social assessment	Groundwater
Economic assessment	Surface water
Hazard and risk	Associated water management
Matters of national environmental significance	Air quality
	Greenhouse gases

Source: (Australian Pacific LNG undated)

Reporting Results

- Using data collected though the integrated management system, the company reports performance measures in the semiannual *Environmental and Social Report* available on the project website.

- This allows stakeholders to see what issues exist and how the company responds to issues.

Compliance Management: Results to Date

- Environmental incidences tabulated for the 3 semi-annual periods 1/2012-12/2013.

- Total reportable environmental incidences for the 24-month period were 187.*

- For the four periods, the totals were 29, 53, 51 and 54.

- The majority of these were *spills*.

- APLNG points out that their performance has actually improved in a rate sense as activity has expanded greatly.
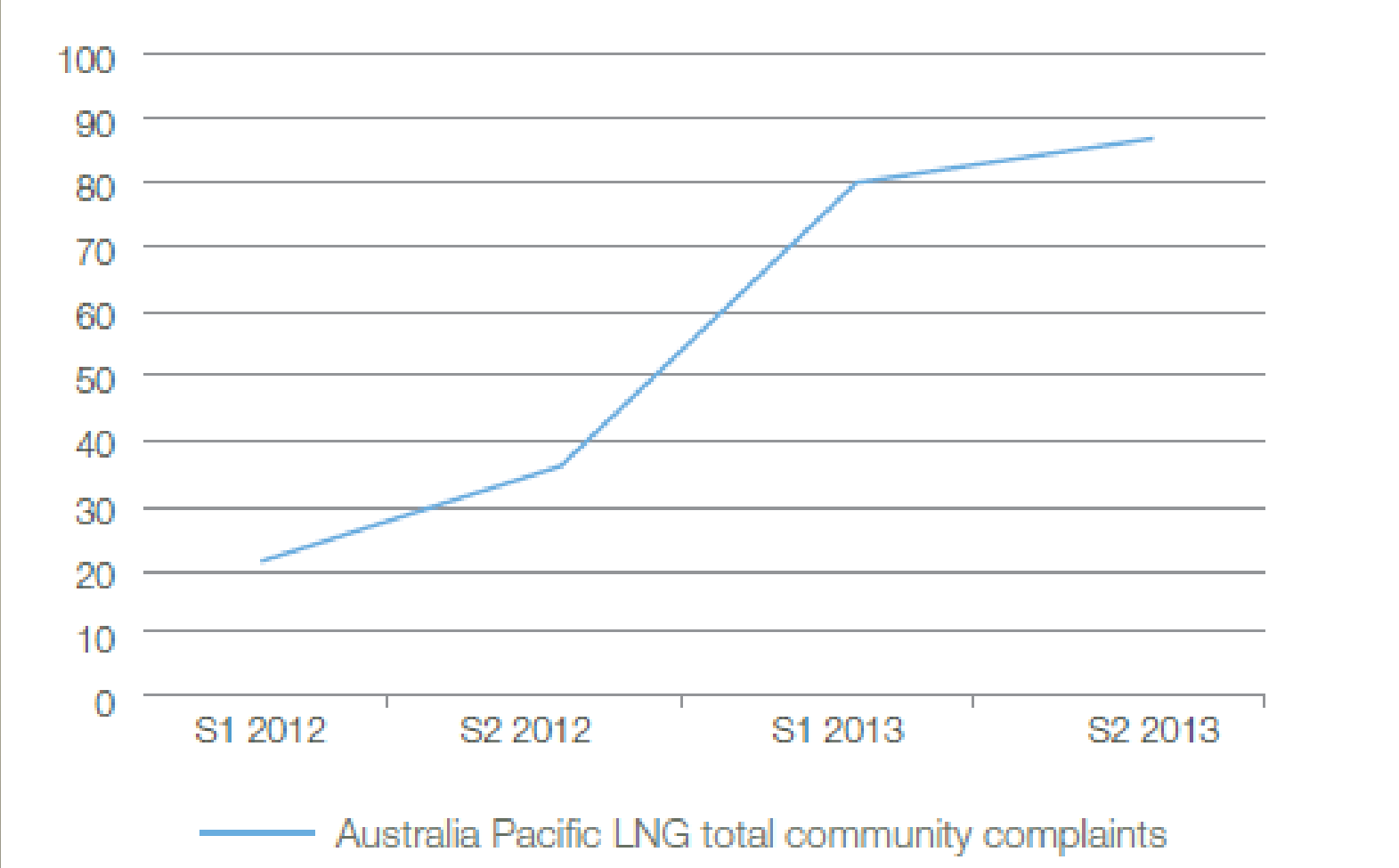
* Includes spills, unauthorized vegetation clearing, water quality exceedances, and approval condition non-compliances.

Stakeholder Engagement: Trackable Complaint System* Results to Date

- Over the 24 month period, 236 formal complaints received.

- 215 total, were against the upstream operations.

- APLNG: due to the much larger area of impact from wells and pipelines compared to the smaller footprint and relative isolation on an island for the LNG facilities.

- Majority of complaints in the four reporting periods were targeted at *traffic and transport*.

- Other complaints targeted noise, property damage, community safety, construction workforce behavior, compensation, cultural heritage and dust.

- At the end of the reporting period, 64 percent of all complaints received had been closed out.

* System requires contact and acknowledgement to the complaint in 24 hours.

Total Complaints by Reporting Period

Australia Pacific LNG total community complaints

Australia Pacific LNG. 2014. Environmental and Social Report, July to December 2013.

Corporate Social Investment / Philanthropy

- Through the end of 2013, the cumulative actual community investment exceeded AUS $20 million.

- The company also participates in collaborative industry initiatives: affordable housing initiatives, community safety and schools.

- Along with Australia's national science agency, cofunding a research initiative called the Gas Industry Social and Environmental Research Alliance (GISERA).

Organized Opposition to CSG

- CSG requires hydraulic fracturing: anti-development groups have found a successful playbook following the same approach and tactics used against shale developments.

- A national group called the Lock the Gate Alliance, who targets coal mining and CSG projects, is supporting grass roots efforts to stop all CSG drilling.

- Based on a survey of media outlets, it seems that the nearby Santos CSG project is the primary target of the protests rather than APLNG.

- The Arrow Surat Gas Project in the Surat Basin has also been the target of protests including broadcaster Alan Jones.

Organized Opposition: February 5, 2014

http://www.abc.net.au/news/2014-02-05/5241008

APLNG Outcomes to Date

- APLNG has not been directly targeted by protesters.
- Though there is no direct evidence in any public documents, the quality of the company's CSR efforts including their social engagement and social investment efforts deserves some credit.
- The ability to respond quickly to landowner's concerns and issues help maintain a positive community climate and the company's social investment also helps support local community activities.
- The project is still on schedule.

Conclusions: CSR as a Corporate Philosophy

Final Thoughts

- Given the multi-decadal relationship between operations and host communities, a proactive CSR program can go a long way towards meeting regulatory and community expectations as well as business objectives during the project lifecycle.

- This is particularly important for the oil and gas industry, where a general distrust dates back to the industry's birth.

- Project developers can react to situations as they arise but also document the existing baseline conditions that may serve the company well should litigation arise.

- Developing such a system as a matter of corporate policy should prove valuable to oil and gas companies as they develop new resources in unfamiliar locations.