

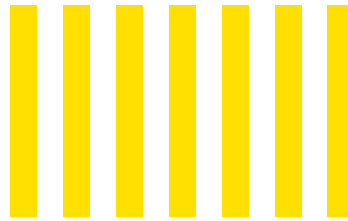


2006



International Gas Union
23rd World Gas Conference
5 - 9 June 2006, Amsterdam - NL

Gas: Powers the people
Preserves the world
Promoted by IGU



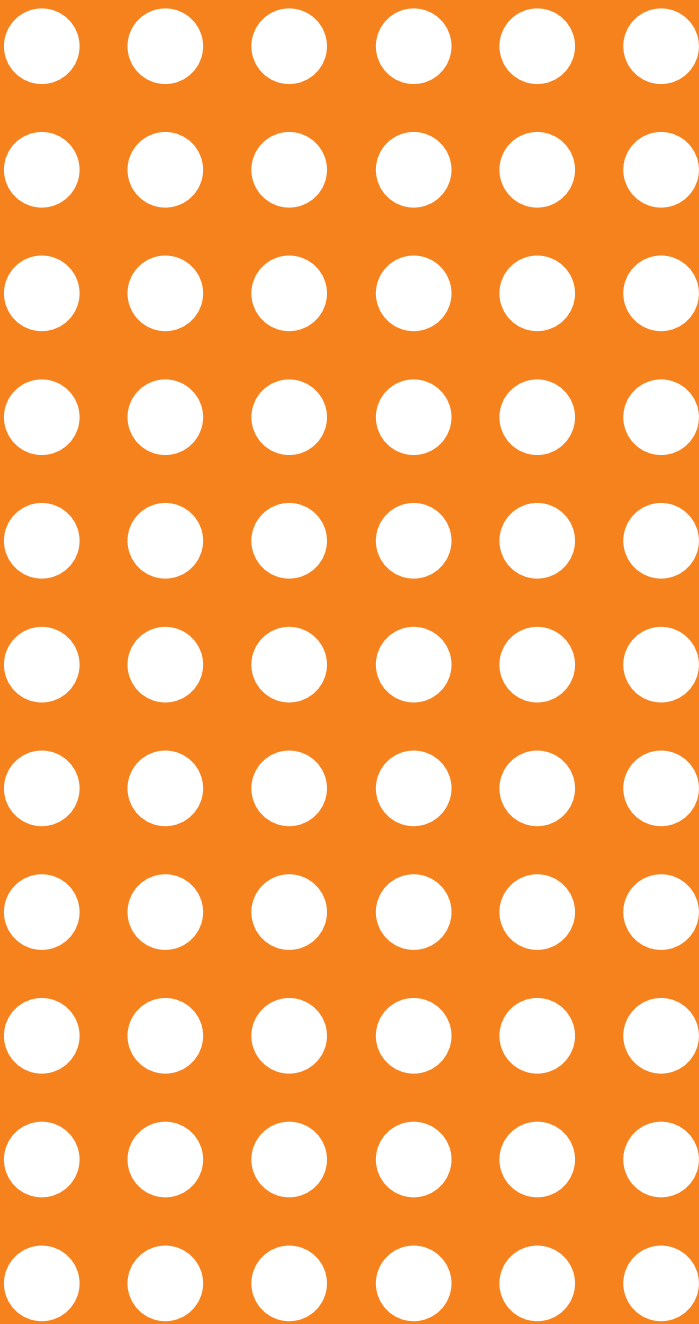
75 years
IGU



THE TRILOGY OF
SPECIAL PROJECTS



The 'Art' of Regulation



In preparation of the 2006 World Gas Conference, IGU launched three special projects: Gas to Power, Sustainability and Regulation. For all three, the aim was to engage all stakeholders in a dialogue on gas-related issues to achieve the best solutions for society at large.

The IGU organised a series of successful workshops on regulation. Active support and input was obtained from representatives of the gas industry, governments, regulators, consultants, academics and customer groups. The results are summarized in this brochure based on a report drafted by the Clingendael Institute and published to support the strategic round table debate on future regulation at the Amsterdam World Gas Conference on the 8th of June 2006.

To prepare this study, IGU workshops were held in Florence, Washington DC, Paris and Kuala Lumpur in cooperation with leading institutes and organisations.

