



パナマ運河の拡張計画とパナマ海事政策に関するセミナー

The Seminar on “Expansion of the Panama Canal and Maritime Policy of Panama” in 2014

日時：平成26年11月21日（金）13:30~17:00

Date: November 21st (Fri.), 2014, 13:30~17:00

場所：海運ビル2階国際会議場

（東京都千代田区平河町2-6-4）

Venue: Kaiun Building 2F

International Conference Hall

(2-6-4, Hirakawa-cho, Chiyoda-ku, TOKYO)

共催：国土交通省、海洋政策研究財団

Co-hosted by

Ministry of Land, Infrastructure, Transport and Tourism (MLIT), and

Ocean Policy Research Foundation (OPRF)

講演者・コーディネーの
プロフィール

Profile of Lecturers and
Coordinator

ホルヘ・ルイス・キハーノ・アランゴ (Jorge Luis Quijano Arango)

パナマ運河庁長官



1952年生

1973年 米国テキサス州ラマール大学 生産工学士

1974年 米国テキサス州ラマール大学 生産工学・生産管理学修士
その他米国各地の大学にて上級執行管理部門のコースにも参加

1974年 Texaco社（パナマ：石油関連）勤務

1975年 パナマ運河委員会（PCC）、パナマ港湾庁（APN）、パナマ海事庁
（AMP）を通じてパナマ運河開発に携わる

1999年 パナマ運河庁（ACP）オペレーション局長

2006年 パナマ運河拡張計画統括責任者

2007年 エンジニアリング&プログラムマネジメント局長

2012年 パナマ運河庁長官

Jorge L. Quijano is the CEO of the Panama Canal Authority, the autonomous agency that manages the Panama Canal, the leading interoceanic waterway that serves world maritime commerce.

Jorge L. Quijano began his professional development in the Texaco Oil Refinery in Panama, where he worked as a Process Engineer and Product Forecaster. He started his career with the Panama Canal in 1975 and climbed through the professional and managerial promotion ladder to the position of Maritime Operations Director in 1999, the largest department of the Canal organization, directly involved in the operation and maintenance of the principal infrastructure and equipment of the waterway.

As Maritime Operations Director, he was responsible for transit scheduling, vessel inspection, admeasurements, pilotage, tugs, launches and line-handler services, lockage operations and maintenance, central inventory management and motor transportation, emergency and contingency management (industrial fire fighting and hazmat response), as well as accident investigations. Under his leadership, the Department of Maritime Operations obtained the ISO 9001 Certification issued by Det Norske Veritas in May 2001 and subsequent re-certifications.

In September 2006, was designated to manage the Panama Canal's \$5.25 billion Expansion Program; and to that effect, he was appointed Executive Vice President of the Engineering and Programs Management Department. Under the Expansion Program, he headed a group of professionals in charge of contracting and managing: the Locks Design and Construction contract, the Atlantic and Pacific entrance channels dredging contracts, the contracting of four dry excavation contracts to create a new 6.1 kilometer inland channel in the Pacific end of the Canal, the Lake level dredging to be performed by the Panama Canal Authority's workforce and other smaller support contracts.

He is also a graduate of Executive Management Programs, both in the Federal Executive Institute, Charlottesville, Virginia, and the Northwestern University, Chicago, Illinois.

**アレハンドロ・アグスティン・モレノ・ベラスケス
(Alejandro Agustín Moreno Velásquez)**



パナマ海事庁副長官

1978年生

- 2000年 大洋間地域関連庁
土地返還プロセス等にかかわる法関連アシスタントに従事
- 2001年 サンタ・マリア・ラ・アンティグア・カトリック大学（パナマ）
法科大学院、法政治学学位取得
- 2002年 Moreno & Arjona - Bureau 弁護士事務所
弁護士として、ラテンアメリカにおける養子縁組プロセス、公私セクター
における土地取引、海事案件のコーディネーターとして従事
- 2004年 カスティージャ・ラ・マンチャ大学（Spain）
契約・国際財務市場学博士課程
- 2004年 パナマ海事庁
パナマ海事庁長官兼第二副大統領のアシスタントとして勤務
- 2007年 イェール大学（米国）
- 2009年 Moreno & Arjona - Bureau 弁護士事務所
契約法、国際財務、親族法、海洋法、土地関連法（公私セクター）担当
- 2014年 パナマ海事庁副長官

Professional Experience:

Panama Maritime Authority, July 2014 - . Deputy Administrator.
Moreno & Arjona - Bureau (Law Firm), September 2009 - June 2014.
Panama Maritime Authority, December 2004 - September 2009. Assistant to Administrator and
Second Vice-president of Panama.
Moreno & Arjona - Bureau (Law Firm), September 2002 - December 2004.
Interoceanic Region Authority, January 2000 - December 2001. Legal Assistant.

Education:

Yale University (USA), 2007. Introduction to American Legal System.
Castilla La Mancha University (Spain) 2004. Postgraduate Course on International
Financial Market and Contracting.
USMA (Panama) 1996 - 2001, Faculty of Law

星野 裕志 (ほしの ひろし)

九州大学大学院経済学研究院 教授

神戸大学客員教授 (海事科学部)



1958年生
1982年 慶應義塾大学法学部政治学科卒業
1982年 日本郵船(株)入社
1994年 ジョージタウン大学経営大学院(MBA)修了
1994年 神戸大学経営学部助教授
2000年 神戸大学経済経営研究所助教授
2003年 九州大学大学院経済学研究院助教授
2006年 九州大学大学院経済区研究院教授
2011-12年 コロンビア大学客員研究員

Title: Professor, Graduate School of Economics, Kyushu University
Visiting Professor, Graduate School of Maritime Sciences, Kobe University

Born: July 11, 1958 (56 years old)

Professional Background:

1982-1994: NYK Line (Shipping Company, Tokyo, Japan)
1994-1998: Visiting Assistant Professor, School of Business Administration, Kobe University
1998-2000: Manager, Business Management Group, NYK Line
2000-2003: Associate Professor, Research Institute of Economics & Business Administration, Kobe University
2003-2006: Associate professor, Graduate School of Economics, Kyushu University
2007-present Professor; Graduate School of Economics, Kyushu University
2007-2009: Head of Business School, Kyushu University
Deputy Dean, Graduate School of Economics, Kyushu University
2006-present Visiting Professor, Kobe University
2011-2012 Visiting researcher, Columbia University

講演：

パナマ運河と新たなビジネスチャンス

ホルヘ・ルイス・キハーノ・アランゴ氏
パナマ運河庁長官

Presentation-1

Title: "The Panama Canal and New Business
Opportunities"

By Mr. Jorge Luis Quijano Arango
Administrator of Panama Canal Authority

※パナマ運河庁の講演資料は別冊

※ACP' s material is attached.

講演：

パナマにおける海事政策と戦略

アレハンドロ・アグスティン・モレノ・ベラスケス氏
パナマ海事庁副長官

Presentation-2

Title:” Maritime Policy and Strategy of Panama”

By Mr. Alejandro Agustín Moreno Velásquez,

Deputy Administrator of Panama Maritime Authority



Experience

COLLABORATE

COLLABORATE



Alejandro Agustin Moreno
Deputy Administrator
Panama Maritime Authority

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VISION

- ✓ *Efficiency*
- ✓ *Technology*
- ✓ *Transparency*
- ✓ *Competitiveness*

2 

ADVANTAGES OF THE PANAMANIAN REGISTRY

- An Open Ship Registry Manage by the Central Government since 1917.
- We are one of the few maritime registries certified with a quality system.
- ISO 9001-2008 by Lloyd's Register Quality Assurance (LQR).
- Successfully passed the IMO voluntary audit.
- LRIT System.

3



ADVANTAGES OF THE PANAMANIAN REGISTRY

- Competitive fees (fixed tax rate).
- Shipowners and Crew members can be of any nationality.
- Special Naval Mortgages Registration Law - Reliability in matters related to the property title registration.
- Regional Seafarers Documentation and SEGUMAR Technical Offices worldwide [New York, London, Phillipines, Singapore, Japan, Korea, Greece and the 24/7 Head Office at Panama].

4



ADVANTAGES OF THE PANAMANIAN REGISTRY

- Implementation of Electronic Inspection System (Smartphone –Tab), improving the quality and shortening the time to make a decision in the case of eventual problems called “The Pele Marine System”.
- More than 62 Merchant Marine Consulates around the world.
- Panama has approx. 20,3% of the world’s fleet.
- The merchant fleet has increased its Panamanian vessels to 8,457 representing a tonnage of 229.1 MM according to Clarkson Shipping Directory.

5



ADVANTAGES OF THE PANAMANIAN REGISTRY

- Special Laid-up Registration.
- No re-inspection to vessels changing registry with a valid ISM Code and Tonnage Certificates, issued by a Recognized Organization.

