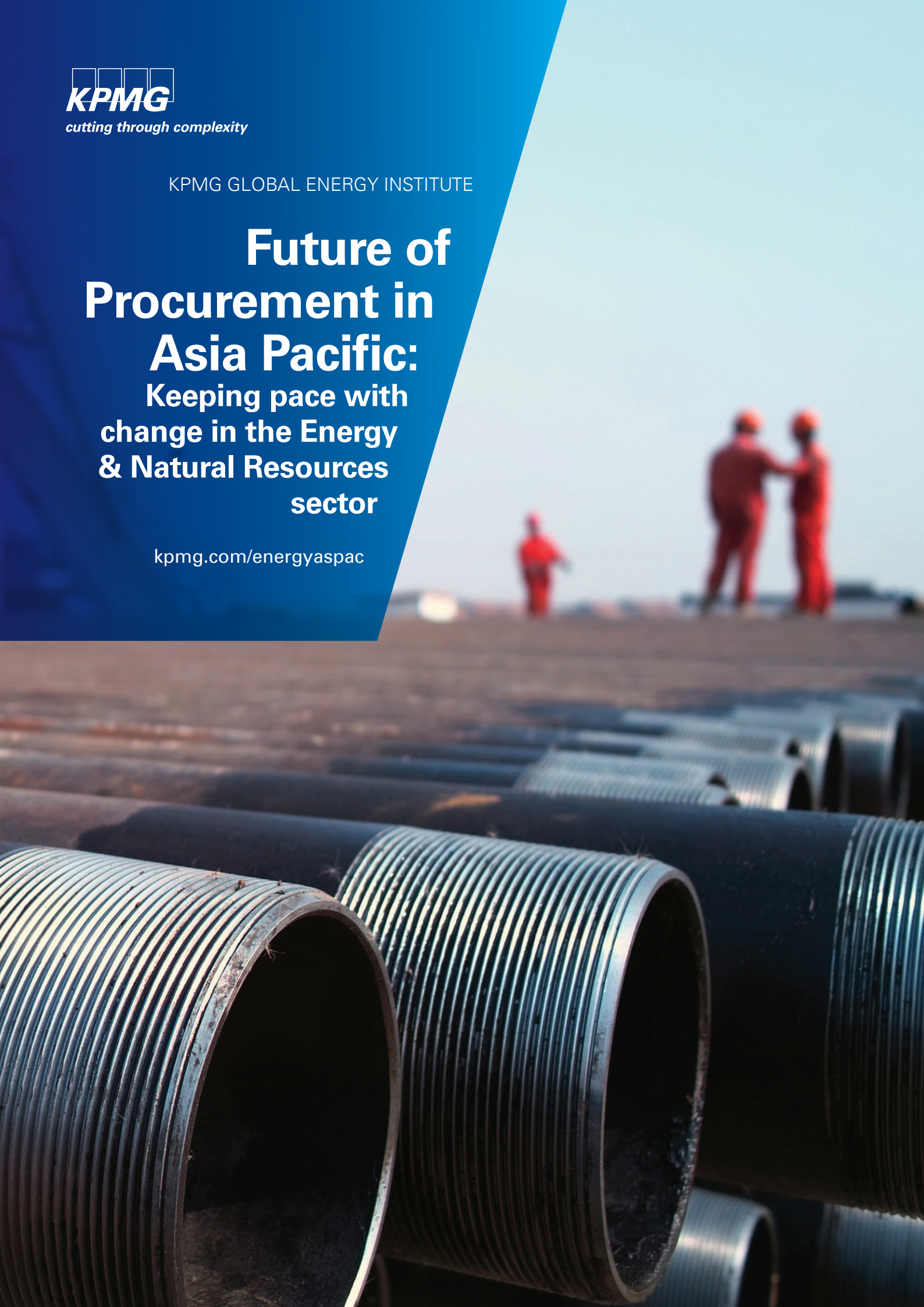


KPMG GLOBAL ENERGY INSTITUTE

Future of Procurement in Asia Pacific:

**Keeping pace with
change in the Energy
& Natural Resources
sector**

kpmg.com/energyaspac



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EXECUTIVE SUMMARY

In the Energy & Natural Resources (ENR) sector, procurement efficiency is increasingly at the forefront of business leaders' minds. A lower oil price is likely to slowdown E&P activity across the entire value chain, from exploration to monetization. Mining companies continue to feel the pinch from weak commodity prices. In such an environment, best-in-class procurement processes can help ENR companies optimize costs and deliver stakeholder value.

Sourcing and procurement functions typically manage 40 to 80 percent of an organization's total spend.¹ Yet, KPMG has found that procurement functions in ENR companies, relative to some other sectors, remains behind the curve in terms of maturity and proficiency.

It should be acknowledged that Asia Pacific (ASPAC) is a geographically huge and diverse region. Moreover, the ENR supply chain itself comprises many components. Nonetheless, ASPAC's ENR supply chain is generally considered underdeveloped and high cost. Accounting for the rate of change and headwinds in the

ENR sector, advanced procurement functions are essential if organizations are to sustainably grow and capitalize on the region's latent potential.

To unlock value for companies in ASPAC, the procurement function should become a strategic capability aligned with the business, which balances value for money and risk management. The development of stronger procurement capability in strategic sourcing, risk management, category management, demand and supplier relationship management can help ENR companies take a substantial step towards cost optimization and immunizing themselves against sector volatility and business risk. Indeed, best-in-class procurement functions are creating improvements in average procurement savings of 279 per cent.²

This report aims to convey to ENR stakeholders how the procurement function can help organizations enhance their competitive advantage. Using a variety of region-wide case studies, we aim to demonstrate how strategic procurement can help companies capitalize on

emerging trends, enhance processes and technologies, rethink their organizational structures, and deliver tangible value to the bottom line. Particular attention will be given to the segments: Oil & Gas Upstream, Oil & Gas Downstream, Mining and Power & Utilities.



Tony Rawlinson
*Partner, Procurement Advisory,
KPMG in ASEAN region*

"Large strides can be made to develop procurement functions in Asia Pacific's ENR sector. The first step is helping executives understand the critical role procurement can play in improving their business."



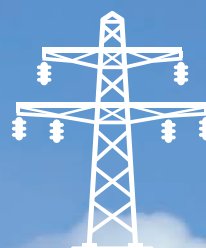
**Oil & Gas
Upstream**



**Oil & Gas
Downstream**



Mining



**Power &
Utilities**

¹ Procurement Advisory, 2014, KPMG in Singapore

² Procurement Advisory: Beyond buying; delivering bankable dollars 2014.

Introduction: Procurement in Asia Pacific's Energy & Natural Resources Sector

In response to developing global megatrends in the ENR sector, procurement organizations are having to adapt to keep pace with business demands. The global energy transition towards stable, affordable and clean energy is proving a testing tri-lemma for companies and countries.

Energy Commodity Uncertainty

Large portions of the ENR sector are bracing themselves for a tumultuous 2015. Facing shrinking margins, volatile commodity prices and security of supply concerns, much of the industry has been punctuated by uncertainty. Since June 2014, crude oil prices have nose-dived to a five year low, sending shockwaves across the energy industry. Numerous oil and gas companies are rigorously reviewing their upstream portfolio, with many likely to reduce CAPEX by mothballing marginal or low return plays.