The IGU wishes to express its special gratitude to the Clingendael team for conducting this study and 'EnergieNed', the federation of Dutch energy companies, for its sponsoring and Energy Delta Institute for their project support.

Above all IGU is grateful to all those who dedicated their time and expertise to contribute to the success of the project.

George H.B. Verberg
President International Gas Union 2003 - 2006

The 'Art' of Regulation



Natural gas markets and the natural gas industry are subject to substantial regulation all over the world. Regulatory frameworks significantly impact the business strategies of gas companies and shape the structure of the industry.

- How can a regulatory framework contribute to foster and coordinate timely investments along the complete gas chain, to meet growing natural gas demand?
- Does the increased import dependency of the main consuming markets, require a regulatory response?
- How dependant is an effective regulatory framework on market structure and market development phase?
- Is there 'regulatory competition' developing to accommodate the investor, under influence of the worldwide search for scarce energy resources?

These key questions are of a general nature, but in practice they translate into practical issues like:

- Will profits be fairly distributed along the gas chain amongst consumers, producers and the industry?
- Will deregulation and liberalisation in consumer markets really increase competition and retail for market share with lower wholesale prices as a direct result?
- Will liquid markets provide all the needed price signals for timely investments along the whole gas chain to ensure adequate supply? Should long term supply and transport contracts to coordinate those investments therefore be considered obsolete?
- Is it a necessary development that current Third Party Access rules are changed or partly set aside for new infrastructure investments in favour of the investors to attract new supplies in the emerging world gas market?
- Should the law give the 'regulator' a general and broad mandate, instead of a detailed and precise one to meet energy policy objectives?

Market conditions in world gas markets are rapidly changing. The International Gas Union (IGU) wants to facilitate a review of current regulatory practices against the backdrop of these changes. To that end, IGU commissioned a study on gas market regulation* and, more significantly, organised a series of high-level workshops in the main consumer regions. The stakeholders discussed their needs, objectives and to which extent regulatory developments support or obstruct the development of gas markets to the benefit of consumers.

Regulation that very directly impacts the structure of the gas industry and the functioning of gas markets comprises of six main areas:

- International agreements between governments which lay the groundwork for the establishment of international supply lines.
- Licensing and permitting procedures in those areas where gas production and gas infrastructure is to be established.
- Competition policy.
- Regulation of the use of 'essential' infrastructures, such as transmission pipelines.
- And, often closely related to the regulation of infrastructure use, regulation of the structure of the gas industry (unbundling or not of production, trade and transport).
- Consumer protection.

* Available at www.igu.org: "The paradigm change in international natural gas markets and the impact on regulation."

Energy policy and the related regulatory regime must provide the investor with confidence that his long term investment projects will bring adequate returns during their economic life. Regulatory changes during such a period that are detrimental to his return on investment, can easily impede the entire investment climate. Therefore, to foster investments, investors must be able to rely on a stable regulatory regime and a clear long term perspective. Yet, under pressure of changing gas market circumstances the regulatory regime should at the same time be flexible enough to maintain or improve the investment climate if needed.

Discussions with stakeholders in the various workshops have clearly confirmed that the market circumstances are indeed changing and that regulatory systems need to take this into account. It has also been confirmed that the type of regulatory framework that is needed is very much dependent on the development phase of the market. Initially, small and isolated developing markets require more 'managed' market structures and obviously a quite different regulatory regime to large and maturing markets like the United States and the European Union.

In today's main consumer regions indigenous gas production is in decline and import dependency rises. At the same time emerging gas markets such as India and China seek access to just the same new gas resources that established gas markets will increasingly rely upon. Not only consumer markets are seeking diversification of supply to become less dependent on single suppliers, but also the producers seek diversification of demand. The combined result is an emerging global gas market. LNG from different sources works as a catalyst. Many new pipelines are being developed as new markets are also seeking substantial supplies by pipeline. Despite substantial investment coming forward, decreasing production capacity from existing basins and demand growth keep supplies tight and a sellers' markets appears to be here to stay for a couple of years to come.