6



ADVANTAGES OF THE PANAMANIAN REGISTRY

The recent modification to the law 55 of 2008, by law 27 of 2014, established the following innovations to the mortgages registration and encumbrances over Panamanian vessels at the Ship's Registry, to with:

1. The preliminary and definitive registration of the original contract is allowed in English, such as ownership title (i.e. Bill of Sale and Acceptance thereof), mortgages, addendums, assignments, etc. Said registration shall be submitted along with an abstract of the contract in Spanish.
2. The referred abstract must contain general information such as: the name of the parties and its addresses, the amount of the mortgage, the interest percent rate, the payment method or the payment date, ship's particulars, etc.
3. The above registrations can be processed through any of the Panamanian Consulates duly authorized by the Merchant Marine or directly in Panama (head office). Additionally, the registration of Bill of Sale, Leasing and Mortgages are also contained in this new version of the Law 55 of 2008.

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STRATEGY & INNOVATIONS OF THE PANAMA SHIP REGISTRY

- Increasing the number of Flag Inspectors - recruiting international qualified surveyors.
- New duties of SEGUMAR Technical Office, in order to provide on-site / real time support on incidents to Panamanian Flagged Vessels.
- Modernization of vessel's registration process and seafarers licensing process.

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STRATEGY & INNOVATIONS OF THE PANAMA SHIP REGISTRY

- Online Payments
- Mobile App of SEGUMAR Merchant Marine Circulars (Including Compilation downloading).
- New opening of Regional Seafarers Documentation and SEGUMAR Technical Offices in Greece, Turkey, Dubai, Imabari and Korea for a better and reliable service.
- Reactivation of the accreditation process of Maritime Training Centers around the world.

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STRATEGY & INNOVATIONS OF THE PANAMA MERCHANT MARINE

New Discounts – Resolution No. 106-65-DGMM of September 17th, 2014.

- New Construction Vessels and MODU's registered up to December 31st, 2015, until **100%** in the following items: Registration Fee, Consular Annual Fee, Casualties Investigation Fee, Inspection Fee, 0.03% per net tonnage fee.
- New Construction Vessels with Gross Tonnage > 10,000 constructed at:
 - Japan, Hong Kong, Popular Rep. of China, Singapore, South Korea, China (Taiwan), Philippines, Indonesia, Vietnam, France, Germany, Norway Holland and Italy.
- Vessel of new construction registered up to December 31s, 2015 that do not comply with the previously described provision will receive aside from the regular discount, a 35% discount in the registration fee and a 35% discount in the annual consular fee during the first year of its registration.

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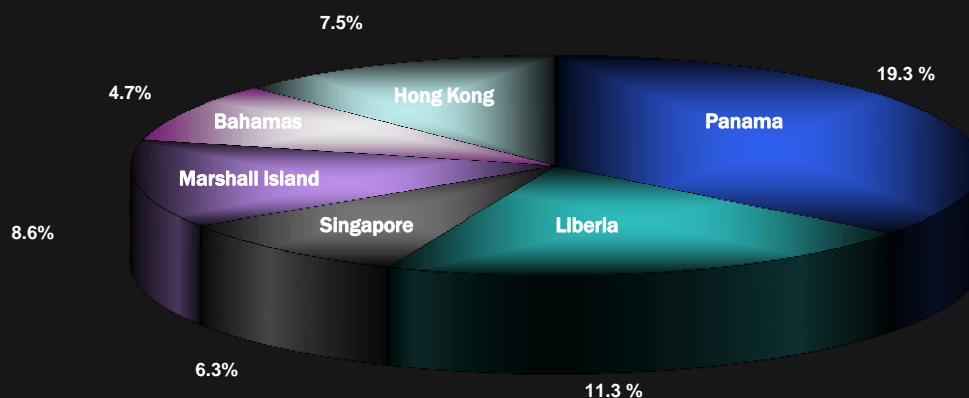
STRATEGY & INNOVATIONS OF THE PANAMA MERCHANT MARINE

New Discounts – Resolution No. 106-65-DGMM of September 17th, 2014.

- 15% additional discount to the previously mentioned incentives, if the interest party certifies that the vessel belongs to an economic group.

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COMPARISON OF THE PANAMANIAN REGISTRY TO OTHER REGISTRIES AS OF OCTOBER 2014



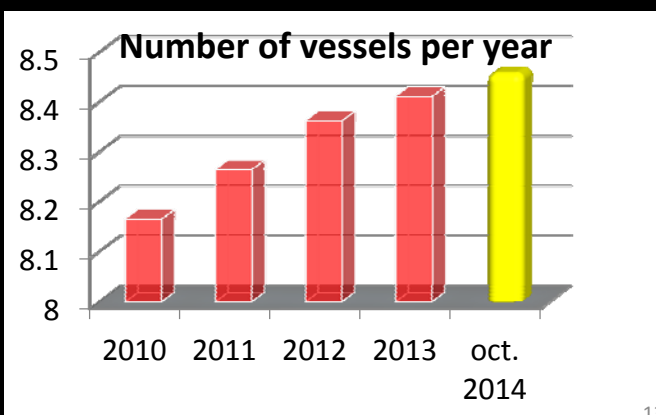
Source: Clarkson Research Services Limited.

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NUMBER OF VESSELS REGISTER PER YEAR

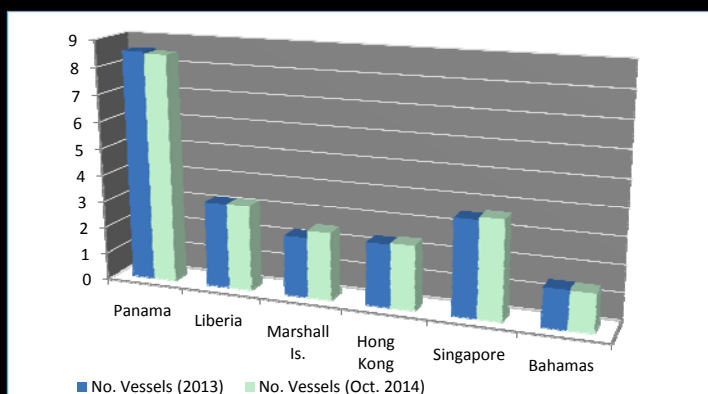
YEAR	NUMER OF VESSELS
2010	8,165
2011	8,264
2012	8,362
2013	8,411
oct. 2014	8,457



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COMPARISSON OF THE PANAMANIAN REGISTRY TO OTHER REGISTRIES AS OF OCTOBER 2014

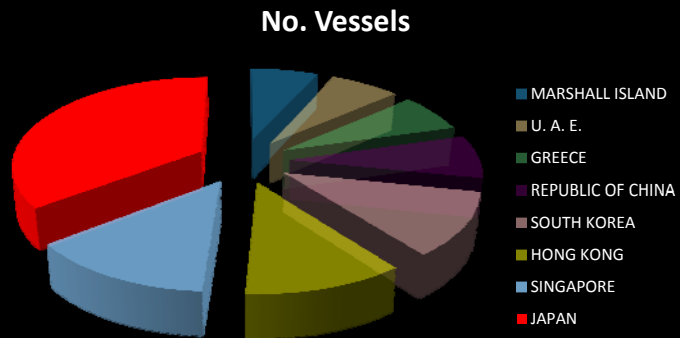
	No. Vessels (2013)	No. Vessels (Oct. 2014)
Panama	8,539	8,469
Liberia	3,174	3,185
Marshall Is.	2,232	2,507
Hong Kong	2,324	2,381
Singapore	3,533	3,644
Bahamas	1,427	1,408



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PANAMANIAN FLAG VESSELS BY SHIPOWNER NATIONALITY

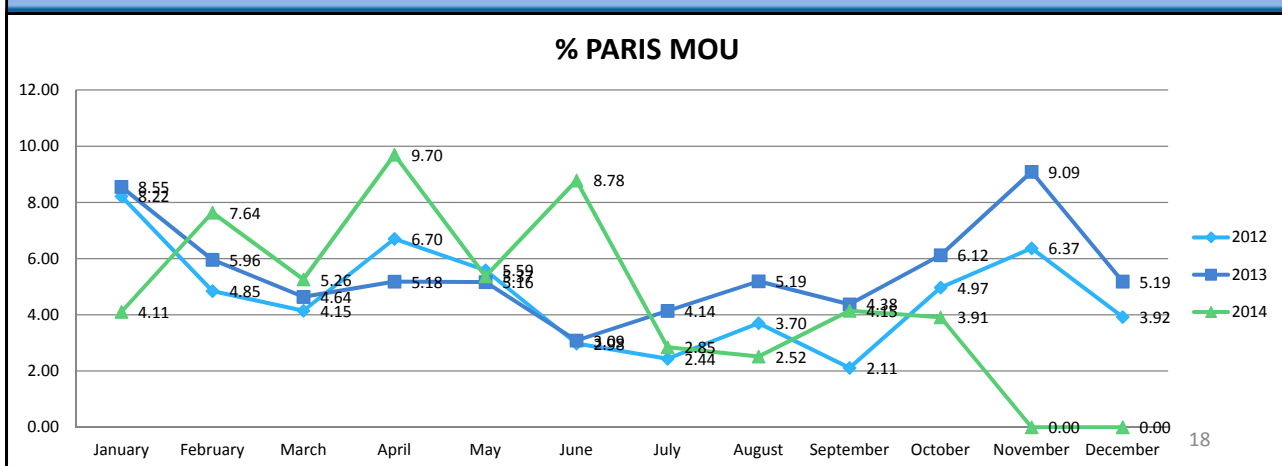
COUNTRIES	No. Vessels
MARSHALL ISLAND	329
U. A. E.	338
GREECE	339
REPUBLIC OF CHINA	381
SOUTH KOREA	558
HONG KONG	560
SINGAPORE	664
JAPAN	1745



