# APCE 09 - Review

*Datuk (Dr) Abdul Rahim Hj Hashim, President International Gas Union (IGU) and President Malaysian Gas Association (MGA), officiated the* ***5th Asian Pipeline Conference & Exhibition 2009*** *which was held from 28-29 October 2009 at Sutera Harbour Resort, Kota Kinabalu, Sabah, Malaysia*

*The Conference is an annual event to promote dialogue and information exchange between pipeline professionals within the region, especially amongst ASEAN countries. It is also geared to be an international annual hallmark event in recognition of the specific needs and role of the pipeline industry in our region.*

*Themed "Optimizing Pipeline Performance By Harnessing Our Human Capital", recognizes the challenges in optimizing pipeline assets, challenging product mixes and maintaining pipeline flows in difficult operating environments. At the same time it also proving challenging to secure and develop the human resources. The following are two of the main keynote addresses that set the tenor of the event.*

## Keynote Address by Datuk (Dr) Abdul Rahim Hj Hashim, President, International Gas Union (IGU) and President, Malaysian Gas Association (MGA).

### Introduction

*Distinguished guests, delegates, ladies and gentlemen.*

It is a pleasure to welcome you today to the wonderful harbour city of Kota Kinabalu.

This city and the region surrounding it have much to offer. I trust that as delegates you have the opportunity to take in some of the sights in addition to your deliberations and discussions on pipeline related matters.

This is my first regional address as the newly appointed President of the prestigious International Gas Union.

Malaysia, and especially members of the Malaysian Gas Association, put a huge effort into securing the Presidency of the IGU for the 2009-2012 Triennium and I want to place on record my appreciation for their efforts which went well beyond the normal "call of duty".

As President I intend to make every effort to deliver the benefits of the IGU's activities to the entire gas industry at the national, regional and international levels.

I would like to expand today on what the IGU presidency means for Malaysia and our region.

I will also cover the IGU's major work program areas and also touch on those aspects that are relevant to the pipeline sector.

**The IGU**

In reality, the entire IGU work program is relevant to the pipeline sector given the critical role that pipelines play, and are expected to continue to play, as efficient delivery systems linking supply with markets. However, in this 20 minute address I shall focus on some of the highlights.

The IGU was established in 1931 and has a long history on advocacy on behalf of its 72 Charter Member countries. Malaysia, through the Malaysian Gas Association, will hold the Presidency for a three year period, culminating in the World Gas Congress which will be held in Kuala Lumpur, Malaysia in June 2012.

This will be a major event for the entire global gas community and one that Malaysia is proud to host.

The IGU has always played a critical role in promoting the technical and economic role of natural gas in the world energy market and this activity will continue to expand under the Malaysian triennium program.

**Facing Challenges with Optimism and Drive**

We face the future with great optimism. Natural gas has grown to account for around 20 per cent of world energy use, but the industry does face challenges. There has been great uncertainty in world energy markets for several years and this has been a challenge for the gas industry globally and regionally.

The long lead times means it is a real challenge to develop gas projects, including the transmission component. That task is made more difficult at a time of global uncertainty regarding prospects for future economic growth and prices for energy.

This does not alter the fundamental benefits gas has to offer, but makes it more difficult to bring promising projects to fruition on a "fast track" basis. High energy prices increase infrastructure costs, often dramatically and to the extent that project proposals are deferred. Low energy prices also challenge the viability of gas projects which have long lead times and can take many years to return a profit even at "reasonable" energy prices. Pipeline delivery systems cannot be taken for granted. There are many projects on the drawing board that can take a decade or more to work through the complexity of supply sources, long term demand centres and the approvals processes, many of which directly involve a range of governments as well as a diversity of private sector stakeholders. Nothing should be taken for granted in the gas industry and there are many areas where a cooperative effort through the IGU between a diversity of stakeholders will be needed to position a strong future for natural gas.

It is yet to be seen whether the dynamic and volatile business environment the gas industry is currently exposed to will settle down. This environment makes the IGU's work even more important.

**The Malaysian Triennium**

Against this background of a challenging operating environment for the gas industry, the Malaysian Presidency selected the theme **"Gas: Sustaining Future Global Growth"** as the foundation for the work it will be doing over the next three years.