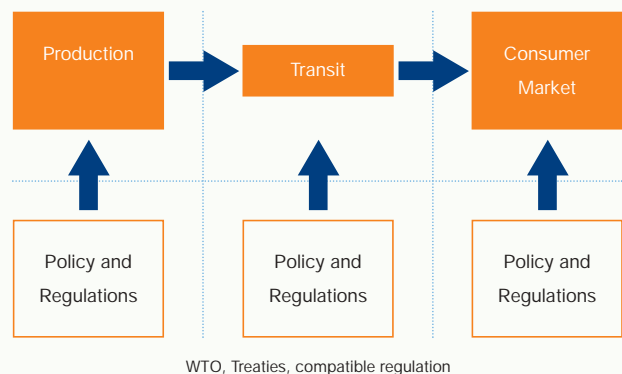
Importing regions increasingly compete with each other for new supplies. But also in producing countries domestic use will often compete with exports, further tightening the availability of supplies. The circumstances in the various jurisdictions vary to a large degree. The endowment with resources, the development stages of gas markets and of the countries as a whole, will result in different policy objectives. As a result, regulatory approaches that deliver optimal results for the societies

in question can be very different as well. There is most likely no 'one size fits all' solution.

The IGU special project on regulation during the Dutch triennium of 2003 - 2006 has indicated that, by 2006, many energy policies were under review, including some of the regulatory approaches. Regulatory frameworks are often adapted to the new market circumstances in such a way that investment conditions are improved for the smooth and timely realisation of new production and infrastructure necessary to meet the gas demand.

Examples of such adaptations can be found for instance in the United States and the European Union, where access regulation, in particular with respect to LNG terminals, has been (partly) removed in order to give investors more confidence during the economic life of the project. The US responded more swiftly in favour of required additional investments in LNG, storage and pipelines compared to the EU where 'asset sweating' is sometimes still given priority over the long term investment climate for new investments in extra capacity.

Cross border gas chain and different regulatory regimes



Regulatory frameworks should support the investments needed to realise the required supplies in an efficient and timely manner. Along the gas value chain, the interests of stakeholders need to be aligned. Customers need confidence in the availability and competitiveness of natural gas to consider consumption. Pipeline and storage operators need to receive sufficient returns on their investment with reasonable certainty. So do producers of natural gas. In more mature systems, ideally competitive gas market offer a choice to customers.



Regulatory frameworks, if skilfully designed and applied, can very much increase investor assurance and contribute to consumer benefits by enabling secure and efficient new gas supplies. However, the devil is in the detail and taking account of the many factors influencing the various gas markets is an enormous challenge.

The IGU's study on gas market regulation, conducted by the Clingendael International Energy Programme, greatly benefited from the input of several high level workshops around the world. This study is the point of departure for the IGU to initiate a debate on the impact of regulation. A debate that certainly will not end at the Amsterdam World Gas Conference 2006.

In general, the main outcome of the study can be characterised as follows:

- A global gas market is emerging. Consumer markets are competing for supply. Strong demand for energy in traditional markets is complemented by strong demand from emerging economies such as China, India and Brazil, reflected in rising natural gas prices. Both, consumer regions and producers are seeking diversification of purchases and sales respectively.
- Under prevailing market conditions in which demand is strong and where there are long lead times for major new projects, the global market can currently be characterised as a sellers' market. Major players will remain dominant in international markets, both on the production side as in wholesale markets.
- Energy policies are under review due to changing supply/demand balances. Regulatory regimes are being revisited and adjusted in order to adapt to the new business environment. In the main mature gas markets the focus has shifted to supply security and the investors' need to secure timely availability of the necessary LNG, storage and pipeline facilities.
- It is apparent that even the more liquid liberalised unbundled markets will not always provide the necessary investment signals in a full and/or timely manner. Such signals are a pre-requisite for a timely response by investors along the complete gas chain and to prevent underinvestment to meet the demand. New and old coordinating mechanisms such as long-term contracting of supply and transportation, vertical integration and exemptions for Third Party

Access (TPA) seem to be required to complement competitive short-term market signals for a balanced supply and demand with stable prices.