PARIS MOU

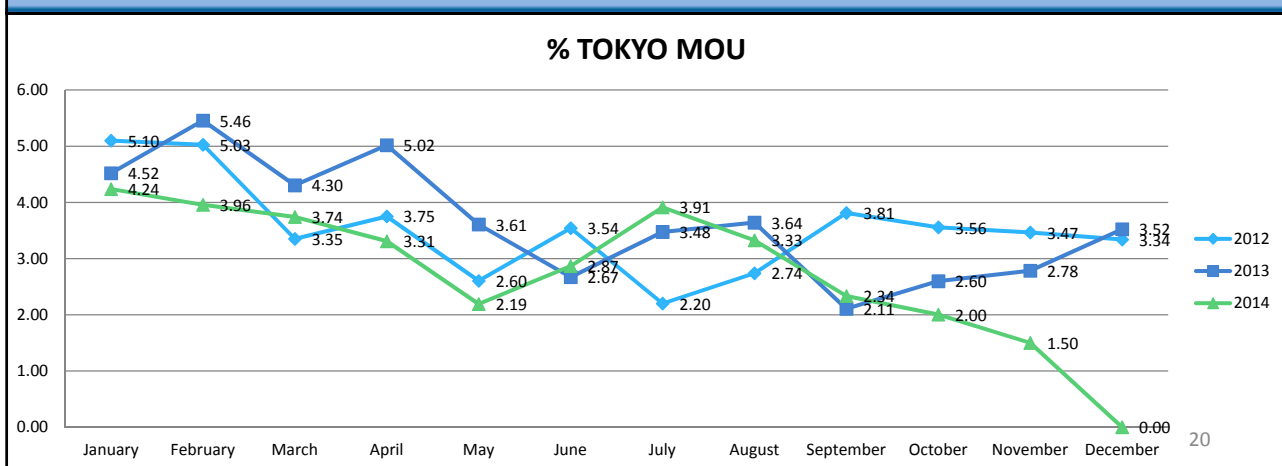
PARIS MOU									
	2012			2013			2014		
	Inspection	Detention	% month	Inspection	Detention	% month	Inspection	Detention	% month
January	146	12	8,22	152	13	8,55	146	6	4,11
February	165	8	4,85	151	9	5,96	144	11	7,64
March	193	8	4,15	194	9	4,64	171	9	5,26
April	194	13	6,70	193	10	5,18	165	16	9,70
May	179	10	5,59	213	11	5,16	149	8	5,37
June	168	5	2,98	162	5	3,09	148	13	8,78
July	164	4	2,44	169	7	4,14	246	7	2,85
August	162	6	3,70	154	8	5,19	159	4	2,52
September	142	3	2,11	160	7	4,38	193	8	4,15
October	181	9	4,97	196	12	6,12	179	7	3,91
November	157	10	6,37	165	15	9,09	49		0,00
December	153	6	3,92	135	7	5,19			#DIV/0!
Total	2004	94	4,69	2044	113	5,53	1749	89	5,09

PARIS MOU





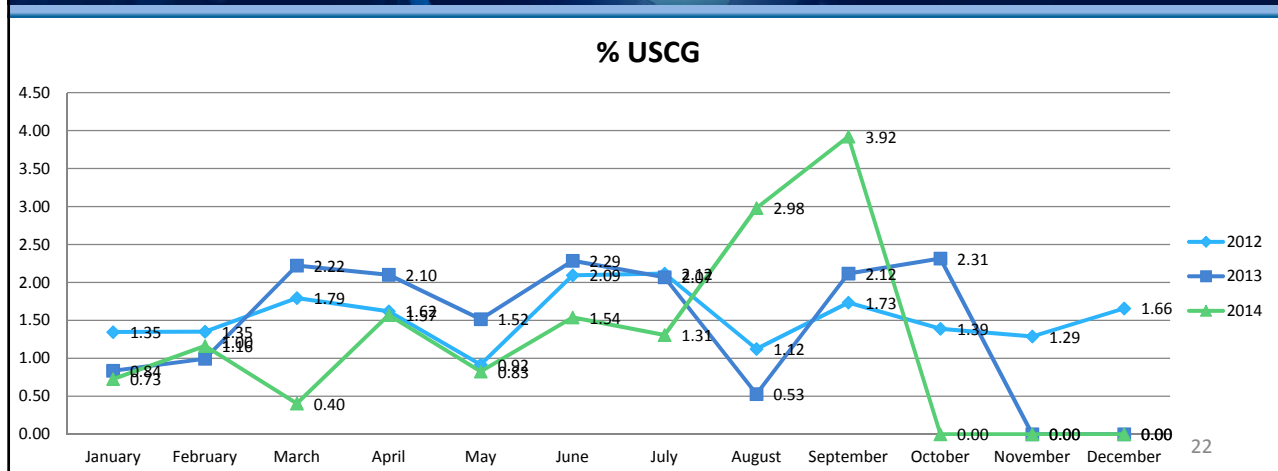
TOKYO MOU									
	2012			2013			2014		
	Inspection	Detention	% month	Inspection	Detention	% month	Inspection	Detention	% month
January	706	36	5,10	885	40	4,52	826	35	4,24
February	776	39	5,03	733	40	5,46	758	30	3,96
March	865	29	3,35	999	43	4,30	855	32	3,74
April	853	32	3,75	1096	55	5,02	876	29	3,31
May	960	25	2,60	998	36	3,61	866	19	2,19
June	847	30	3,54	861	23	2,67	872	25	2,87
July	818	18	2,20	892	31	3,48	971	38	3,91
August	803	22	2,74	824	30	3,64	962	32	3,33
September	1049	40	3,81	1091	23	2,11	1156	27	2,34
October	956	34	3,56	1116	29	2,60	998	20	2,00
November	808	28	3,47	862	24	2,78	333	5	1,50
December	599	20	3,34	653	23	3,52	#DIV/0!	19	0,00
Total	10040	353	3,52	11010	397	3,61	9473	292	3,08



UNITED STATES COAST GUARD

USCG									
	2012			2013			2014		
	Inspection	Detention	% month	Inspection	Detention	% month	Inspection	Detention	% month
January	223	3	1.35	239	2	0.84	275	2	0.73
February	222	3	1.35	201	2	1.00	258	3	1.16
March	223	4	1.79	225	5	2.22	247	1	0.40
April	247	4	1.62	238	5	2.10	191	3	1.57
May	218	2	0.92	198	3	1.52	242	2	0.83
June	191	4	2.09	175	4	2.29	130	2	1.54
July	189	4	2.12	145	3	2.07	153	2	1.31
August	178	2	1.12	189	1	0.53	235	7	2.98
September	173	3	1.73	189	4	2.12	153	6	3.92
October	144	2	1.39	216	5	2.31	0	4	#DIV/0!
November	233	3	1.29	217	0	0.00		0	#DIV/0!
December	181	3	1.66	130	0	0.00			#DIV/0!
Total	2422	37	1.53	2362	34	1.44	1884	32	1.70

UNITED STATES COAST GUARD



IMPLEMENTATION OF MARITIME LABOUR CONVENTION

- ✓ Panama is a member of the Maritime Labour Organization since 1919
- ✓ On January 6th, 2009 Panama ratified the Maritime Labour Convention (MLC), 2006.
- ✓ PMA is implementing the STCW 2010 amendment's

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We welcome you to...

MIT
 MAMCAMELO INTERNATIONAL TERMINAL

MOL Mitsui O.S.K. Lines

MEC
 MERCANTIL MARITIMO

AqMe
 ASSOCIATION OF QUINCE MILITARY ENGINEERS

MERCANSA

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 DATE 2015**

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CONTACT INFORMATION



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p. +507-501-5000

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パネルディスカッション

Panel Discussion

テーマ：今後の国際海上物流のハブとしてのパナマへの期待

コーディネーター：星野裕志氏 九州大学大学院教授

パネリスト：ホセ・ルイス・キハノ・アラゴン氏 パナマ運河庁長官

アレハンドロ・アグスティン・モレノ・ベラスカス氏 パナマ海事庁副長官

鈴木 修 氏（一社）日本船主協会副会長

上田 直樹 氏（一社）日本造船工業会

（三菱重工業(株)船舶・海洋事業部副事業部長）

上林 拓生 氏 三菱商事(株)新産業金融事業グループ物流本部戦略企画室長

城所 秀樹 氏 東京ガス(株)原料部LNG契約担当部長代理

土屋 俊実 氏 中部電力(株)燃料部長

Theme : “The strategic hub for global maritime logistics: expectations for Panama”

Coordinator: Mr. Hiroshi Hoshino, Professor of Kyushu University

Panelists: Mr. Jorge L. Quijano (Panama Canal Authority)

Mr. Alejandro A. Moreno (Panama Maritime Authority)

Mr. Osamu Suzuki (Japan Shipowners' Association)

Mr. Naoki Ueda (Shipbuilders' Association of Japan)

Mr. Takuo Uebayashi (Mitsubishi Corp.)

