

SIGTTO

The Society of International Gas Tanker and Terminal Operators Ltd

Continually promoting best practice in the liquefied gas shipping and terminal industries for 44 years.



Annual Report and Accounts 2023

President's Report



As the energy transition continues and focus on emerging and alternate fuels increased in 2023, the continuous development of gas transportation safety and the reduction of GHG emissions has remained the priority for SIGTTO.

I am pleased to note the contribution SIGTTO has made to the revision of the International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code). The SIGTTO Environmental Committee (EC) considers the IMO GHG Strategy ambition to reach net-zero GHG emissions from international shipping by 2050, and a commitment to ensure an uptake of alternative zero and near-zero GHG fuels by 2030. In a recent bi-annual report to the IMO, SIGTTO displayed significant commitment as an active NGO, having attended 20 IMO meetings, submitted and co-sponsored numerous papers supporting the IMO's safety agenda and featured several IMO Secretariat staff as presenters at SIGTTO events.

The General Purposes Committee (GPC) made significant progress on the project list that had been growing in prior years. Several important project publications on core safety activities were delivered. Industry incident knowledge sharing remains crucial to continued industry improvement.

In addition to our IMO work and the guidance drafted in Working Groups, and GPC and EC meetings, the Secretariat also coordinated

three successful Regional Panels in 2023. These took place in Singapore, Houston and London. Regional Panels are a crucial way for the Secretariat to meet and form working relationships with members and for industry knowledge sharing to take place.

As mentioned in last year's Annual Report, the diverse issues and growing demands facing the industry during this time means the SIGTTO strategy requires a long-term refresh. The Board have invested substantial time, effort and energy into this undertaking and the outcome will be shared with the membership.

I would like to thank the Secretariat and membership alike for their continued dedication to the Society's mission. It is only through this collaborative initiative that we can achieve the sort of impact that has benefited the gas and larger shipping industry over more than four decades.

Lloyd Bland
President

General Manager's Report



SIGTTO was set up to improve the safety of liquefied gas shipping. The organisation has been carrying out this role for a long time, nearly 45 years. This focus on safety is very important and has expanded to include emerging topics such as CO₂ shipping, large scale ammonia shipping and use as a fuel, and liquefied hydrogen shipping. The strength of the organisation has grown due to the large and diverse membership and industry partners. The SIGTTO Secretariat guides the process and provides continuity and retention of knowledge.

SIGTTO members all contribute to the safety and environmental protection of the industry. The contribution can take many forms and can be the fees that help to fund the Society's activities and the technical knowledge and experience that helps to write guidance documents. Also important, is sharing of lessons learnt from incidents and to help communicate the good work that is being done by the industry to ensure safe liquefied gas shipping.

In 2023, SIGTTO was very active at the IMO due to the ongoing work with the revision of the IGC code. The updates to the IGC code are part of the cycle of continuous improvement on safety that starts at the General Purposes Committee (GPC). The work carried out at the GPC on CO₂ shipping, ESD systems and relief valves, and published as industry guidance, has been useful to update the IGC code.

The Environmental Committee (EC) is working to provide guidance to the industry on measures to reduce CO₂ and methane emissions from gas carriers. The EC is also discussing topics such as IMO's CII and EU ETS and Fuel EU.

SIGTTO held three Regional Panel meetings in 2023 in Singapore, Houston and London as a way to interact with members and to communicate safety and environmental messages to the industry. We welcome all members to attend the event closest to their location.

We are very pleased to welcome the following companies who became SIGTTO members in 2023 and look forward to working with them to improve the safety of the industry:

1. ENGIE ENERGY MARKETING
2. REN ATLANTICO, TERMINAL GNL, S.A.
3. PG SHIPMANAGEMENT PTE. LTD.
4. BUMI ARMADA BERHAD
5. SNAM FSRU ITALIA SRL
6. EQUINOR ASA
7. ORION GLOBAL TRANSPORT FRANCE
8. JADROPLOV

We fully recognise the value of industry participation to the output of SIGTTO. Many organisations and individuals have volunteered to participate in the various work items. We are very grateful for your contributions and thank you very much for your support.