- Regulatory frameworks should reflect market realities, i.e. prevailing market structures and market functioning as well as policy objectives that can all vary across countries and regions. Compared to mature markets and a managed market approach, developing markets need different regulatory frameworks. Also, prolonged sellers' market conditions may require different regulatory measures compared to prolonged buyers' market conditions.
- Coordination of regulatory regimes along the gas chain and crossing different legal systems to support coordinated investments in infrastructure to maintain supply, are major challenges. International frameworks, such as the Energy Charter Treaty, WTO rules, and bilateral treaties have the function to support investment initiatives and to resolve disputes.
- Discussing and adjusting regulatory frameworks requires a new process of exchanging information and coordination between consumer and producer countries. Such a new process needs to enhance the mutual understanding of each others interests and the assessment of supply and demand security, of competitive markets and of investor needs. It could be part of broader energy policy and foreign policy approach, securing long-term relations between producers and consumers based on mutual dependency.

More specifically for maturing markets the following can be observed:

- It should be accepted that markets and regulatory models are dynamic and that a transition phase from regulated regional monopoly (or 'managed') markets to fully liberalised markets with a stable regulatory regime could easily take 10 - 15 years. Before subscribing to liberalised markets, due attention should be paid whether such a market model is best suited to achieving the local policy objectives, given local market circumstances and especially the development stage of the market.
- Regulation will have an impact on market development, but cannot be the driving force for designing, at short notice, markets very different compared to its present structure and functioning. Markets cannot be expected to be overturned completely in a short space of time.

A step-by-step approach is necessary that gives markets sufficient time to adapt. Markets should be given time to evolve and design themselves under the influence of a wider set of factors.

- Incentive-based or command-and-control regulatory actions may bring about ex ante or ex post interventions. Ex ante regulatory decisions are required when essential (monopolistic) facilities are in place. Ex ante protective action is required to secure consumer interests when it is likely that abuse of dominant position will occur. Some ex ante regulatory decisions could also be necessary in market transitions when market forces may need support, for instance by regulating access to essential facilities. However, this kind of interference can easily distort markets also by creating new unwanted vested interests.
- Given potentially anti-competitive, horizontal and vertical integration and other strategic responses, certain regulatory decisions, such as unbundling, will be implemented to bring about competition. It is however very important first to establish how and where in the value chain sustainable competition can emerge.
- Competition authorities usually undertake ex post interventions when competition is hindered and/or dominant parties are abusing their market power.
- The need for a sustainable balance between ex ante regulation, concentration and integration, industry stability, abuse of market power and competition policy may require a market design based on a broader perspective on the functioning of markets, an enhanced coordination of the several institutions involved in the market and possibly a revised definition of their tasks and criteria for taking action. Security of supply should be an integral part of such an analysis on the present and future functioning of the market.
- The role of demand side participation in the market receives too little attention, generally. Also, consumers can contribute to issues such as reducing price spikes and increasing security of supply by taking a more active stance in markets, provided they are given the opportunity. The potential for this could be exploited more effectively.
- It remains under discussion, as to how much, and what kind of stability in a regulatory framework is necessary to secure market confidence, versus the need for sufficient flexibility to adapt to

changing market determinants, in keeping the investment climate attractive.

- Moreover, ways need to be found to determine the location and nature of authority to change these regulatory rules, independently from political processes, assuming that this requires timely decisions, based on transparent processes with sufficient input from market parties and other stakeholders.

In the next IGU triennium these issues need further debate amongst stakeholders. IGU pleads for a wide approach, which should take into account the structure and functioning of the specific gas markets and come up with customized approaches for the different gas markets in the world.

A main question will remain: what coordinating mechanisms should be available along the gas chain for securing supply to markets, supply that increasingly have to cross borders? Are there alternatives to substitute the existing mechanisms like long term contracting and vertical integration?

Under pressure of so many stakeholders and market developments, regulation with a minimum of interventions is more than ever:

'An Art beyond Science'