Mr. Hideki Kidokoro (Tokyo Gas Co., Ltd)

Mr. Toshimi Tsuchiya (Chubu Electric Power Inc.)

The Expectation for “Maritime” Panama from the Japanese Shipping Industry

Osamu SUZUKI
Vice President
Japanese Shipowners' Association
21 November 2014



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TOPICS

- Deep Connection between Panama and Japanese Shipping Industry

- The Expectation for the Panama Canal Authority

- The Expectation for the Panama Maritime Authority

What is the JSA?

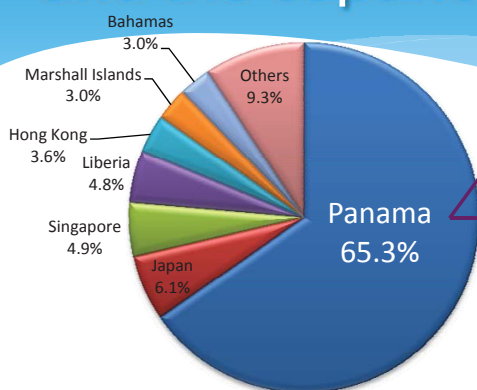
(JSA website: <http://jsanet.or.jp>)

- ❑ The Japanese Shipowners' Association, JSA, comprising Japanese-registered shipowners, operators and charterers, was established in June 1947.
- ❑ As of 1 November 2014, the JSA is composed of 102 Japanese shipping companies including three major Japanese lines, i.e. "K" Line, NYK Line and Mitsui O.S.K Lines.
- ❑ The current JSA President is Mr Jiro Asakura, President of "K" Line.
- ❑ In order for the Japanese shipping industry's healthy development, the JSA is responding to various issues, such as shipping policy and taxation, piracy issues and environmental issues.

3



Deep Connection between Panama and the Japanese Shipping Industry



Panamanian-flagged vessels account for 65.3% of international merchant maritime fleet operated by Japanese shipping companies as of mid-2013.

The Canal tolls paid by JSA members account for around 12% of the all Canal toll revenue.

	Total No. of Transiting	Toll Revenues: \$ million
	No. of transiting vessels controlled by JSA member	Toll amount paid by JSA members
2011	14,684	1,730
	1,003	216.7
2012	14,544	1,852
	1,015	228.8
2013	13,660	1,845
	1,011	241.2

The Panama Canal Authority and the Panama Maritime Authority are indispensable stakeholders for the Japanese Shipping Industry.



The Expectation for the Panama Canal Authority (ACP)

August 2014: the Centenary of the Panama Canal

The deepest appreciation for the ACP's various and longstanding efforts to maintain a safe, smooth and effective vessel transit environment.

Opening of the expanded Canal

- Great improvement of efficiency in both Canal operations and the overall global supply-chain.
- Adding a new dimension to global trade. (e.g. shale gas trade, mega container ship transit etc.)

For prosperity in the coming century...

- Necessity of ensuring stability, transparency and foreseeability of the Canal's operations and pricing policy.
- Importance of regular face-to-face dialogue with the Canal users.



The Expectation for the Panama Maritime Authority (AMP)

Japanese shipping company is the major user of Panamanian-flagged vessel

- ➔ ➤ A token of trust in the quality of the flag-state performance of Panama and of flexibility and cost effectiveness in registry procedure.
- Great appreciation for the AMP's user-friendly approach to shipping companies:
 - flexible approach in backing of shipping companies' position when new or amendment of international regulations are discussed at the table of IMO, ILO etc.

In order to expand our mutual benefit further....

- Hoping for the AMP's continuous efforts to retain the competitiveness of the flag and also to ensure fully compliance with the international laws and regulations to avoid disturbance to vessel operations .
- Importance of regular face-to-face⁶ dialogue with customers.



Finally...

The ACP and AMP are important partners for the Japanese shipping industry to ensure safe, smooth and effective ship operations.



The ACP/AMP and the Japanese shipping industry both have to continue efforts in deepening mutual understanding in order to create more of a win-win situation.



Left:
Mr Asakura
(JSA President)
Right:
Mr Moreno
(AMP Deputy
Administrator)



Left:
Mr Asakura
(JSA President)
Right:
Mr Quijano
(ACP
Administrator)



Thank you very much

Expectations for Panama As a strategic hub for global maritime logistics; - Shipbuilding -



MITSUBISHI HEAVY INDUSTRIES, LTD.
Ship & Ocean Engineering Department

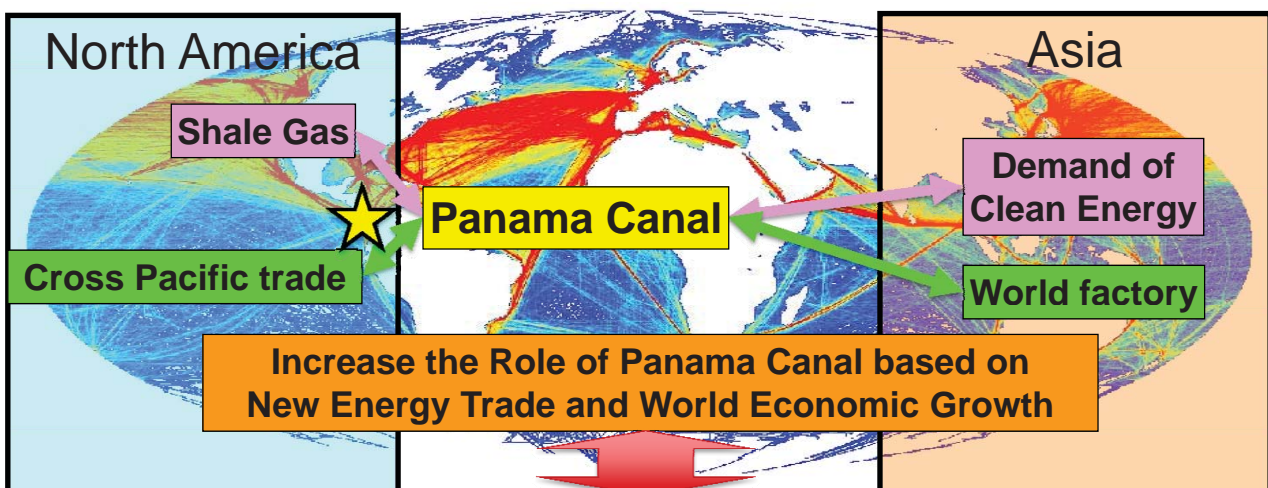
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IMPORTANCE OF PANAMA CANAL



Trade through Panama Canal : 300Mil. Tonnes/Year (abt.3% of the world trade)



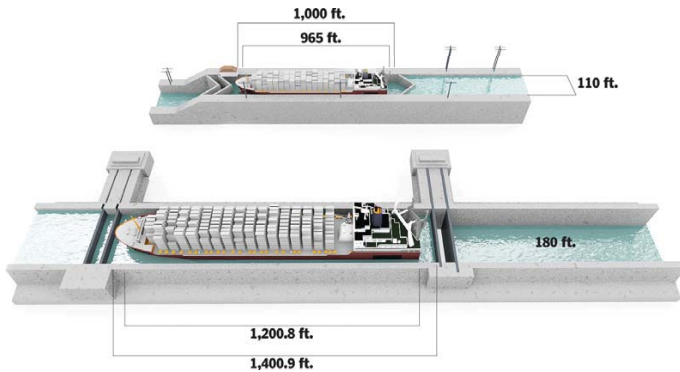
Commitment of Shipbuilders in Japan;

- Continue to supply excellent ships
- Develop new ECO technologies
- Support Marine Sectors in Safety & Environment Protection

Impact of New Panama Canal on ship design

Existing Locks

	L	B	d
Lock size	305m	33.5m	12.8m
Max Vessel dimensions	294.1m	32.3m	12.04m



4600TEU (B=32.2m)
(Container segment
36.7% of PC/UMS tons)



Max. Size (MHI design)
13500TEU (B=48m)

New Locks (No.3)

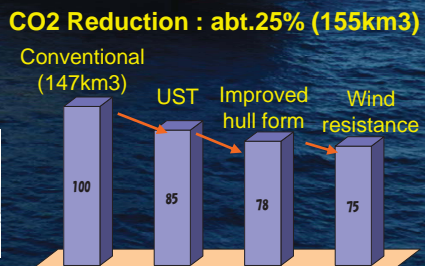
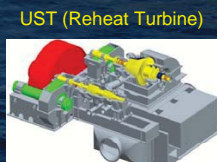
	L	B	d
Lock size	427m	55m	18.3m
Max Vessel dimensions	366m	49m	15.2m

New MOSS type LNGC "SAYAENDO"

- High Reliable LNG containment system for long transportation
- 155km³ type : 8 vessels built in 2014-2016
- 180km³ type : Design Completed for Shale Gas Trade



Nickname "SAYAENDO"
means "Sugar Snap Peas"



New Locks (No.3)

	L	B	d
Lock size	427m	55m	18.3m
Max Vessel dimensions	366m	49m	15.2m



6meter for tug operation

Moss type LNGC



Under Current Restriction;