Cherian Oommen
Interim General Manager

SIGTTO Membership

Full Members (as of 31 December 2023)

AES Andres	VE Ticaret A.S.	OLT Offshore LNG Toscana S.P.A
Alphagas SA	Excelerate Energy LP	Oman LNG LLC
Angola LNG Limited	Exmar N.V.	Orion Global Transport France
Angola LNG Marketing Limited	ExxonMobil - Seariver Maritime	Osaka Gas Co Ltd
Anthony Veder Rederijzaken B.V.	Flex LNG	Pan Ocean Co Ltd
Atlantic LNG Company of Trinidad & Tobago	Fluxys LNG	Pertamina Transportation LNG - JMG
Avance Gas Holding Ltd	Freeport LNG Development, L.P.	Petrobras – Petroleo Brasileiro S/A
Benhard Schulte Shipmanagement Limited	Gaslog LNG Services Ltd	Petronet LNG Limited
B-GAS A/S	Gate Terminal B.V.	PG Shipmanagement PTE. Ltd.
BP Berau Ltd	Gazocean	Posco Energy Co. Ltd,
BP Shipping Limited	Geogas Maritime SAS	Prime Gas Management Inc.
Brunei LNG SDN BHD	Global Meridian Holdings Limited	Pronav Ship Management
Bumi Armada Berhad	GNL Qunitero S.A.	PT Donggi Senoro LNG
BW Epic Kosan	Golar Mangement AS	PTT LNG Company Limited
BW LNG AS	Golden Pass LNG	Qatar Gas Transport Company Ltd
Byzantine Maritime Gas Pte Ltd	Hoegh LNG AS	Qatarenergy
Calor Gas Limited	Hyproc Shipping Company	Qatargas Operating Company Limited
Cameron LNG	Iino Kaiun Kaisha, Ltd	QCLNG Operation Company Pty Ltd
Capital Gas Ship Management Corp	IndianOil LNG Private Limited	Ren Atlantico Terminal GNL, S.A.
Centrica LNG Company Limited	Ineos	Saint John LNG Limited L.P.
Chandris (Hellas) Inc	INPEX Corporation	Santos GLNG
Cheniere LNG Inc	International Gas Transportation Co. Ltd.	Saudi Arabian Oil Co (Saudi Aramco)
Chevron Shipping Company LLC	Jadroplov	Seapeak Maritime (Canada) Inc
China LNG Shipping (International) Company Ltd	Japan Petroleum Exploration Co., Ltd.	Sempra Infrastructure
Conocophillips Global Marine	Jera Co., Incorporated	Shell International Trading & Shipping Co Ltd
Cool Company Management AS	Kawasaki Kisen Kaisha Ltd	Shipping Corporation of India
CPC Corporation, Taiwan	Kinder Morgan Inc	Singapore LNG Corporation PTE Ltd.
DESFA Hellenic Gas Tansmission System Operation	Knutsen OAS Shipping	SNAM FSRU Italia SRL
Dorian LPG Management Corp.	Koch Shipping PTE Ltd	Sonangol Marine Services Inc
Dragon LNG Limited	Kuwait Oil Tanker Co S.A.K.	South Hook LNG Terminal Co Ltd
Dunkerque LNG	Latsco LNG Marine Mangement Inc	Stena LNG Holding Sweden AB
Dynagas LTD	Latsco Marine Management Inc	STS Marine Solutions (UK) Ltd
EGE Gaz Anonim Sirketi	LNG HRVATSKA d.o.o.	Synergy Maritime PVT. Ltd
Egyptian Operating Company for Natural Gas Liquefaction Projects	LNG Japan Corporation	Thenamaris LNG
Elengy	Malaysia LNG SDN BHD	TMS Cardiff Gas Ltd
Empressa Naviera Elcano S.A.	Maran Gas Maritime Inc	Toho Gas Co Ltd
Enagas Transporte S.A.U.	Meiji Shipping Co. Ltd.	Tohoku Electric Power Co Inc
Eneos Corporation	Minerva Gas Inc	Tokyo Gas Co Ltd
Energy Transfer Partners	MISC BHD	TotalEnergies SE
Engie Energy MARKeting Singapore PTE. Ltd.	Mitsubishi Corporation	Tsakos Energy Navigation Ltd
Enterprise Products Partners L.P.	Mitsui & Co Plant Systems, Ltd	Uniper Global Commodities SE
Equinor ASA	Mitsui OSK Lines Ltd	V. Ships
Etki Liman Isletmeleru Dogalgz Ithalat	Naftomar Shipping & Trading Co	Wilhelmsen Ship Management SDN BHD
	National Gas Shipping Company Ltd	Woodside Energy Ltd
	National Grid Grain LNG	YPF S.A.
	Nigeria LNG Limited	
	Northern Marine Mangement Ltd	
	NYK Line (Nippon Yusen Kaisha)	

Associate Members (as of 31 December 2023)