Regional Demand Growth

In the face of uncertain energy commodity prices, the ASPAC region, supported by economic modernisation and favourable demographics,

remains poised to be the financial engine and demand hub for many ENR companies. Over the next twenty years, Southeast Asia's energy demand alone will increase by more than 80 percent – a rise equivalent to the current demand in Japan.³ As the region's energy demand increases, nowhere else is the need to enhance ENR procurement processes as intense as in ASPAC.

Vast Potential

As ASPAC's economy grows, so will the cost of doing business. With sourcing and procurement representing the lion's share of a typical organization's overall costs, the function should be a priority area for ENR businesses. Considering the relatively underdeveloped, diverse and extensive supply chain within ASPAC, establishing best-in-class procurement functions presents an opportunity for ENR companies to significantly reduce costs and improve efficiency.

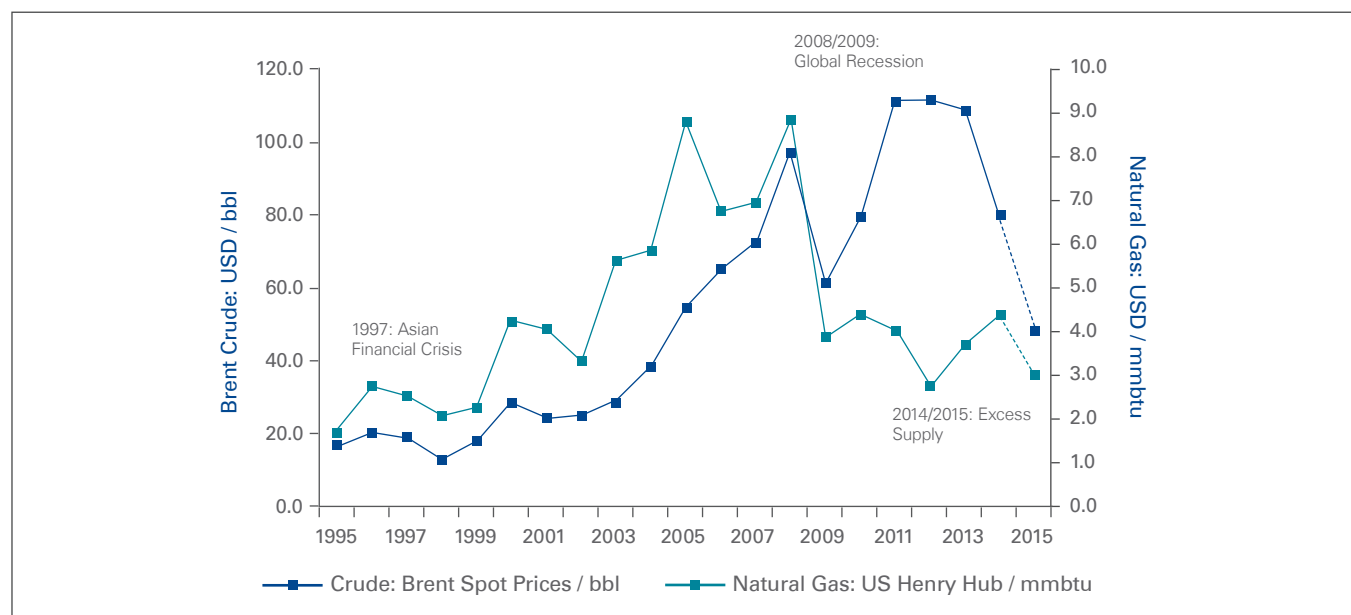
Moving Beyond Tradition

To be leading-edge, ENR procurement functions must be bold, vigilant

and comprehensive. They must move beyond the traditional role of streamlining an organization's bottom-line, and deliver more strategic value. As the following interview and case studies demonstrate, to deliver sustainable value, the role of procurement in ASPAC's ENR sector should take on a cross-functional approach, involving teams of engineers, finance and procurement/supply chain, and to address the need to professionalize the procurement function. It should expand to focus on strengthening supply partnerships, risk and volatility management, innovation and operational excellence.

Figure 1 highlights the historical volatility of oil and gas prices. As a result of excess supply, in January 2015, crude oil prices sank below USD 50/bbl, their lowest in five years. Global natural gas prices, despite robust forecasted annual demand, have dropped to a two year low on the back of oversupply, and the fact many long-term gas contracts are oil indexed.

Figure 1: Historical Crude Oil & Natural Gas Prices



Source: BP World Statistics Review, 2014

³ Southeast Asia Energy Outlook, IEA, September 2013, accessed via <http://www.iea.org/publications/freepublications/publication/world-energy-outlook-special-report-2013-southeast-asia-energy-outlook.html>

Procurement Maturity in the Energy & Natural Resources Sector

A KPMG-led study on procurement operating processes found an uneven level of maturity within procurement functions in the ENR sector. **Figure 2** highlights a KPMG research study that benchmarks the level of maturity in the ENR sector, against a variety of business sectors. While some aspects of procurement demonstrated high levels of maturity - particularly around supplier management - in general, ENR procurement functions still lag behind Consumer Packaged Goods, manufacturing and Retail sectors.

Low Level Maturity

Only a third of ENR organizations were found to have a centralized or centred operating model for procurement.

- Low maturity in systems and technology capability.
- Low participation by procurement

functions in demand management

- Low level of maturity in risk management activities, with the majority classified as 'established' and none ranking in either the 'leading' or excellence' categories

High Level Maturity

Mature ENR procurement functions have successfully established a strategic focus within a handful of organizations, but still lag behind the retail and manufacturing sectors where:

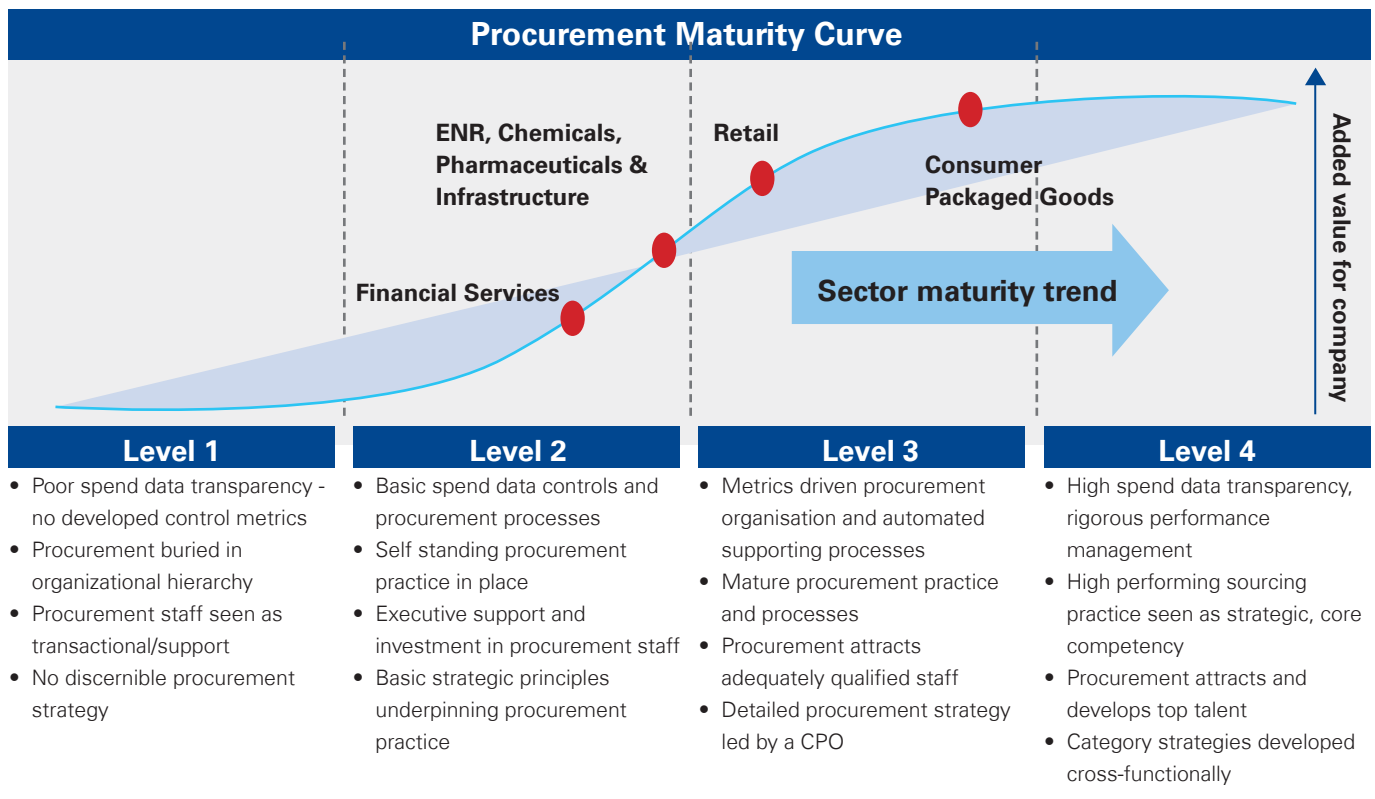
- Around 70 percent of spend is under active contract management
- 70 percent lead the category management process and have formal category managers and strategies
- 64 percent lead the supplier management process



Leornie Quek
Partner, Energy & Natural Resources, KPMG in ASEAN

"In Asia Pacific, the prevalence of subsidies, coupled with the uncertain energy commodity prices have led ENR companies to increasingly appreciate the importance of transforming the procurement function to achieve bottom-line impact through global sourcing and creating supplier tension to drive cost advantage and compliance."

Figure 2: Procurement Maturity Curve



Estimated % of Total Procurement Value Derived from Achieving Each Stage of Maturity

Level 1 - 2: 40 – 50%

Level 3: 25 – 35%

Level 4: 15 – 25%

Source: KPMG Analysis

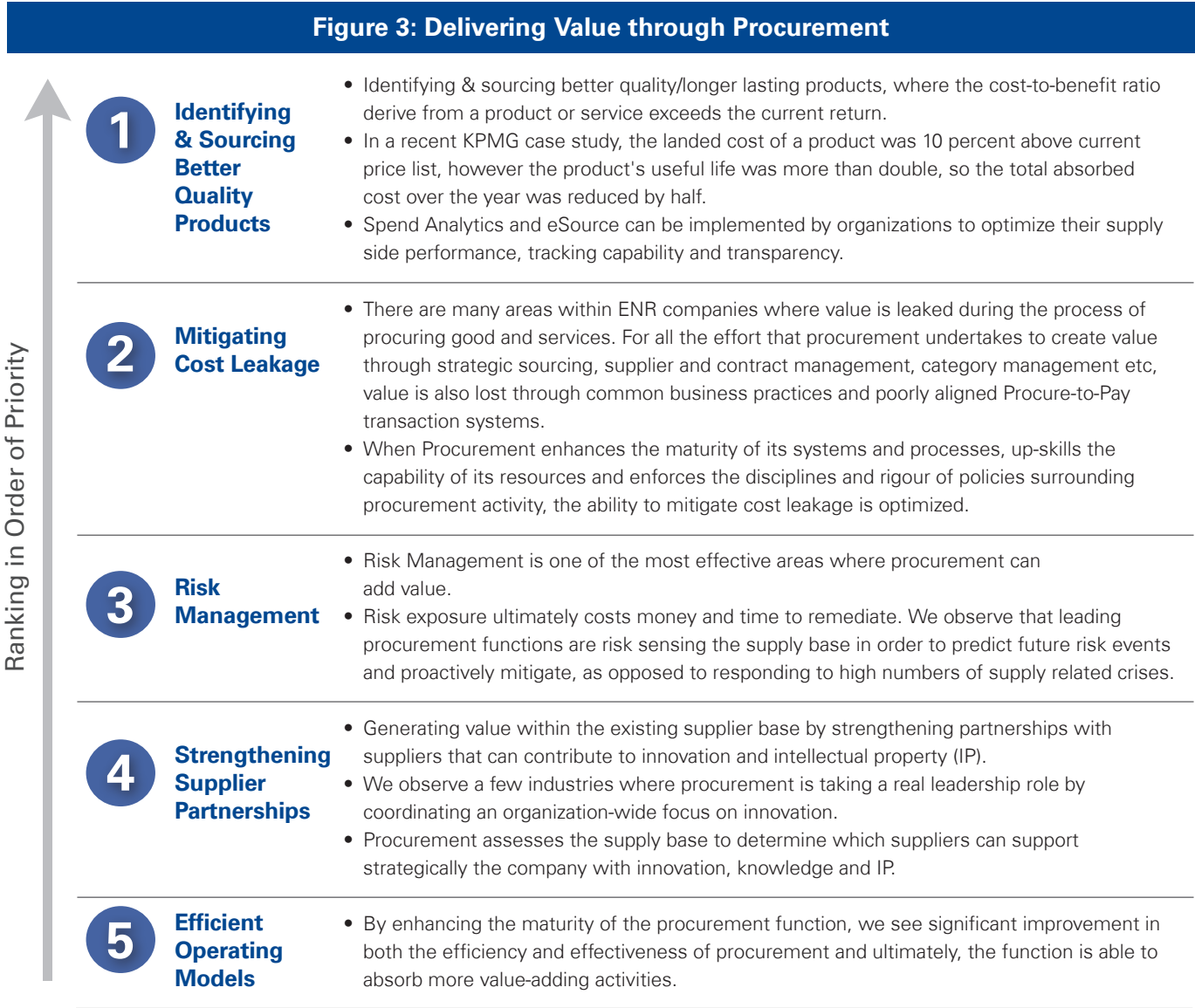
Interview: Peter Liddell, Head of Asia Pacific Procurement, Centre of Excellence



Peter Liddell is a Management Consulting Partner at KPMG in China. Peter applies a number of alternative methods and techniques including process optimization, strategic sourcing, uplifting business maturity and capability and he applies a strict analytical type approach that is focused on cost improvement. Peter has worked with a range of clients across many industries.