Max. Capacity : 180km³

In case of 51m Breadth;



Max. Capacity : 200km³

11% increase by 4% increase of the ship's Breadth

DISCUSSION 1. :STRATEGY / PLAN of NEW LOCKS

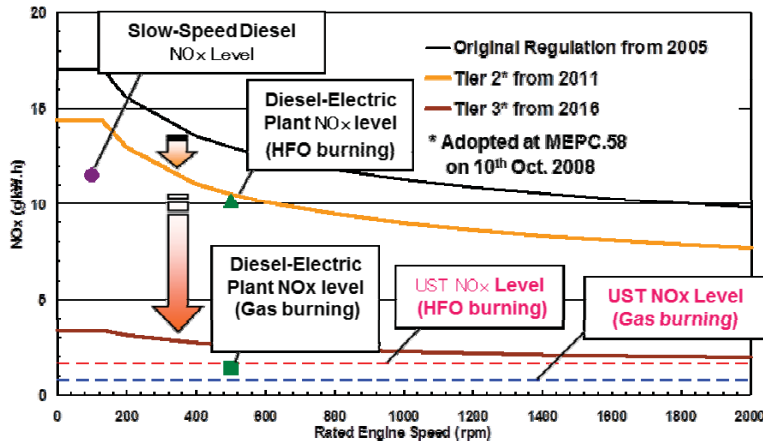
- 1. When and How the current restriction of No. 3 lock will be revised?**
- 2. What Kind of Assistance of the development of next No.4 lock will be welcomed?**



NOx reduction

IMO Tier III for ECA* (1/1/2016)
(80% less than Tier I)

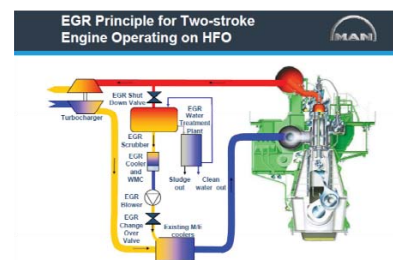
* : Emission Control Area



SCR (Selective Catalytic Reduction)



EGR (Exhaust Gas Recirculation)



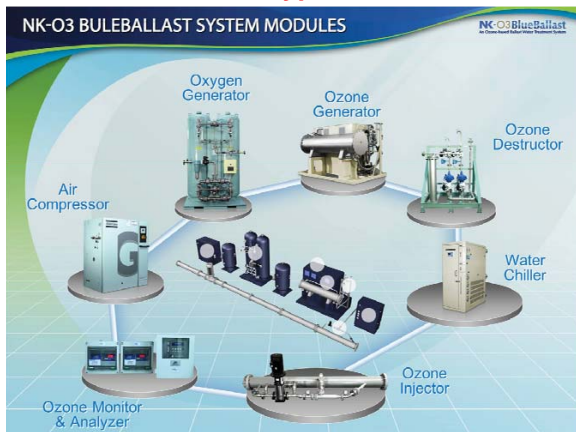
Ballast Water Management

Installation of Ballast Water Treatment System

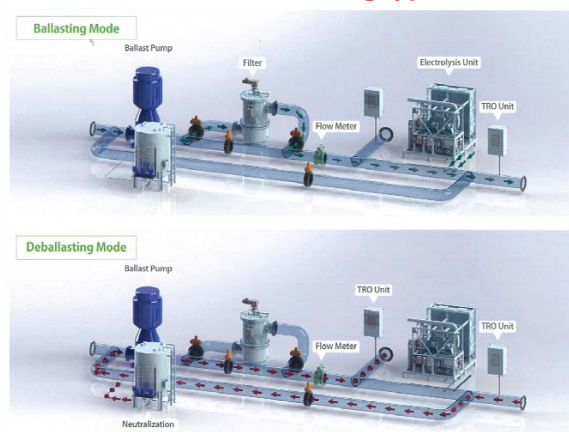
As of May, 2014
40 state, 30.25% tonnage

: 12 months after ratification by 30 States, representing 35% of the world tonnage

Ozone type



HCIO- & Filtering type



1. BWMS (Ballast Water Management System) :

How Panama will behave on the ratification ?

2. Protection for Air Emissions from Ships :

Are you interested in the introduction of new tech. for your fleet? Any incentive scheme to be introduced in Panama?

Global Trading and Expectations for Panama Canal

November 21, 2014
Mitsubishi Corporation
Logistics Division

➤ About Mitsubishi Corporation

 Mitsubishi Corporation

< Established: July, 1954 >

< Employees : around 6,000 >

< 7 Business Groups >

Global Environment & Infrastructure Business Group

Industrial Finance, Logistics & Development Business Group

Energy Business Group

Metals Group

Machinery Group

Chemicals Group

Living Essentials Group

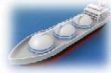
< Product List >

LNG / Coal / Grain / Chemical goods /
Automobiles / Fabricated food / Consumer products
...etc

➤ **Global Trading / Export and Import Business**

➤ **Trading Route via Panama Canal**

- LNG Carrier



- Bulker



- PCC



- Container Liner



➤ **Expectations for Panama Canal**



The Seminar on “Expansion of the Panama Canal and Maritime Policy of Panama” in 2014

November 21, 2014
Tokyo Gas Co., Ltd.



Contents

- Tokyo Gas Overview
- Global Natural Gas and LNG Markets
- Tokyo Gas' LNG Procurement Strategy
- Expectations for Panama Canal

Corporate Profile

as of March 31, 2014

Established	October 1, 1885
Capital	141.8 billion JPY
Business areas	(1) Production, supply and sale of city gas (2) Supply and sale of gas appliances, and related installation work (3) Construction work relating to the supply of city gas (4) Energy services (5) Supply of electricity
Service area	Main cities of Tokyo, Kanagawa, Saitama, Chiba, Ibaraki, Tochigi, Gunma, Yamanashi, Nagano prefectures
Net sales	2,112 billion JPY (21billion USD) (Consolidated basis, FY2013)
Gas supply volume	16.2billion m ³ (Consolidated basis, fiscal 2013, 45MJ/m ³) (Industrial: 39%, Residential 21%, Commercial 18%, Wholesale 12%, Power generation 9%)
Number of customers	11.11 million
Number of employees	8,002 (Non-consolidated basis) 16,647 (Consolidated basis)
Tokyo Gas Group	68 Consolidated subsidiaries (18 Consolidated overseas subsidiaries)

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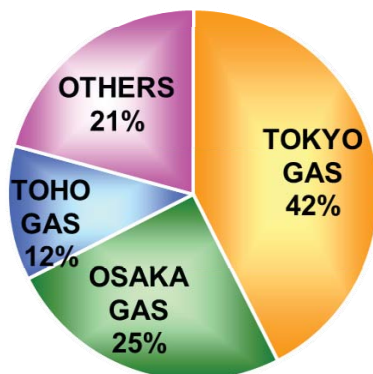
3

Our Position in Japanese Energy Market

Consolidated < FY2013 >

City Gas Supplier

【Gas Sales Volume】

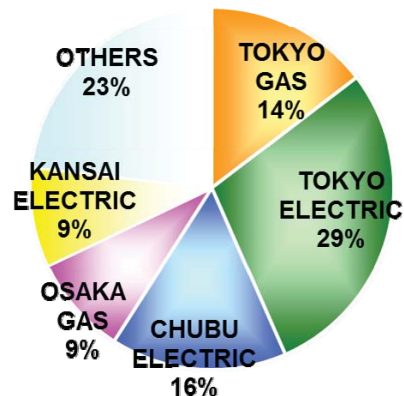


Tokyo Gas: 14.5 billion m³ [45MJ]

Japan: 34.1 billion m³ [45MJ]