ABS	Indian Register of Shipping	Smit Lamnalco
Babcock International Group	Korean Register	Svitzer A/S
Boluda Towage Spain, S.L.	Kotug International	TotalEnergies EP Mozambique Area 1, Limitada
Bureau Veritas Marine & Offshore	Kuwait Integrated Petroleum Industries Company	VENTURE GLOBAL LNG, INC
Celsius Tech Limited	Lloyd's Register	Vitol Services Ltd
China Classification Society	LNG Canada Development Inc.	Warsash Maritime Academy (Solent University)
China Energy Ship Management Co., Ltd.	Maritime Safety Queensland	Western Concessions Private Limited
ClassNK	Milford Haven Port Authority	Western LNG LLC
Combined Marine Terminal Operations Worldwide N.V.	Moran Towing Corporation	Wisou (Nantong) Heavy Industry Co., Ltd
Commonwealth LNG	NextDecade LLC	Woodfibre LNG Limited
DNV AS	Polish Oil and Gas Company	
Ecolog Ltd	Port of Rotterdam Authority	
ExxonMobil PNG Limited	Purus Marine Tech Pte Ltd.	
Fratelli Neri S.P.A	Rimorchiatori Riuniti Spezzini - Imprese Marittime E Salvataggi S.R.L.	
Gastrade S.A.	RINA Services S.P.A.	
GTT Training Ltd	SAAM S.A.	
Guandong Dapeng LNG Co Ltd	SEFE Marketing & Trading Singapore Pte Limited	
Hazira Port Private Limited	Signet Maritime Corporation	
Hong Kong LNG Terminal Limited	Single Buoy Moorings Inc	
Hongkong Salvage & Towage		

Member Eligibility

It is necessary for a company to have equity interest in, or to operate, a gas tanker or terminal to become a full member of SIGTTO.

Associate membership is available to applicants as above, who have entered into a contract to build a gas tanker or a terminal.

Directors may also admit the following organisations to associate membership:

- Harbour authorities
- Tug vessel providers for liquefied gas terminals
- Classification societies
- Training providers for liquefied gas vessel sea staff and/or terminal personnel

Associate members have all the rights of a full member except for voting rights at the Annual General Meeting.

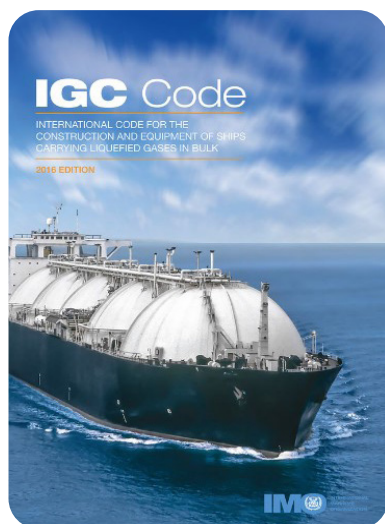
SIGTTO Activity

SIGTTO at the IMO

SIGTTO is very active at the International Maritime Organization (IMO) with primary focus on the revision of the IGC Code and the reduction of greenhouse gases (GHGs).

The working group for CCC8 agreed to delete all the examples of the term “cargo compressor room” from the list of examples in paragraph 2.1 of (resolution A.1050(27)) as a result of SIGTTO’s proposal for a minor amendment to the Revised recommendations for entering enclosed spaces aboard ships.

In a busy eight-day Sub-committee, CCC 9 continued to work on the revision of the IGC Code, develop interim guidelines for hydrogen and ammonia as a marine fuel, finalise revised guidelines on the carriage of hydrogen, and began work on the revision of enclosed space entry guidelines.



The IMO IGC Code

SIGTTO submitted four papers to an intersessional correspondence group (CG) regarding the revision of the IGC Code. The SIGTTO papers covered ESD systems, the isolation of PRVs, and the carriage of CO₂.

All three papers brought the extensive experience of our membership, developed, and expressed through SIGTTO working groups and

publications, to the United Nations forum.

A fourth paper developed by the SIGTTO secretariat explored the history of filling limit requirements to inform the discussions on the revision of chapters 8 and 15 of the Code.

SIGTTO is following the IMO’s GHG agenda and attended the intersessional working group on the reduction of GHG (ISWG-GHG 14 and 15) in March and June, and MEPC 80 in July.

At MEPC 80, Member States adopted the much-anticipated 2023 IMO Strategy on Reduction of GHG Emissions from Ships, with enhanced targets to tackle harmful emissions. The revised Strategy includes enhanced ambitions to reach net-zero GHG emissions from international shipping close to 2050 and a commitment to ensure an uptake of alternative zero and near-zero GHG fuels by 2030. This aims to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030. Further indicative check-points have been set for 2030 and 2040.