1. ENR companies remain highly susceptible to the volatility of underlying fundamentals. In the midst of sliding crude oil prices, weak commodity prices and project cost-inflation, what are the implications for procurement functions?

The main implication for ENR procurement teams that we are observing, is that executive teams now expect this function to step up and contribute more to performance by creating greater value for the business. It is important to emphasise that “value” is defined in various ways – it is more than just achieving cost reduction by sourcing lower prices for products and services. **Figure 3** illustrates how procurement functions can deliver value:



Source: KPMG Analysis

2. The supply-chain supporting Asia Pacific's Energy & Natural Resources industry is widely perceived as underdeveloped. Is this a fair statement; how would you assess the maturity of Asia Pacific's supply chain?

The development of Asia Pacific's ENR supply chain is unsurprisingly mixed and that is primarily due to the diversity of the region. Singapore, Japan, Korea and Hong Kong are examples of countries that invest significantly into infrastructure and consequently their capability in delivering cargoes, storage buffering systems and general support services is high.

The capability of the supply chain and logistics industry varies country to country. In numerous countries across ASPAC, international companies have to comply with local regulations that stipulate the use of local content for ancillary services. Although there are good examples of major oil and gas companies working with local suppliers to develop capabilities to a level where they are an integral part of business operations, local content compliance remains an obstacle many companies have to overcome.

In ASPAC - despite consistency and frequency challenges with shipping schedules - the capability and performance of most shipping

companies ranges from good to excellent. In contrast, the competency of land based logistics (e.g. road and rail) is relatively poor. Whether it be influenced by low quality infrastructure or due to the general low capability and performance of the 3rd party logistics providers (3PLs), it is one of the reasons that the ASPAC logistics industry is still developing. Some companies contend with this by looking at offshore solutions or tailored onshore solutions to serve their specific requirements, but that is not a sustainable option for many.

The demand for logistics services in ASPAC is relatively high and in some markets, demand actually exceeds supply. The significant rise of ecommerce within the region has compounded this challenge as it rapidly absorbs the supply of logistics services.

It is rare for many of the 3PLs operating within ASPAC to provide complete end to end logistics services. In addition, ENR companies are further challenged by the lack of specialized freight handling and/or high-tech warehousing capabilities, primarily as these are virtually non-existent. Simply put: the logistics services in this region are simultaneously over-priced and below market expectations.

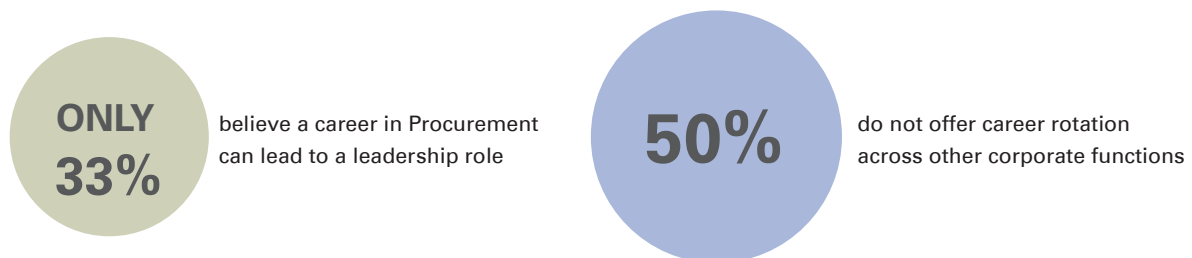
Within some countries, such as

China, the 3PLs are restricted to operating within a limited number of provinces and cities. Distribution across China therefore requires multiple hand-offs, which is a key driver of cost inefficiency and adds to overall delivery lead time delays.

The China logistics industry is supported by 15 million+ sub-contractors. The 3PLs hand off a majority of their contracted loads to low-cost, high risk operators who regularly offload freight to maximize their own margins. Unfortunately, this practice also exposes customers to inexperienced handling and delivery techniques, higher damage rates and poorer delivery service levels.

Finally, one substantial challenge that is consistent across the entire region is the genuine lack of talent with sufficient experience and skill necessary to support the supply chain requirements of the ENR sector. Attracting the necessary calibre to elevate procurement to a strategic level is a hard task, partly due to the little incentive to upskill.

In summary, despite pockets of excellence in maturity, the supply chain that supports the ENR industry in ASPAC is generally a high cost, low performing service that needs an immediate injection of government regulation and control, infrastructure and technology investment and incentives to develop capability.



Source: KPMG International: Harnessing the Power of Procurement, 2014

1. What are the objectives of KPMG's Shanghai-based Center of Excellence (CoE) and how does it unlock value for ENR companies and specifically their procurement functions?

The main objective of establishing

a procurement CoE hub within Shanghai is to ensure that KPMG collates the competences of its procurement teams from across the globe in order to provide responsive and effective solutions for our ENR clients. The hub is connected to the global CoE providing a central repository of best

practice references and industry insights. Having worked with more than 5,000 companies across all industries over the past 20 years. This allows KPMG to tailor relevant thought leadership. Team members within the hub have industry-based procurement experience from around the globe.

Oil & Gas Upstream: Challenges and Implications

Low oil and gas prices, growing political and environmental regulation and high costs, have impacted oil and gas companies across the value-chain, with many needing to deploy strategies to neutralize or limit the impact. The Brent benchmark dropped below USD 50/bbl in January 2015, a plunge of more than 50 percent from the USD 115/bbl price in June 2014. Facing declining returns, National Oil Companies (NOCs) and International Oil Companies (IOCs) can learn from the lessons of 2008 by balancing their activities to manage margins through cost optimization, whilst assessing M&A opportunities created by the price fall out.

Four years of relatively high and

stable oil prices, cheap credit and technological innovation, encouraged investment into a range of reservoir types, many of which were previously deemed uneconomical and/or inaccessible. US production, stands at its highest in more than three decades and has combined with rising OPEC supplies and a slowdown in oil demand in China and Europe to create a supply glut, depressing the oil price. Consequently, many E&P plays will not be economical if oil prices remain below USD 50/bbl.

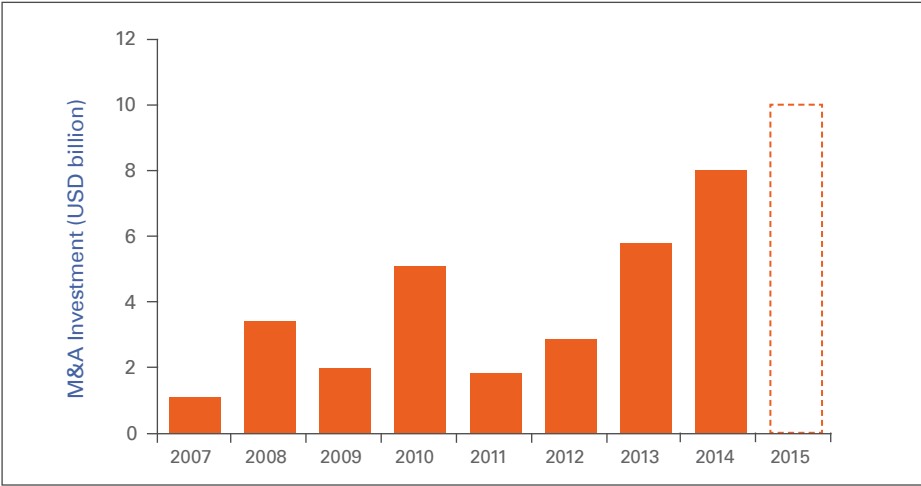
Operators in ASPAC's industry are exposed to low commodity prices and high development costs. Drilling companies in particular are vulnerable to relatively low day rates. A number

of upstream players are actively seeking higher returns and security of supply elsewhere around the globe.