LNG Importer

【Total LNG Import】



Tokyo Gas :12.8 million tons

Japan :87.7 million tons

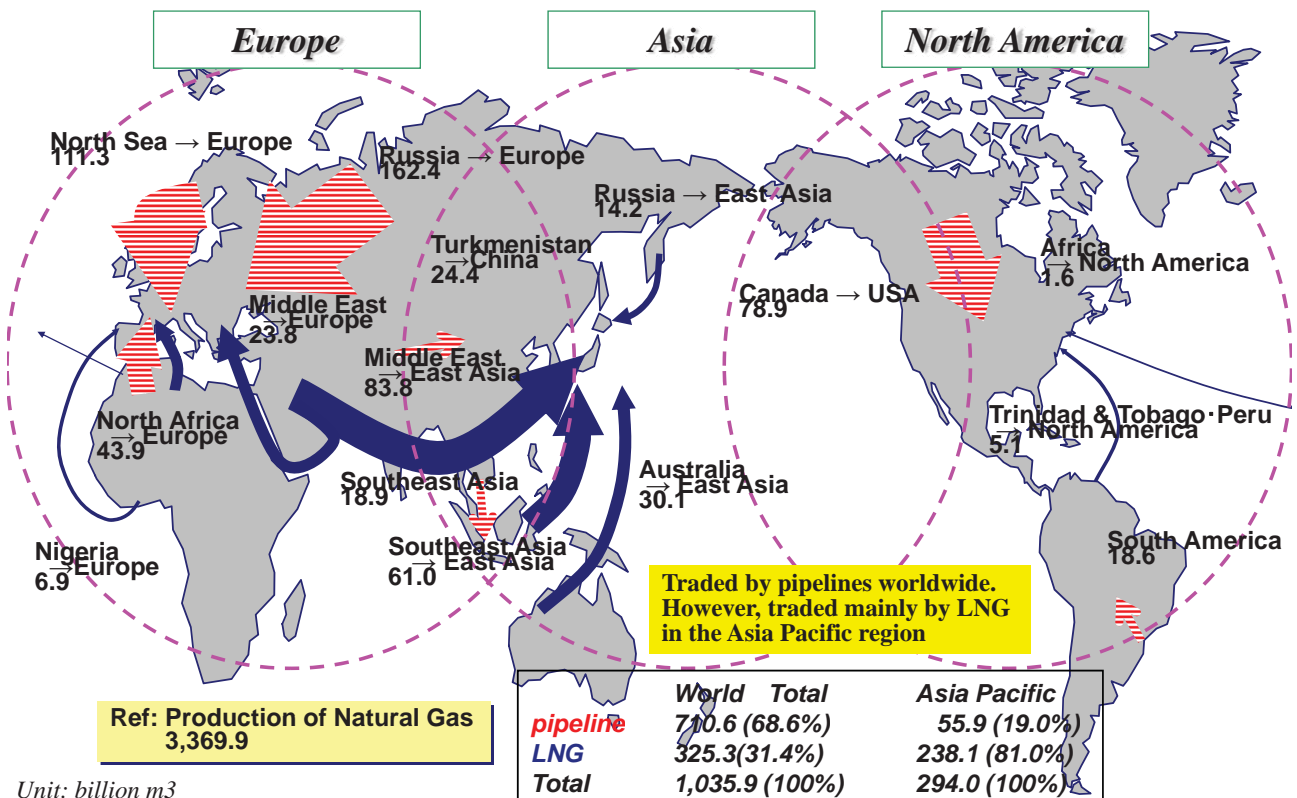
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- Expectations for Panama Canal

Natural Gas Trade and Regional Markets (2013)



Ref: Production of Natural Gas 3,369.9

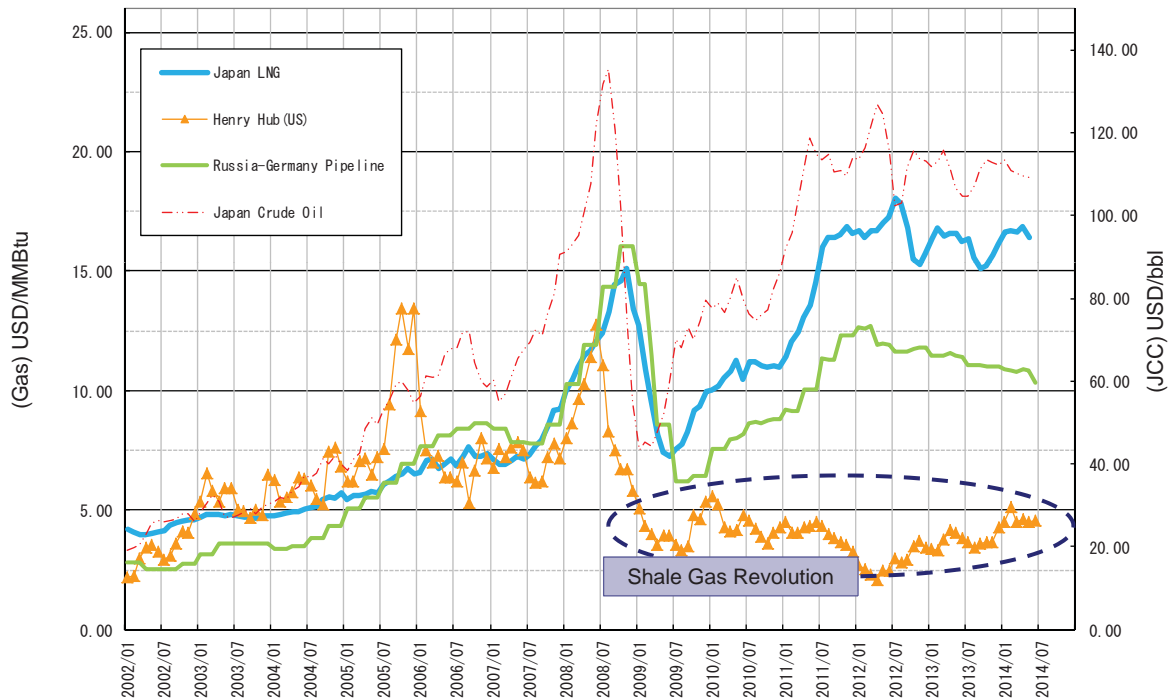
Unit: billion m³

Source : BP Statistical Review of World Energy June 2014

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Natural Gas Price Gap between regions

Trends of gas and oil prices
(JCC prices are shown in the heat value equivalent)



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Source: WGI, Trade Statistics of Japan

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Our challenge for LNG procurement

Economic Competitiveness

Stable Supply

Flexibility in Quantity

“Three diversifications” TG targeting

1. Supply Source

- Asia Pacific, Mid-east
- United States
- Canada, Africa, Russia

2. Contract terms

- Introducing “LNG market price linked mechanism”
- Enlargement of liquidity by destination free term

3. Global LNG network

- Considering going into Atlantic ocean market and inter-market trade for global LNG market unitization

Agreed upon HOA of Cove Point LNG, procuring LNG 1.4MTPA

Agreed upon SPA of Cameron LNG, procuring LNG 0.52MTPA

- Procuring LNG from new region, new supplier (Supply source diversification)
- Henry Hub linked formula and destination free (Contract terms diversification)
- Easing access to Atlantic ocean LNG market (LNG network diversification)

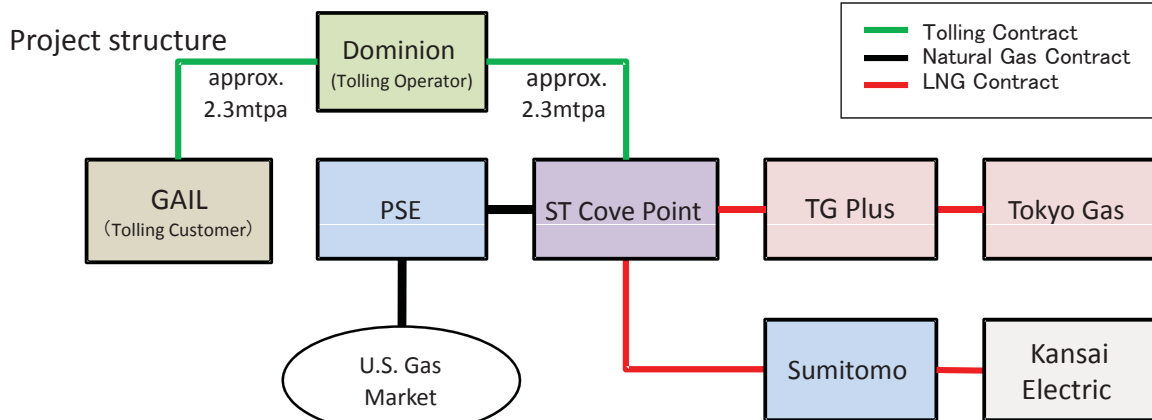
Acquired 25% interests of Barnett shale gas project from Quicksilver Resources Inc.

(equivalent to 0.35~0.5MTPA of LNG)

- Decentralizing our upstream investment in Asia Pacific region
- Allow hedging risks associated with HH price increase

Cove Point LNG

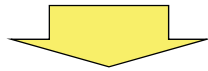
- Gained DOE approval to export LNG to non-FTA countries from Cove Point Terminal, on Sep 11th 2013.
- Gained FERC approval to start to build LNG liquefaction Plant in Maryland on Sep 29th 2014.
- Sumitomo Corp. and Tokyo Gas jointly established a tolling company “ST Cove Point LLP”.
- Tokyo Gas’s subsidiary shall procure 1.4 mtpa LNG from ST Cove Point with Henry Hub linked formula and destination free condition.
- First cargo to be shipped in FY2017.