SIGTTO’s Environmental Committee is hard at work considering the IMO agenda to support its efforts. EC members are reviewing short-term measures, preparing for the development of pending mid-term measures, and drafting recommendations for the reduction of methane and CO₂ emissions. In further IMO activity, interim guidelines for hydrogen and ammonia as a marine fuel, in close alignment with the IGF Code, continued. Subsequent approval should take place in 2025.

Moreover, the Sub-committee agreed draft revised interim recommendations for the carriage of liquefied hydrogen in bulk, for submission to MSC 108 (2024) for approval. Gas carriers carrying hydrogen should comply with the provisions of the IGC Code. However, chapter 19 does not specify minimum requirement for hydrogen.

General Purposes Committee

GPC 86 was held on 28th March in Singapore. During the meeting, the GPC provided feedback on two projects that reached concept draft stage: Liquefied Gas Terminals and Use of LNG, LPG and Ammonia as Fuels.

The GPC also approved two new publications: Recommendations for Valves on Liquefied Gas Carriers and Guidance for Gas Trials on LNG Carriers.

The Working Groups incorporated the feedback and continued to develop the Use of LNG, LPG and Ammonia Fuels, covering safety and operational issues associated with gas carrier propulsion systems. Work also continued to finalise the draft for Liquefied Gas Terminals which combines and revises Site Selection and Design for LNG Ports and Jetties (1997) and LNG Operations in Port Areas – Essential Best Practices for the Industry (2003). The document provides high level guidance on the design and operation of liquefied gas terminals using a risk-based approach.

In addition, work was carried out on Emergency Release Systems, Minimum Content for Training Courses and Carbon Dioxide Cargo on Gas Carriers.

GPC 87 followed on 3rd October in London and the GPC approved two documents: Liquefied Gas Terminals - Site Selection, Design and Operation of Marine Terminals and Carbon Dioxide Cargo on Gas Carriers.

Two new members were welcomed to the General Purposes Committee - Eswynn Desouza (MISC BHD) and Guri-Anette Kjelgum (Höegh LNG AS).

Environmental Committee (EC)

The EC met for the second time as a full committee on 28th March in Singapore. This meeting built on an intersessional meeting, held on 14th February 2023, which allowed members to consider detailed technical papers they produced.

These papers discussed the application of the Carbon Intensity Index (CII) to LNG carriers, LNG bunker vessels and STS operations, and demonstrated SIGTTO's commitment to supporting the IMO's greenhouse gas (GHG) agenda.

The EC began forming its policy on the review of the CII and prioritised other work on the IMO's GHG agenda.

EC 03 took place on 5th October at the SIGTTO London Liaison Office.

This meeting covered current Working Groups, projects and substantive items for consideration, and allowed members to consider detailed technical papers.

The items discussed included the application of the Carbon Intensity Index (CII) to LNG carriers, EU ETS and FuelEU, Guidelines on Calculation of N₂ and the IMO MEPC GHG Agenda.

The EC has two active Working Groups running. Firstly, Reduction of Methane Emissions from LNG Carriers which builds on the guidance in the new SIGTTO publication, *Detection and Reporting of Fugitive Methane Emissions from LNG Carriers*. It will provide guidance for reducing these emissions from LNG carriers during design and operations.

The second Working Group is Reduction of Gas Carrier CO₂ Emissions which is building on the guidance in the new SIGTTO publication, *Measurement and Reporting of CO₂ Emissions from Gas Carriers* and will provide high-level guidance to assist the gas shipping industry in reducing CO₂ emissions. This covers the reduction of gas carrier CO₂ emissions during design and operations.

Regional Panels

SIGTTO held three Regional Panels in 2023 in Singapore, Houston and London in March, May and October, respectively.

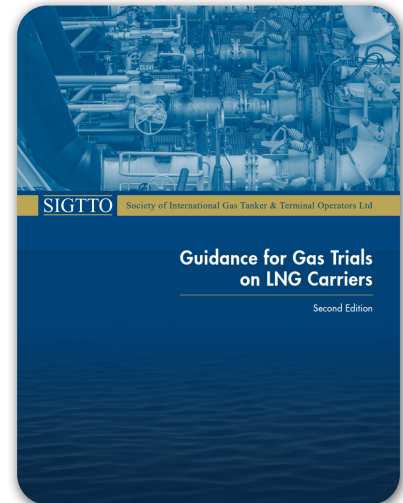
The Singapore Regional Panel was split into the morning's *Safety & Innovation* session, and the environmental session in the afternoon. Updates on SIGTTO, OCIMF and the IMO GHG Strategy were presented and followed by an environmental panel, *CII and Beyond*, during the morning and the afternoon session continued in the same vein, expanding further on CII issues until focus shifted to marine insurance decarbonisation and the EU's emissions trading system. The day concluded with a lively discussion, allowing the audience to interact with the presenters.