As a result, procurement teams are having to cope with increased M&A activity (**Figure 4**) and new, expanding supply-chain dynamics. In such times, companies with and strategic procurement departments that are fast to react to changing market conditions will have a competitive-advantage. Moreover, given the geographical diversity of projects, procurement teams that have centralized their operations, acting as a central point of contact, will be better placed to effectively coordinate procurement activities.

CHALLENGES	IMPACT FOR PROCUREMENT
LOW OIL & GAS PRICES Reduced Returns	CONTRACT RENEGOTIATION & RISK MANAGEMENT Falling revenues should not compromise on quality or safety. Procurement must work with stakeholders and suppliers to focus on cost optimization and risk mitigation.
SECURITY OF SUPPLY Internationalisation of NOCs	CENTRALIZED OPERATING MODEL As business operations expand, centralization of procurement organizations needs to be considered to drive consistent procurement strategy across the organization.
BUSINESS INTELLIGENCE Identifying Local Partners	LOCAL PARTNERING Increasingly NOCs are seeking increased local content in requests for proposals. This means a well defined supplier relationship management framework needs to be established and quality issues identified early. Procurement functions must build intelligence of supplier market and perform necessary risk due-diligence.

Figure 4: M&A Upstream Investment Asia – Pacific (ex – Australia)



Source: KPMG Analysis

Figure 4 shows upstream M&A investment activity increasing for 2015. Against an industry backdrop of low oil prices, certain assets are becoming available. In response, some companies are capitalizing on the low value of distressed assets and preparing to be amongst the first to exploit economic opportunities to develop future portfolios. Best-in-class procurement functions can actively support business strategy by bringing onboard the diverse supply base and integrating into its existing supply chain.

Oil & Gas Upstream - Case Study

CHINA

**KPMG Client's Challenge**

A gas producer anticipated supply problems of strategic goods as a result of international political and economic sanctions. As a result of a lack of supplier competition and diversification, the client was dependent upon incumbent suppliers, leaving them exposed to supply disruptions.

Key project objectives:

- Diversified supply flows of categories needed to support upstream development in an effort to reduce the clients' dependency on current suppliers and risk associated from the incumbent supplier regions
- To increase competition in upcoming tenders as a means of cost reductions and efficiency enhancement
- Develop a thorough supply market knowledge

Efficiencies were identified and delivered by:

**Category
Analysis**



**Supply Market
Evaluations**



**Risk
Management**

1. **KPMG analyzed the client's categories**, required specifications, quality levels and current suppliers. This showed the current dependencies and risk levels faced in case of supply interruptions. As a result of the investigation into direct category flows, the client received a better understanding of the capabilities of different suppliers from different geographical regions.
2. **As a result the client received** for the different categories in scope includes pipes, flanges, fittings, hoses, gaskets, laboratory equipment/ chromatographs, electrical equipment, turbines, compressors, water treatment, cranes, wells fluids. An overview of the country attractiveness included supplier lists for next steps of a tender process.
3. **Alternative supply markets were analyzed** to identify the attractiveness of the relevant categories. Our analysis considered macro-economical developments in supply markets. Countries/regions in the project scope included: South America, Middle East, India and China.

Value delivered to client

**SUPPLIER RISK
REDUCTION**



**MARKET
AWARENESS**



**NEW PARTNERSHIP
POTENTIAL**



Tim Rockell, Director, Global Energy Institute, KPMG in Singapore

"Despite upstream portfolio rationalization measures across ASPAC, many international companies, through Joint Ventures or standalone pursuits, are looking to take advantage of market conditions by gaining a foothold into this diverse market. Cooperation with regional NOCs is becoming a more familiar practice. Therefore it is no surprise to see the establishment of procurement offices in the region."

Oil & Gas Downstream: Challenges and Implications

Asia Pacific’s downstream sector has emerged as a critical node in the growth of the global downstream sector. The region has the world’s largest population and has been supported by a decade of impressive GDP per capita growth rates. As a result, ASPAC’s product demand growth accounts for 85 percent of the projected global growth in liquid products from 2013-2040.⁴

Such forecasted consumption helps explain why so many downstream companies have been eager to occupy a square on Asia Pacific’s energy chessboard. As **Figure 3** highlights, capacity additions are to outstrip demand over the next five years. Moreover, the revival of the US and

Middle Eastern downstream sectors, buoyed by access to cheap feedstock, has intensified competition. As a result, ASPAC’s downstream sector is having to combat overcapacity and competitive issues. Indeed, North Asian and Australian producers have had to rationalize portfolios and in many cases, exit the regional downstream playing field.

The storage capacity, in addition to the conditions of the fleet and infrastructure needed to transit bulk volume, must develop to meet ASPAC’s growing downstream needs. Materials and equipment for capital projects, is a further area that must mature. Port to port supply and distribution is generally ok, but inland

distributed must overcome power, infrastructure and geographical issues. For instance, accessibility for inland distribution is difficult in Indonesia and the Philippines as a result of their archipelago nature.

Although crude oil prices have dropped considerably since June 2014, to sustainably compete in this overpopulated industry, many companies in ASPAC are having to adopt innovative technological processes, optimize costs and renegotiate feedstock supplies. In such an evolving and competitive ecosystem, advanced procurement functions will be essential in improving the durable competitive advantages of downstream organizations.

CHALLENGES		IMPACT FOR PROCUREMENT	
GLOBAL & REGIONAL COMPETITION	➤	STRUCTURAL COST MANAGEMENT	Direct feedstock, and other major cost components along the downstream value chain needs to be assessed through category management and supplier reviews.
Excess Supply			
PRODUCT DEMAND GROWTH		STRATEGY RE-ALIGNMENT	Procurement team must rebalance market portfolio to develop robust supply networks to new, high value markets.
High Value Markets			
SUPPLY & DISTRIBUTION	➤	ORGANIZATIONAL EFFECTIVENESS	The quality and efficiency of the supply chain in Asia Pacific's downstream sector is variable, depending on country maturity, accessibility and category involved (storage/materials and equipment/warehousing). Procurement functions should seek category sourcing and management to support their organizations.
Immaturity			

Figure 5 highlights that crude oil distillation unit (CDU) additions from 2014-2019, will outstrip product demand growth. ASPAC accounts for more than 40 percent of the new global capacity addition. 65 percent of that growth will originate from China (2.2 mb/d by 2019). Contrary to the past funding, which was dominated by Chinese companies, over half of new projects will be funded through foreign participation via Joint Ventures.