LNG Transportation by TG fleet

Purpose of FOB / Owing Vessels

- Reduction of Transportation Cost
- Increase of Trading Opportunities
 - for spot trading
 - for cargo diversion



- Seven vessels controlled by Tokyo LNG Tanker (100% subsidiary)

	Delivery	operator
● LNG VESTA (127,000m ³ , Moss Type)	: 1994	MOL
● ENERGY FRONTIER (147,000m ³ , Moss Type)	: 2003	MOL
● ENERGY ADVANCE (147,000m ³ , Moss Type)	: 2005	MOL
● ENERGY PROGRESS (147,000m ³ , Moss Type)	: 2006	MOL
● ENERGY NAVIGATOR (147,000m ³ , Moss Type)	: 2008	MOL
● ENERGY CONFIDENCE (155,000m ³ , Moss Type)	: 2009	NYK
● ENERGY HORIZON (177,000m ³ , Moss Type)	: 2011	NYK

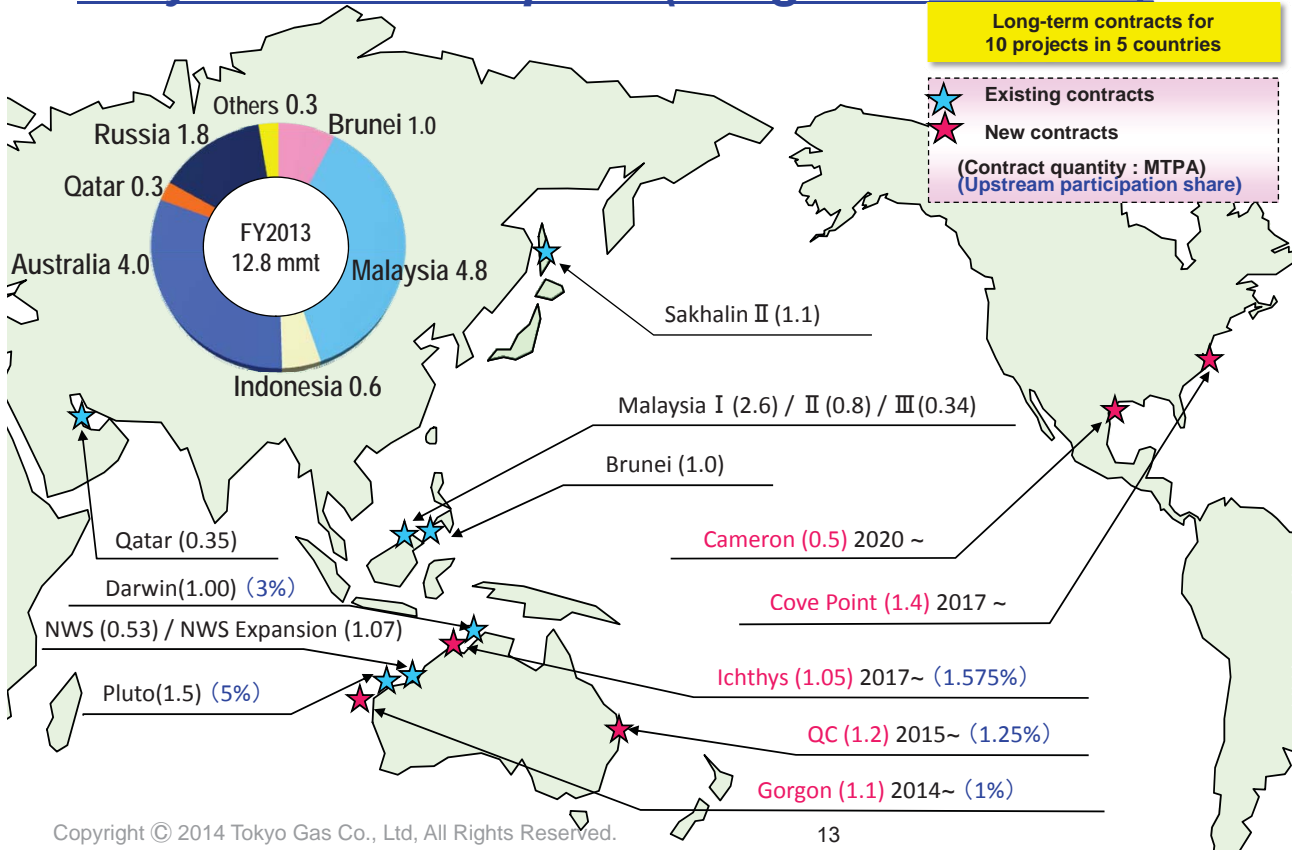
- Two more vessels (165,000m³, SPB type) will be built for Cove Point

Overview of New LNG Vessel

- Shipyard: Japan Marine United (JMU)
- Tank System: SPB (Capacity: 165,000m³)
- Propulsion System: TFDE
- Owner: MOL & TLT (1st), NYK & TLT (2nd)
- Charterer: Tokyo LNG Tanker for 20 years
- Delivery: 2017
- Main Trade: Tokyo (Japan) - Cove Point (USA)
- Classification: Class NK
- Flag: Japan



Tokyo Gas LNG Imports (Long-term contract)



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- Expectations for Panama Canal

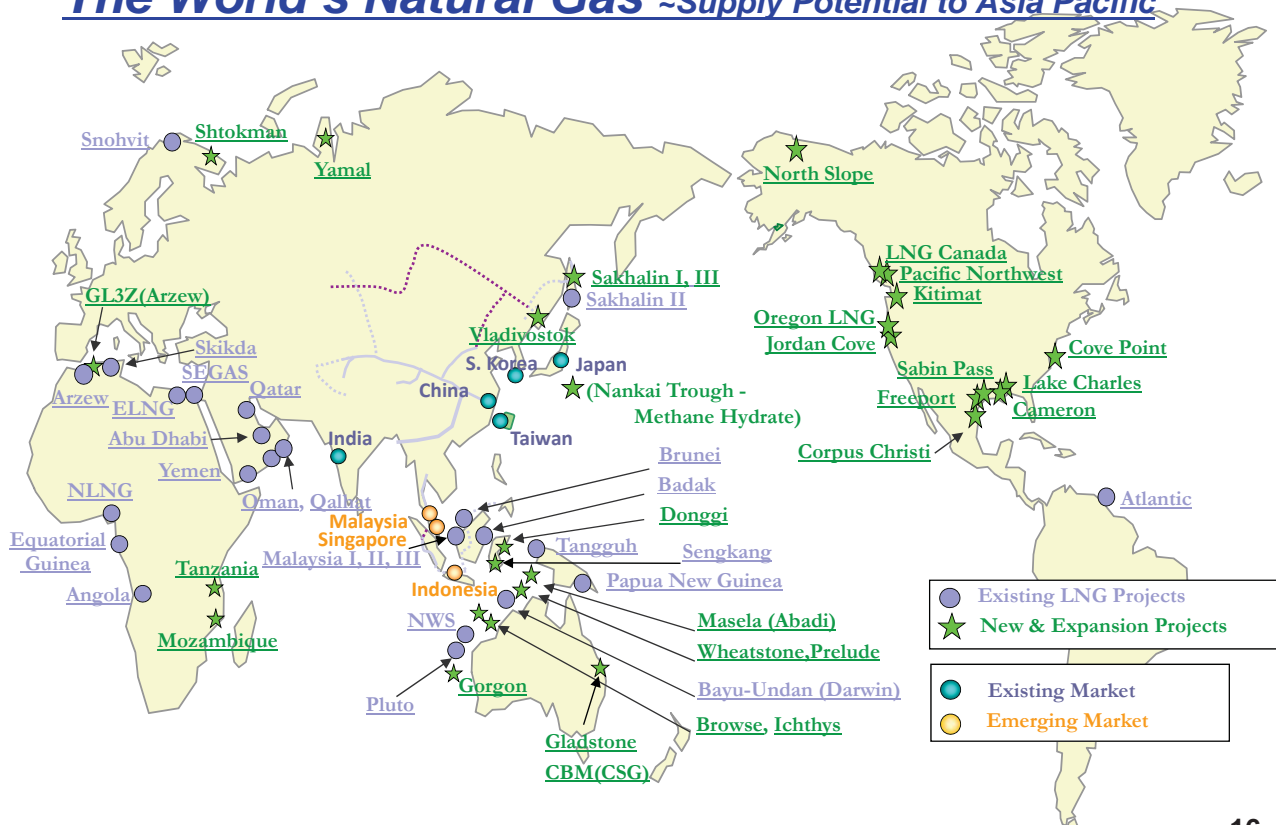
Expectations for Panama Canal

To ensure
“Safe, Stable and Competitive Transportation”
 through Panama Canal,
 we expect:

- ✓ Completion of Expansion Project on schedule
- ✓ Sufficient capacity and efficient operation
- ✓ Optimized ship’s requirement
- ✓ Transparent and reasonable toll fare
- ✓ Continuing geopolitical stability into the future

so that Panama Canal can be an attractive route in
 the global LNG logistics.

The World’s Natural Gas ~Supply Potential to Asia Pacific





Thank you for your attention.