The Houston Regional Panel in May also kicked off with a *Safety & Innovation* session. Topics covered ranged from FLNG marine operations to methane abatement. The US Coast Guard shared an overview on the certificate of compliance programme. Due to the cruciality of the topic, it was decided that what had historically been an afternoon *Environmental* session would become a *CII & Beyond* session for this Regional Panel. Multiple concerns around CII were covered, from compliance options to metric challenges, and the day ended with a panel discussion focused solely on the topic.

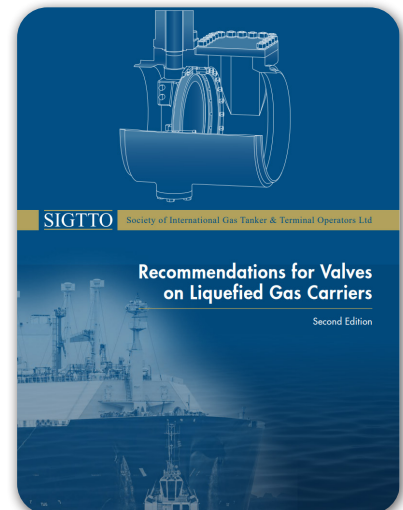
The London Regional Panel, the final one of 2023, was attended by most of the Secretariat. This allowed an opportunity for administrative staff to witness the sort of impact the work they contribute to has. In London, what had formerly been a morning *Safety & Innovation* session became a *Safety & Technology* session as buzz around alternative fuels and how they impact the LNG industry continues to grow. The afternoon session, *Methane Abatement*, allowed another deep dive into a further topic of pivotal importance to our members, and was rounded off with a panel discussion comprised of the afternoon speakers that allowed attendees to engage in interactive dialogue with industry experts.

2023 Publications

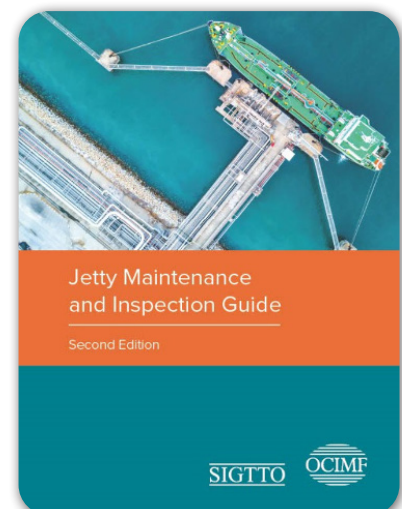
Guidance for Gas Trials on LNG Carriers



Recommendations for Valves on Liquefied Gas Carriers



Jetty Maintenance and Inspection Guide (with OCIMF)



2023 Accounts

STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2023

	2023 £	As restated 2022 £
Assets		
Non-current Assets		
Property, plant and equipment	615,148	788,847
	<u>615,148</u>	<u>788,847</u>
Current Assets		
Trade & other receivables	192,406	320,991
Cash & cash equivalents	2,123,342	2,044,603
	<u>2,315,748</u>	<u>2,365,594</u>
Total Assets	<u>2,930,896</u>	<u>3,154,441</u>
Liabilities		
Non-current Liabilities		
Lease liabilities	588,085	756,080
	<u>588,085</u>	<u>756,080</u>
Current Liabilities		
Trade and other payables	213,783	273,783
Lease liabilities	167,996	82,429
	<u>356,212</u>	<u>356,212</u>
Total Liabilities	<u>969,864</u>	<u>1,112,292</u>
Net Assets	<u>1,961,032</u>	<u>2,042,149</u>
Issued capital and reserves		
Share capital	27,060	26,705
Retain earnings	1,933,972	2,015,444
TOTAL EQUITY	<u>1,961,032</u>	<u>2,042,149</u>



**The Society of International Gas
Tanker and Terminal Operators**

5th Floor, 42 New Broad Street
London, EC2M 1JD

Tel: +44 20 7628 1124

E-mail: reception@sigtto.org