Figure 5: ASPAC Forecasted Refining Capacity and Product Consumption, 2014 - 2019



Source: KPMG Analysis

⁴ World Oil Outlook, OPEC, 2014, accessed via http://www.opec.org/opec_web/static_files_project/media/downloads/publications/WOO_2014.pdf

Oil & Gas Downstream - Case Study

NORTH ASIA

**KPMG Client's Challenge**

An Oil & Gas major sought support for its cost optimization and operational excellence programs.

Client was a Purified Terephthalic Acid (PTA) manufacturer, facing the challenge of having excessive production capacity in a highly competitive domestic and regional market. The challenges were compounded as export sales dramatically fell due to both increasing PTA production in China and losing market share to those players.

Key project objectives:

- The client's aim was to: reduce cost, improve operational excellence and cut losses in order to restabilise and establish a platform for renewed growth

Efficiencies were identified and delivered by:

**External Investor
Lens Methodology**



**Strategic
Review**



**Supplier
Assessment Tool**

1. **Implementation of External Investor Lens methodology** to bring an independent perspective to the JV. The estimated baseline costs were calculated, and used a hypothesis-driven approach to identify potential areas of improvement. Hypotheses were tested through the use of comparator insights, analysis of the JV's performance data, and client interviews and workshops. Hypotheses covered the full range of activity in the business: direct production, maintenance, procurement, support functions, logistics and sales.
2. **Through a strategic review**, KPMG assessed potential market opportunities to increase export sales and to reduce the number of active production lines to resize the business for the declining export market were reviewed.
3. **Developed a Supplier Assessment Tool** to raise efficiency in the feedstock procurement process in an effort to reduce costs.

Value delivered to client

- **Opportunities with a multi-million-dollar Replacement Cost Operating Profit (RCOP) benefit range and working capital benefits were identified.**

RCOP: 8:1 Working Capital Benefits: 5:1

Mining: Challenges and Implications

The mining industry over the past twelve months has been volatile. The industry has faced a price reduction of 39 percent in bulk commodity prices (i.e. Iron ore, Metallurgical and Thermal coal) since January 2013. Thus organizations have had a focus on reducing both operational and capital related costs in order to remain profitable. Procurement and supply chain functions have been key contributors to these cost reduction activities, in particular the reduction of operating costs.

Some challenges of the past year still remain today. Yet, the outlook for 2015 and beyond is forecast to be more consistent which will allow mining organizations to redefine

operating models in preparation for the industry to pick up again. This will allow many procurement functions to shift from tactical cost reduction to a more strategic value-improvement focus.

A number of the large mining organizations have invested in procurement over the past few years and possess Global Category Management capabilities. These are well placed to take advantage of any industry upturn. However many others do not yet possess the maturity and capability in procurement to fully participate in more strategic objectives such as true category management, strategic supplier management,

capital, asset and operations improvement or outsourcing/offshoring of non-core activities.

Further challenges mining procurement functions in ASPAC grapple with, are: the lack of high level procurement talent, limited supplier and contract management capabilities within the organization, low levels of procurement related systems and a poor top-down organizational understanding of the value of procurement. Mining organizations in ASPAC must also grapple with local regulations, a wide-spread trait of Southeast Asia's procurement industry. This can constrain supplier options and quality control.

CHALLENGES	IMPACT FOR PROCUREMENT
UNDERSTANDING PROCUREMENT Misunderstanding	UNDERSTANDING CONTRIBUTION There still exists a lack of understanding of the role of procurement within many mining organizations. Many are perceived to be a transaction function raising orders or as a bottleneck in the process that needs to be avoided which means that procurement are not fully involved in strategic initiatives.
INNOVATION Delivering efficiencies through supplier innovation	BROADENING INNOVATION Mining organizations still do not fully leverage their relationships with strategic suppliers to deliver innovation from the supply chain. A large proportion of organizations do not include suppliers in their research, development and technology programs. In the current environment, innovation is an optimum strategy to reduce costs and increase productivity in the mining industry.
LOCAL CONTENT Regulatory Hurdles	LOCAL UNDERSTANDING In ASPAC, local regulations are pervasive and this can constrain supplier diversity and control quality. Local vendors are often given preferential treatment. As such procurement function should take thorough measures to understand the local market and the quality of its suppliers.
BUSINESS INTELLIGENCE Efficiency, Compliance & Transparency	LEVERAGING TECHNOLOGY Many mining organizations have recently upgraded ERP systems, however few have taken advantage of procurement related technology such as cloud based eProcurement and eSource solutions. This and a lack of spend analytics results in companies struggling with contract compliance and getting access to accurate spend information.
ACCESS TO TALENT Limited Resource Pool	TALENT MANAGEMENT This challenge is not specific to the mining industry in ASPAC, however mining organizations are competing against competitors and other industry sectors for top procurement professionals. Many companies are now developing their own talent development programs to mitigate the issue.

Mining - Case Study

AUSTRALIA

**KPMG Client's Challenge**

A global mining organization, was seeking to gain greater visibility of external expenditure and deliver cost reduction initiatives in major categories.

The client had recently implemented a new ERP system and sought to increase the levels of visibility surrounding its expenditure categorisation in order to determine the best suited areas for cost optimization.

Key project objectives:

- Gain greater visibility of external expenditure through effectively increasing spend under contract
- Identify, quantify and prioritise potential cost reduction initiatives across the organisation
- Assess the supply market and develop category strategies to leverage the organisations scale and position in the marketplace to drive cost efficiencies for major areas of expenditure
- Implement amended/updated/new agreements and new ways of working to deliver cost efficiencies
- Ensure all safety, compliance and risk management standards are adhered to

Efficiencies were identified and delivered by:

**Expenditure
Analysis**



**Client
Workshop**



**Tender Evaluation
& Negotiation**

1. **Conducting a detailed expenditure analysis** to gain an understanding of all external expenditure. This involved the extraction of data from multiple sources, consolidating and reviewing with key stakeholders before analyzing.
2. **Identifying potential benefits** based on the expenditure analysis and a series of workshops and interviews with key stakeholders. These opportunities were quantified and prioritized into waves of work-stream activities to deliver benefits.
3. **Implementing the identified benefits** through a strategic sourcing process involving definition of requirements, defining internal demand profiles, assessing the market, issuing and evaluating tenders, negotiating and implementing contracts. These activities allowed the business to start procuring from new or improved contracts with better service delivery and lower costs.

Value delivered to client

- **Savings achieved: 8.7%**
- **ROI: 7.5:1**
- **Spend under contract – increased from 30% to 82%**

Power & Utilities: Challenges and Implications

The rapid development of ASPAC's Power & Utilities (P&U) sector has led to procurement processes becoming more mature and the function taking on a more centralized structure. Two trends signal the function's growing maturity:

1. Strategic sourcing is displacing tactical sourcing
2. The implementation of eProcurement is gathering momentum

But the wider regional landscape remains vast, complex and diverse. The ten-member Association of Southeast Asian Nations (ASEAN) alone has acute energy issues. Despite strong growth prospects, the underlying infrastructural framework remains weak and fragmented. Over one-fifth of the regional population of 600 million do not access to

electricity.⁵ Without power, citizens will be excluded from social and economic development, hampering the development of the entire region.