The benefit of natural gas as a fuel rests in its ability to meet both economic and environmental goals. Around the world natural gas has been the engine for economic growth and plays a crucial role in regional and national development activities. We will need to work effectively on a whole of industry level to make this point effectively to policy makers and governments around the world. The gas industry is maturing in many parts of the world and in some markets – Europe and the US for example – the key issue is long term security of supply at a reasonable cost. In these markets it will be a real challenge to maintain the role of natural gas as a preferred fuel choice.

In other regions – and I regard the ASEAN region as one such area – the market is not as mature. However, even here, there is a growing mismatch between supply and demand, requiring more intensive efforts to develop new resources and possibly "non-conventional" gas like coal bed methane to markets via pipeline delivery systems. In the near future the pipeline sector will need to contend with growing volumes of LNG as an alternative to conventional pipeline delivery systems. How the industry responds to these challenges may be expected to have an important bearing on the long term sustainability of gas as a fuel. Perhaps the most important issue for this region will be to maintain a strong exploration and development effort; this in turn will depend to a large degree on pricing policies for gas.

Another need includes continued innovation and improvements in the end use efficiency of natural gas.

Finally, the entire gas chain must think hard about access to the human capital needed to develop and operate the infrastructure – in general we are all dealing with ageing infrastructure where the operational challenges will grow over time. And we are not getting any younger either!

Most people recognize the greenhouse benefits of gas – or do they? We should never take even this fundamental truth for granted. We need to be very certain that policy decision makers and governments are fully aware that natural gas, whilst a fossil fuel, has much to offer in terms of greenhouse mitigation strategies. The IGU will be intensifying efforts to ensure natural gas is positioned and recognized as a viable solution to a less carbon intensive economy.

Looking at all the areas above, it goes without saying that the issues are both complex and – in many cases – interrelated.

At a global level the geopolitics of gas are complex and considerable effort will be required to ensure that the greenhouse credentials of natural gas are recognized by the community at large, policy makers and governments.

The areas I have set out above are best pursued at the "whole of industry" level and the IGU represents the best forum in which to take forward such "whole of industry" objectives.

One test is to ask yourselves as transmission pipeline professionals whether these objectives will assist the long term and sustainable development of your part of the delivery chain. I believe that answer is a resounding "yes".

IGU Strategic Goals – The Malaysian Triennium

Turning in more detail to the strategic goals that will be the focus of Malaysia's IGU Presidency, the IGU – with major input from Malaysia and other IGU Members – has identified four strategic guidelines which will be pursued vigorously over the next three years:

1. **Enhance the role** of gas for sustainable development and balancing the needs of all stakeholders
2. **Improve availability of gas** and access to markets
3. **Maximize efficiency** throughout the expanding gas

value chain

4. **Ensure adequate human capacity** to enable growth and integrity of the industry.

The overall goal is clear, unambiguous and can be summarized as follows

*"to ensure that gas retains and extends its clear position as fuel of choice on economic and environmental grounds."*

There are distractions and, in some cases, obstacles to be overcome in reaching this goal. The distractions come mainly in the form of competing energy sources, both fossil fuels and renewables. It is important that natural gas not simply be labeled a "fossil fuel". Equally our industry must ensure that its practices meet sustainability objectives at all levels of the delivery chain.

This includes the transmission sector. Pipeline companies must be very conscious of key issues like safety, the environment, landowner consultation and management and overall security of supply. That is a responsibility of being in the gas business.

We must also work constructively with other energy interest groups to ensure that wherever possible the best economic and environmental balance is achieved. This will be a challenge, but it also represents a major opportunity for gas in consolidating existing markets and developing new market share.

**Comprehensive Technical Program – Committee Based**

In order to meet these objectives the incoming Malaysian presidency has been active for several years in working constructively with the IGU and its Charter Members to develop a comprehensive technical program to address the issues in a structured manner. The results will be presented at the World Gas Conference in 2012.

The five working groups of the IGU represent the engine for much of this work. These committees include exploration and production, gas storage, transmission, distribution and utilization.