The Strategic hub for global maritime logistics : Expansion For Panama

November 21st, 2014

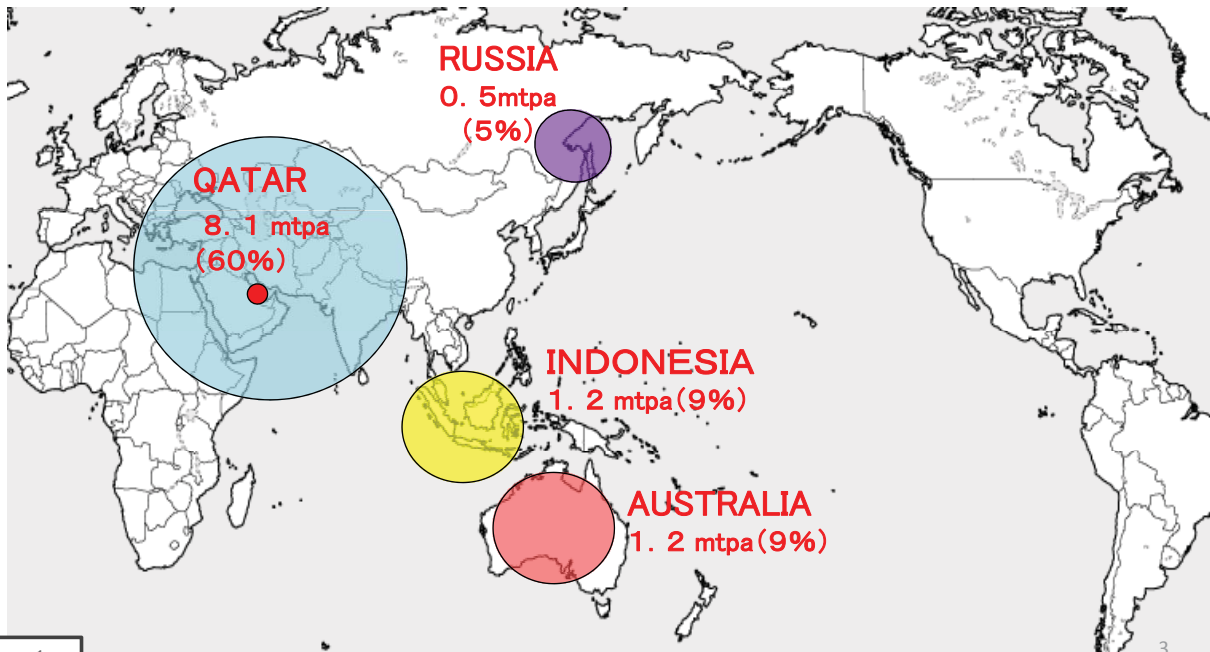
Chubu Electric Power Co., Inc

AGENDA

- 1 Major LNG Sources For Chubu Electric
- 2 Natural Gas Price Gap between Regions
- 3 The US LNG PROJECT (Gulf Of Mexico)
- 4 Expectations for the Panama Canals
 - ① LNG Market Change
 - ② LNG Transportation
- 5 Conclusion

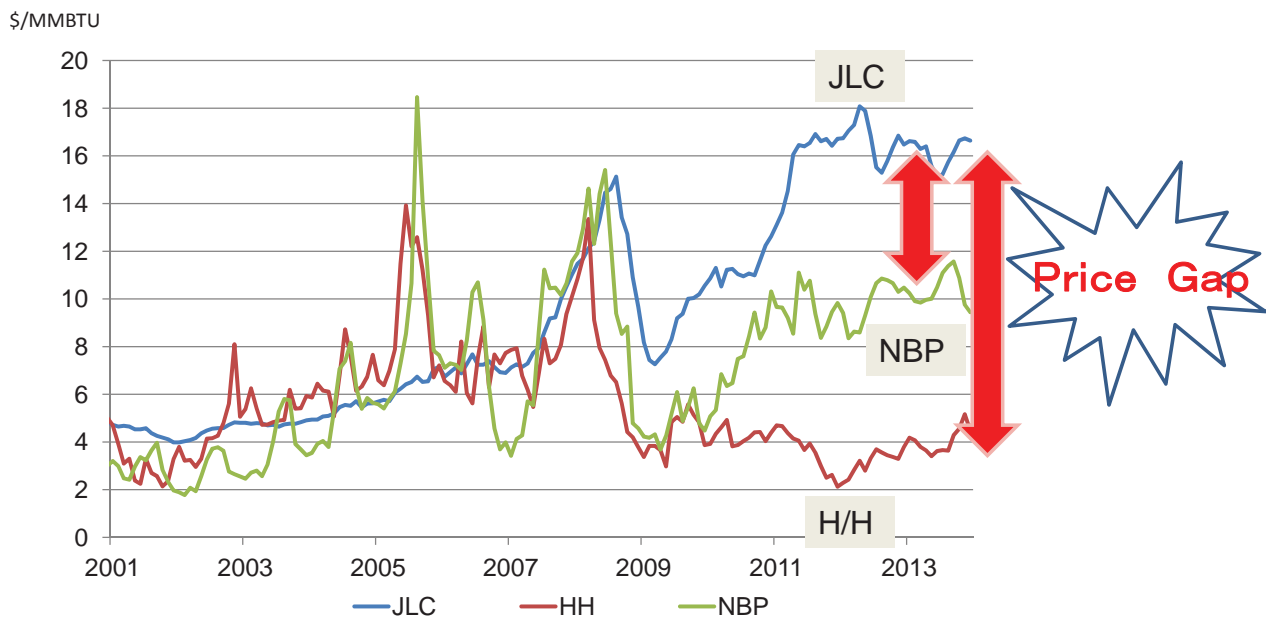
1 Major LNG Sources For Chubu Electric

- Major LNG sources imported to Japan by Gas and Electricity companies are from Australia, South-East Asia, Middle-East and Russia.
- The LNG price is mainly linked with Oil Price.



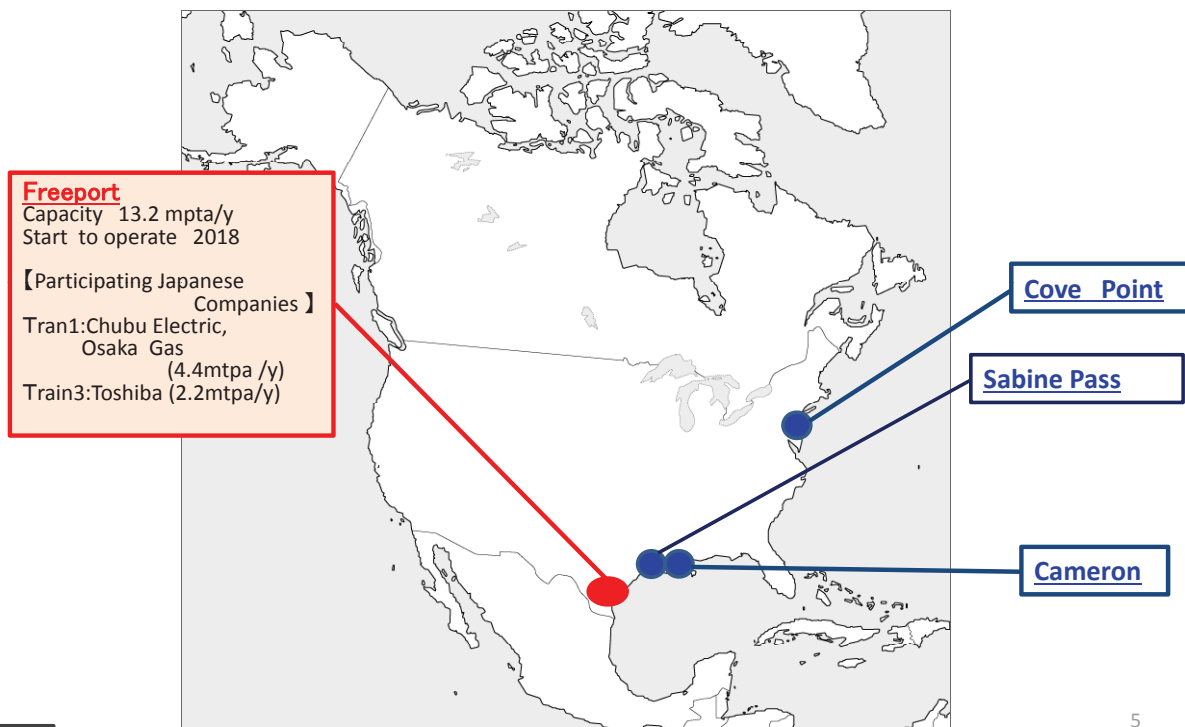
2 Natural Gas Price Gap between Regions

- Japanese Natural Gas Price is four times more expensive than that in the US, and 1.5 times than that in Europe. "ASIAN PREMIUM"



3 The US LNG PROJECT(GULF OF MEXICO)

- Many LNG Projects are planned at AROUND Gulf of Mexico.
- Chubu participates in FREEPORT PROJECT.



3

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4 Expectations for the Panama Canals

① LNG Market Change

- Many LNG projects are planned to export to Asia.
- Pipeline Gas deal between RUSSIA and CHINA is planned
- Due to DECLINING OF OIL PRICE , the competitiveness of conventional LNG projects with oil-linked formula improved

- The price competition among LNG projects to export to Asia is increasing
 - Price Reduction of LNG to Asia
 - Removing the Asian Premium

<Expectations for Panama canals ①>

Economical Transit Fee of the Panama Canal

4

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4 Expectations for the Panama Canals

②LNG Transportation

<The issues of LNG TRANSPORTATION>

- LNG is necessary to remain refrigerated around -160°C during transportation and storage
- Boil Off Gas is generated from LNG
- Limited LNG TRANSPORT VESSELS and LNG STORAGE CAPACITY

Necessity for LNG transportation on schedule

< Expectations for Panama canals ② >

On schedule transit to Panama Canal

5

7

5 Conclusion

<Expectations For the Panama Canal>

- Economical Transit Fee
- On schedule transit

THANK YOU!

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