The prospect of connecting these people to the mainstream energy grid is difficult because of the dispersed nature of the communities and expansive terrains involved. For those that are connected to the grid, significant scope for energy efficiency remains: Southeast Asia currently consumes more than twice the amount of energy per unit of GDP than the OECD average.⁶

Furthermore, due to the growing reliance on energy imports, ASPAC's P&U sector remains susceptible to relatively high regional feedstock prices, undermining the region's competitive economic

standing. Japan is a case in point. Due to a heightened reliance on imported gas, electricity bills have increased by roughly a fifth since the Fukushima crisis.

P&U organizations, particularly those operating in Southeast Asia, face the further challenge of the politicization of electricity prices, which often causes electricity rates to lag behind fuel prices. This, coupled with prevalence of subsidies acts to suppress profit margins further and act deter investment.

Considering the scale and variety of issues in ASPAC, the procurement function in P&U companies can play a lead role in developing the improving security of supply through global sourcing, enhancing operational efficiency through automation and building regional grid connectivity.

CHALLENGES	IMPACT FOR PROCUREMENT
CHANGING FEEDSTOCK High Costs	CATEGORY MANAGEMENT In response to growing political, environment and economic considerations, P&U suppliers are having to adapt their energy mix, which has a direct impact on category sourcing.
NEW TECHNOLOGIES Aging Infrastructure	CROSS-FUNCTIONAL COLLABORATION Investment requirements into new technologies and infrastructure will be an enormous cost for the P&U industry. Integration into category management and sourcing processes through cross-functional teams will be important.
PROCUREMENT RELATED SYSTEMS Efficiency, Compliance & Transparency	LEVEL OF AUTOMATION The P&U supply chain in ASPAC is largely not automated. The lack of tagging, track and trace procedures continues to constrain efficiency. Efficiency and risk management can be enhanced through the automation of operational purchasing and implementation of procurement processes through obligatory usage of electronic procurement systems (eProcurement and eSourcing applications). Further supply chain enhancement can be made by adopting spend analytics, P2P and SRM measures.

⁵ The future is bright: Delivering the Philips Gift of Light, Philips, 2014, http://www.philips.com/e/innovationmatters/blog/The_future_is_bright_Delivering_the_Philips_Gift_of_Light.html

⁶ Southeast Asia Energy Outlook, IEA, September 2013, accessed via <http://www.iea.org/publications/freepublications/publication/world-energy-outlook-special-report-2013-southeast-asia-energy-outlook.html>

Power & Utilities - Case Study

ASEAN

**KPMG Client's Challenge**

P&U company implements procurement transformation.

The client had planned for major growth in its network and operations but faced pressure to reduce its electricity prices from the regulatory authorities. Procurement's ability to deliver strategic and commercial value was limited due to the existing scope of coverage and capabilities of the function, resulting in:

- Risk averse policies and adherence to 'gold standard', reducing potential saving opportunities
- Limited business partnership breeding "silo" behaviours – lack of synergy, coordination or information sharing with business function
- Inadequate focus on supply markets leading to limited access to new vendor options and market insights
- Higher operating costs, with minimal leverage on bulk spend and uneven supply costs and performance

Key project objectives:

- KPMG assisted our client to transform its procurement function into a commercially-driven organization geared to deliver long term gains.

Efficiencies were identified and delivered by:

Operating Model Structure



Realigned Policies, Processes and Handbook



Competency & Opportunity Assessment



Spend Analysis



IT Road Map



Training/Mentoring

1. **Designed a Procurement Operating Model** that aligned to best practices in an effort to promote professionalization of procurement and supports value creation.
2. **Realigned processes and policies** that better support commercially-driven procurement practices, while retaining the ethos of transparency and value for money procurement. Building on this practice, KPMG implemented a Procurement Handbook which aims to institutionalise learning and principles of commercially-driven procurement.
3. **KPI development and Reporting framework** for internal and external communications.
4. **Implementation of formal, on-the-job training and mentoring**, designed to enhance in-house capability and maturity.

Value delivered to client

- **IDENTIFIED SAVING SGD\$70 million**
- **40% effort savings in approval workflow**
- **Procurement maturity raised from Level 2 to 4**

Delivering the Future of Procurement

Our Team

KPMG’s 400+ Procurement Advisory practitioners around the globe are seasoned supply chain specialists coming from a rich background of industry, technology, and advisory experiences. We deliver practical, fit-for-purpose designs across the procurement life cycle, from category management to process and technology enablement to organizational effectiveness.

An Integrated Approach

Figure 6 illustrates KPMG’s perspective on the integrated life cycle of sourcing and procurement drives an approach focusing on identifying, capturing, delivering, and sustaining value. Companies can generate and capture value through a defined sourcing process, managed through a structured procurement approach.



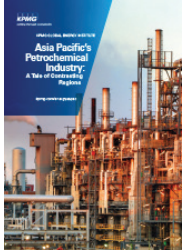
Source: KPMG Analysis

Client Value:	
• Focus on total value delivered: Using a holistic lens to help maximize value across the end- to-end supply chain	• Collaboration in vision and execution: Business partners from concept to realization of future-state vision
• Sustainability of benefits: Overriding focus on structural improvements and knowledge transfer to deliver sustainable benefits	• Trusted advisor: Objectivity in recommendations and solution design, not compromised by affiliation to technology or outsourcing providers
• Genuine functional insight: Experienced practitioners with domain knowledge and industry insights to tackle complex client challenges	• Global reach: Network of professionals in all major sectors and countries to address global client needs

Procurement Advisory: Promoting Excellence and Innovation

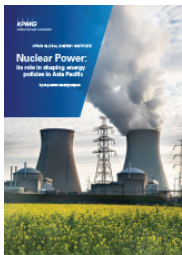
Category Sourcing & Management	Reducing and improving costs through strategic long-term supplier relationships	<ul style="list-style-type: none"> • Spend Analytics • Direct and Indirect Sourcing • Category Management
Supplier Relationship Management	Developing tools and processes to streamline supplier interactions and improve supplier performance	<ul style="list-style-type: none"> • Supplier Enablement • Supplier Performance Management • Diversity Analysis and Management
Process Optimization	Improving the efficiency and effectiveness of procure-to-pay and source-to-contract processes across the organization	<ul style="list-style-type: none"> • Source-to-Contract • Contract Life Cycle Management • Procure-to-Pay
Supplier Risk Management	Implementing programs to strategically evaluate and address supplier risk	<ul style="list-style-type: none"> • Risk Program Assessment • Risk Program Implementation • Supplier Contract Audit and Verification
Organizational Effectiveness	Aligning roles and skills to process needs for long-term sustainment of procurement capabilities	<ul style="list-style-type: none"> • Organization Strategy • Organization Design • Performance Management
Technology Enablement	Tools to support key processes to improve efficiency and effectiveness	<ul style="list-style-type: none"> • Package Selection • Technology Assessment • Systems Integration
Master Data Management	Developing infrastructure and governance to improve master data quality	<ul style="list-style-type: none"> • Data Quality • Data Standards • Governance Model
Tax Efficient Procurement	Identifying and capitalizing on opportunities for tax savings within the procurement process	<ul style="list-style-type: none"> • Captive Purchasing Company Design and Implementation • Sales and Use Tax Automation • Tax Advantaged Sourcing

Global Energy Institute: Thought Leadership Material



Asia Pacific's Petrochemical Industry: A Tale of Contrasting Regions

This report reviews the prevalent megatrends in the petrochemical industry, with specific emphasis on the main intra-regional components of AsPAC: China, North Asia and ASEAN. In addition to highlighting the emerging challenges AsPAC petrochemical companies are facing, practical solutions are offered, providing analysis of how AsPAC companies can adapt their portfolio strategy to respond to shifting industry dynamics and rising regional and global competition.