Additionally, recognizing the role that human capital and geopolitical positioning of gas on the world energy scene, three dedicated task forces have been established to look at the following key issues:

1. Building strategic human capital
2. Nurturing future generations
3. Geopolitics of natural gas

Let me give you an idea of the human capital the IGU, its Charter Members and associated stakeholders will be giving to this task. During the last triennium more than 700 industry leaders drawn from IGU's global membership participated in developing the Triennial Work Program delivered in Argentina at the World Gas Conference earlier this month. I expect the human expertise requirement for the current Triennium to be at least equal to this effort. I am confident that by harnessing gas industry expertise within Malaysia, regionally and internationally we will all be up to the task at hand.

**Concluding Remarks for the Regional Transmission Pipeline Sector**

This is only the second time the IGU Presidency has been located in the Asia Pacific Region. I especially look forward to working with stakeholders from this region to drive an outcome that will benefit the long term development of natural gas as the fuel of choice in our region.

The human resource needs for the tasks we have taken on are a challenge, but will be an excellent investment. Through cooperative IGU activity we can all make a difference to the benefit of our respective pipeline and gas sectors.

I urge you to get involved in this work at an early stage – the Malaysian Triennium is actually only 2 years and 8 months in duration so the need to start work is already upon us.

Given that I am addressing a pipeline audience, I wish to conclude with some comments on the work of the transmission working group (WOC3) of the IGU.

This group notes the critical importance of long term security of supply from transmission pipelines, pipeline safety and environmental acceptance. It also recognizes that new gas transmission pipelines are becoming more complex over time. Coupled with the technical skills shortage that has been growing over a number of years now, the key question asked by the Committee is

*"...do the personnel responsible for maintaining and operating these complex systems have sufficient education and skills to perform their tasks adequately?"*

Three study groups have been established to look at the key issues.

The first will look at strategic gas transmission infrastructure projects including cross border pipelines and the construction of pipelines under extreme conditions.

This region can contribute constructively in both these areas given the large number of country-to-country pipelines that have been built and our growing experience with deepwater pipelines.

The second will look at integrity (an ongoing issue for the transmission sector and an area well represented at this conference) and measures to reduce the environmental footprint of pipelines.

The third will look at ways of securing sufficient expertise to operate gas transmission systems safely and adequately. Note that this study group will contribute to the work of the special Task Force "Building Strategic Human Capital"

## Concluding Remarks

Against the background of this largely technical pipeline conference, I have sought to present to you the wider picture of Malaysia's IGU Presidency in terms of its scope and objectives. We are all part of a large global gas industry that has as its central core the objective securing a wider role for natural gas on both economic and environmental grounds.

If we are to ensure that natural gas retains and expands its role as fuel of choice we all have a role to play.

Malaysia's IGU Presidency provides the ideal opportunity for regional gas companies and individuals to become part of the wider IGU effort. This can help secure the long term future of natural gas as the "preferred" fuel in our overall energy mix. I commend the IGU's program of activities for your detailed attention and involvement.

**Thank you.**

## Keynote Address by Dr Allen Beasley, Executive Director, ASCOPE Gas Centre

## Introduction

Distinguished guests, delegates, ladies and gentlemen.

It gives me great pleasure to welcome you to the 5th Asian Pipeline Conference and Exhibition which is being staged at the wonderful Sutera Harbour Resort, Kota Kinabalu.

This conference is normally co-organized by the ASCOPE Gas Centre and the Malaysian Gas Centre. We are also pleased this year to have the World Gas Conference 2012 organizers – WGC 12 – as our conference co-organizers as well.

I trust you make the most of your stay here, not only in taking in the wonderful natural environment that surrounds us, but in networking with your follow pipeline professionals over the next two days.

We have much to discuss over the next two days and the program has been designed so that you have good opportunities to discuss the issues you face in the pipeline industry.

In turn the AS COPE Gas Centre is very interested in your views and the views of speakers on the key issues into the future.

We are in the process of developing our second five year business plan, covering the period from 2010 until 2015, and I would be personally interested in any suggestions you may have regarding projects or work areas that should be included in our next five year plan.

This is your opportunity to play a role in developing the future work activities of the Centre I represent and I urge you all to make the most of the opportunity.