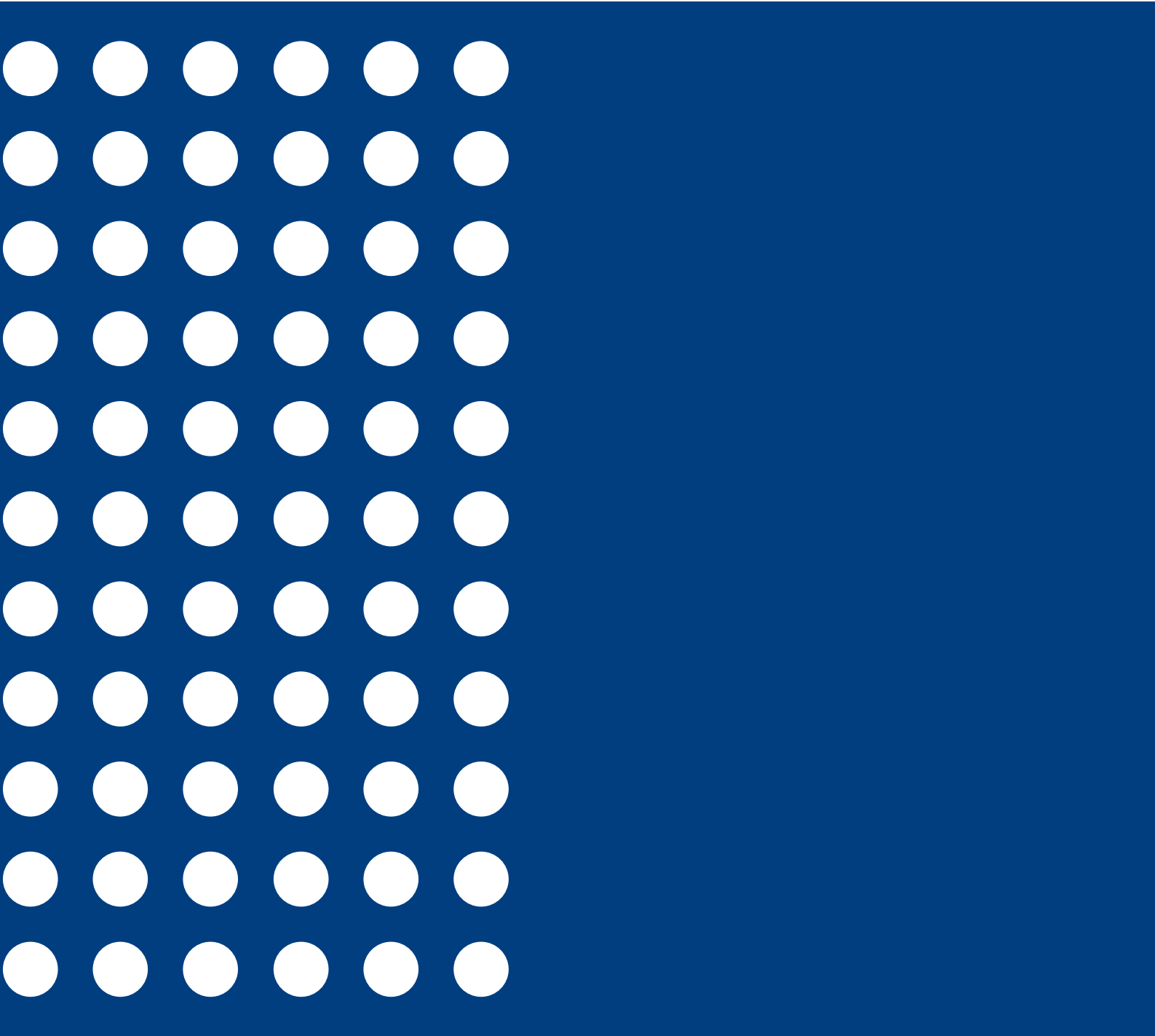
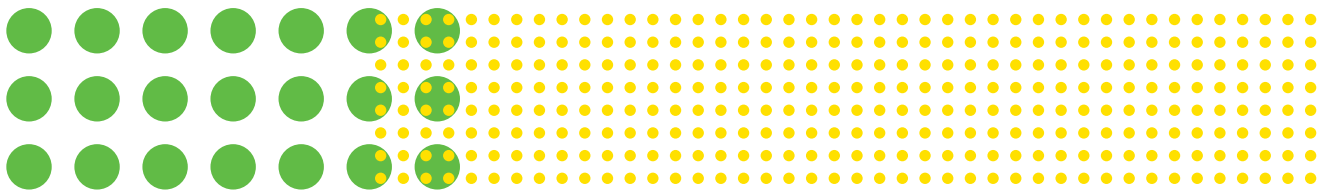
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