Nuclear Power: its role in shaping energy policies in Asia Pacific

It also focuses on two of the major challenges for those considering nuclear power development: safety and finance. To provide insights for Asian countries which plan to construct nuclear power reactors in the near future, our report outlines the United Kingdom's (UK) new nuclear program; particularly focusing on assuring operational safety and organizational governance. This approach reflects the lessons learnt from the Fukushima accident and the process of securing funding for construction.



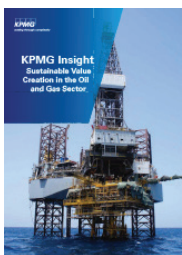
Floating LNG: Revolution and evolution for the global industry?

FLNG is now being viewed as an attractive alternative to traditional land-based plants. As experience is gained, FLNG could offer significant cost and schedule reductions, making future LNG supply more competitive, diverse and market-responsive. This report provides KPMG's analysis to this growing industry force.



Mining Projects: Seeking greater value

This document showcases the mining project life cycle, including what mining companies need to consider when creating a successful mining project. The publication covers the five core topics: project development, feasibility studies, project financing, tax structuring and project execution.



Sustainable Value Creation in the Oil & Gas Sector

Exploring sustainable upstream value - this paper points to a need for oil and gas companies to turn their attention to optimising internal operations as a means of building sustainable upstream value in their businesses.

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Peter Liddell is a Management Consulting Partner at KPMG. Peter applies a number of alternative methods and techniques including process optimization, strategic sourcing, uplifting business maturity and capability and he applies a strict analytical type approach that is focused on cost improvement. Peter has worked with a range of clients across many industries with his key expertise being within the Consumer Products, Food and Beverage, Retail, Industrial Manufacturing, Health and Pharmaceutical, Automotive, Telecommunications, Transport and Logistics sectors.



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Tony Rawlinson was previously Managing Director with EquaTerra, the leading global sourcing advisory firm acquired by KPMG in February 2011. He has 35 years executive experience including more than 20 years of IT and process optimisation, business process outsourcing (BPO), IT outsourcing (ITO) and global service delivery expertise as a client, service provider and adviser. He has held several key executive, programme and change management positions in major organisations, including CFO of Group IT and Operations and Global Sourcing Programme Director for Standard Chartered during which time he worked extensively across Asia over a period spanning eight years.



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Leornie Quek is based out of Indonesia and works with our ENR clients in this region looking for Strategy and Operations excellence. Leornie has more than 15 years of experience working across procurement/ supply chain, risk and governance and process management with oil & gas and power & utilities clients across Asia, realising saving targets in excess of 20-30% of spend. Leornie sits on the Global Procurement Leadership Committee of KPMG.

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Chris, KPMG's National Procurement lead, has 18 years of experience in managing and leading complex projects in multiple countries. His experience is characterised by optimising procurement and supply operations to deliver sustainable value through conducting end-to-end transformations by focussing on organizational redesign, global and strategic sourcing and business performance improvement initiatives.



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Tim Rockell has worked internationally in KPMG's Energy and Natural Resources practice for the past 16 years. Originally from London, United Kingdom he has been based in Singapore since 2012. He previously spent 7 years in Bahrain as Director of KPMG's Sales and Markets department in the Middle East and South Asia region. He was based in the Saudi Arabian practice and built relationship with large Energy, Chemical and Governmental organisations. Currently, Tim is the Director of KPMG's Global Energy Institute in Asia Pacific. He relocated to Singapore to launch the Institute. He also leads the Global Chemical and Global Mining Institutes. He established KPMG's first Global Energy Conference in Asia Pacific in 2013.

Leaders in the Oil & Gas Industry

Leading the field means more than just having a strong client base. KPMG member firms already provide services to the world's leading Oil and Gas companies. Being the leader also means investing in developing thought leadership, spearheading industry debates to keep our firms' clients at the forefront of progressive thinking, and giving our people the skills and knowledge to provide the quality and customized services our clients require.

KPMG member firms offer global connectivity. We have 12 dedicated Oil & Gas Centers in key locations around the world, working as part of our global network. The Centers are located in Beijing, Calgary, Houston, Johannesburg, London, Moscow, Abu Dhabi, Paris, Perth, Rio de Janeiro, Singapore and Stavanger.

KPMG's Oil & Gas Centers



Our Centers enable us to transfer knowledge and information globally, quickly and openly. With regular calls and effective communications tools, we share observations and insights, debate new emerging issues, and discuss what is on our client's management agendas. The Centers also produce regular surveys and commentary on issues impacting the sector, business trends, changes in regulations, and the commercial, risk and financial challenges of doing business.



Global Procurement Advisory: Center of Excellence

KPMG's Global Procurement Center of Excellence (COE) serves as the central hub for knowledge management, delivery excellence, and thought leadership for our Procurement Advisory consultants and their clients around the world. KPMG's Center of Excellence brings the power of our global procurement advisory practice to the table for every engagement. Our portfolio, bundled in a globally-oriented center of excellence, includes all areas of the value chain – from procurement, logistics, production & R&D and strategic skills to the development of individual organizational models and solutions for compliance, risk management and tax optimization. This expertise and our strong local presence in all major sourcing regions of the world makes us the first choice for all matters relating to supply chain management and procurement for both international corporations as well as leading medium-sized companies.

KPMG Centre of Excellence hubs: Germany, Australia, Brazil, China, Norway, South Africa, UK, US

The KPMG Global Energy Institute (GEI):

Launched in 2007, the GEI is a worldwide knowledge-sharing forum on current and emerging industry issues. This vehicle for accessing thought leadership, events, webcasts and podcasts about key industry topics and trends provides a way for you to share your perspectives on the challenges and opportunities facing the energy industry – arming you with new tools to better navigate the changes in this dynamic arena. A regional focus to the GEI provides decision makers with tailored insight within the North and South America, Asia Pacific and Europe, Middle East & Africa regions.

Register today to become a member of the KPMG Global Energy Institute, visit: kpmg.com/energyaspac



#KPMG_GEI

The KPMG Global Energy Conference (GEC):

The GEC is KPMG's premier event for executives in the energy industry. Presented by the KPMG Global Energy Institute, these conferences are held in both Houston and Singapore and bring together energy executives from around the world in a series of interactive discussions with industry luminaries. The goal of these conferences is to provide participants with new insights, tools and strategies to help them manage industry-related issues and challenges.

For more information please visit kpmg.com/energyaspac



#KPMGGEC



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