**ASCOPE Gas Centre Activities**

Now, four and a half years since the AGC was established, it is a good time to look quickly at what we have achieved as an organization.

It is still relatively early days and it is proving to be a challenge to attract the "in kind" support from our Member Countries we need to make the Centre fully sustainable.

However, we have made good progress in many key areas.

In fact our initial five year Business Plan is largely complete with the exception of a small number of projects which will carry over until 2010.

The Centre has developed rapidly as a credible and professional organization in providing advice, briefing and other activities to the ASEAN Gas Consultative Council, the TAGP Task Force and other ASCOPE Business Development Committees.

This was always intended to be our main role. It is expected to remain a major role in our 2010-2015 Business Plan as well. In this way the Centre will play its role in assisting implementation of the recommendations that are included in the Memorandum of Understanding on the TAGP, under the direction and scope of the various committees set up to oversee progress on the TAGP.

I want to draw your attention to the work we are doing and plan to do on Coal Bed Methane as a "non-conventional" source of natural gas. I suspect – particularly given Mr. Hilmi's comments about the growing gap between gas supply and demand over the next 20 years or so – that there will be significant opportunities for the pipeline sector to service emerging new markets and infrastructure relating to Coal Bed Methane (CBM). Whilst the industry in SE Asia (take South Sumatra and the Hanoi Basin for example) is not as mature as, say, work in the US or Australia, AGC believes the industry can grow strongly from a small base

effort, especially if issues surrounding conflicting land use (coal mining/petroleum exploration/CBM) and water management (removal of large volumes of waters from aquifers which coexist with the coal) can be managed effectively. We are planning a CBM Seminar next year to look at these very issues.

The other main work of AGC has related to some of the many policy issues relating to gas trade in the region. Our reports on these matters, ranging from gas quality to gas transit between countries, have been incorporated in the revision of the TAGP Master plan which was completed late in 2008. This work was complex, detailed and took a lot of time. The effort is largely complete and can now serve as a reference point if and when there are firm moves to pursue multi-country pipeline development projects.

The other work I want to highlight is the activities of the South East Asia Pipeline Operators Group. I have covered the activities of this forum for discussion of pipeline operator's issues previously, so I shall focus on one activity we are planning which may be of interest to the pipeline industry gathered here today.

**Field Coat Joint Research Initiative**

This project is a research and evaluation project looking at the properties of field joint coats on pipelines which will be of interest to owners of pipelines and service companies alike.

It has been initiated by PTT, Total and Wasco Energy. The project is open to other interested companies as well, as long as they are active contributors in terms of in-kind resources (i.e. provision of materials for testing and their own in house expertise).

In terms of background to this project, it is known that many field joint coating systems are available, often for different temperatures, environments and coating systems. There can be problems in achieving good adhesion and long term acceptable field joint coating can be difficult to achieve. This has long been recognized as a problem area by pipeline operators.

The aim of the project is not to select the best system, but to work constructively with the suppliers and applicators to improve and or complete systems for adequate protection of pipelines under the conditions specified by the participants.

It won't be possible to look at all field joint coatings and a shortlist of priorities will be set (e.g. choice from liquid epoxy, tar-urethane, FBE, poly propylene based systems etc). The project will also look at pipe and bend coating situations which can also be a problem area.

AGC is very appreciative to Wasco Energy who has agreed to make the site available for the tests and to actually conduct and manage the tests which will include:

- Visual inspection
- Degree of cure for FBE > Thickness
- Holiday detection
- Peeling force/adhesion > Cathodic disbonding
- Impact/indentation testing > Ageing tests

The kick off meeting for this project will be in Bangkok during November. A copy of the brief for the project is available from the APCE Secretariat desk.

The point I really want to make is that such programs of cooperation can benefit the gas industry in this region. As in most cases the research journey is likely to be every bit as important as the actual destination in terms of lessons learned.

I commend this project to anyone having an interest in the field of pipe coating and their effective protection – my guess is that should include many people here today.

**The Regional Energy Scene**

Mr. Hilmi has referred to the gap that is expected to grow between gas supply and gas demand over the next ten years or so. The expected gap is substantial and should be of potential concern to policy makers in SE Asia.

There is evidence that policy makers are indeed paying attention to the strong indication from the work of the TAGP that the gap between gas supply and demand is set to grow substantially. This was contained in the Second ASEAN Energy Demand Outlook which was released by the ASEAN Centre for Energy in March this year.

The picture for gas for power generation is the most important aspect given that gas fired power generation is the most important market for gas in the SE Asia Region.

The ASEAN report forecasts significantly lower gas use for power generation compared to the TAGP Master Plan, accompanied by an increase in forecast demand for coal for power generation. Whether these forecasts are achieved given the environmental problems faced by coal will be interesting – I suspect there will be difficulties and that it will prove a challenge to change the fundamental need for gas for power generation in this region.

The efficiency of combined cycle gas fired power generation, coupled with its relative lack of environmental drawbacks, will in my view make it the preferred fuel and it should attract a premium relative to other fuels.

But gas has to be priced to the market for that to happen – subsidized gas prices pose a threat to efficient gas development and use around the region and – given the gap between supply and demand – there is no scope for complacency.

The nature of pricing policies adopted by individual countries will become even more important as and when the region increases its reliance on internationally traded LNG – and that is a very clear direction for the SE Asia region with a number of countries actually building LNG degasification terminals and others making plans to move in that direction.

It will be interesting to see the effect of LNG on gas markets regionally – will it bring the stability of large, long term contacts or will it remain an incremental fuel making up a relatively small part of the regional natural gas portfolio?

Certainly on the supply side there is optimism with discussion of floating LNG technology, coal bed methane based LNG production and many other supply projects.

Like everyone, I'll wait and see what happens to oil prices – currently sitting around USD$75 per barrel – but I suspect that this price level is going to be sustained long term this time and this will give LNG every opportunity to gain significant market share in the region.

I believe the most fundamental issue remains new supply sources and whether they can be brought on-stream at costs lower than imported LNG. We are going to have to rethink solutions for high carbon dioxide gas and find ways to use it economically, possibly using low calorific value gas for power generation. That is going to be a real challenge in itself and I suspect that when the time comes to develop these difficult fields, the pressures of carbon capture and storage as a mitigation strategy for greenhouse gas management will be even stronger.

That is why I think – including pipelines – now is a good time to get an understanding of what carbon capture and storage would mean for the pipeline sector.

There will certainly be opportunities for the pipeline industry; there are also potential risks for the industry which need to be understood.

**Emerging Issues**

This part of the presentation simply sets out my personal views on some of the key issues we shall have to face in the pipeline sector over the next 5-10 years.

It is not an inclusive list.

Firstly, we are all going to be working much harder to keep pipeline assets serviceable. Age has already caught up with a significant number of pipelines and this trend is growing. I think the pipeline re-certifiers are going to be very busy indeed. Within AGC we are giving thought to whether there is scope for us to develop a guideline for decommissioning of offshore pipelines, but we have made no decisions yet.

Training and development of people has always been an important feature of this industry. There are lots of training courses available but how effective are they? AGC is interested in meeting some of the training needs of the industry through facilitating more specialized courses – such as the ones we arranged for presentation by Det Norske Veritas in conjunction with last years APCE. What are views on this approach? Should we continue or defer the Young Pipeline Professional Study Tour? These are questions we shall be asking of ourselves in the development of our next five year Business Plan.

We are also asking ourselves whether this APCE Conference should continue, perhaps once every two years as this would give us the time to put together an organizing committee and more time to have a more structured approach to this conference.

One commitment we make however is to continue SEAPOG as a forum for pipeline operators.

To the extent that we experience difficulties in securing "in kind" resources from our Member Countries – and this is an ASCOPE matter and not a "pipeline industry" matter – we will remain short-staffed.

There are already some projects and programs that we have great difficult in moving forward. We are optimistic that these matters can be successfully addressed as part of the next AGC Business Plan.

**Thank you**

*PetroMin Pipeliner would like to show appreciation to the Organizing Committee of the 5th Asian Pipeline Conference & Exhibition especially Mr. Salim Abdul Kadir for this review and photos of the event which took place on 28 - 29 October 2009, in Kota Kinabalu, Sabah.* PP