



GREEN
FREIGHT
ASIA

#1 Edition April 2020

ZERO CARBON INSIGHTS



- Message from the CEO -

Dear Companies and Organisations,

On behalf of LYS Energy Group (LYS) and Green Freight Asia (GFA) teams, I firstly hope that you are taking extra special measures to ensure the safety of you and your loved ones, as well as your team within your company and the general population.

As the world transforms due to the epidemic, I see many reasons to remain positive and enthusiastic about the future, for instance, the resilience and strength of citizens, corporations and governments around the globe to join forces in this fight.

Further, when considering the global economic impact of this sanitary crisis, I'd like to dare a prophecy: we have moved forever away from consumerism, waste, and carelessness in the way we manage our resources. We all came to the brutal realization that our human bodies, as hosts to the virus, are very fragile and vulnerable. Well, our environment, our nature, our planet, as a host to our civilization, is equally fragile and vulnerable. And there is no turning back.

Regardless whether from our energy generation platform, or from our energy consultancy practice, we turn to all our clients, partners, corporations, and climate enthusiast individuals with utmost humility in the face of the humongous task that is ahead of us, to tackle climate change challenges, reduce our carbon footprint and achieve the sustainable economic activity.

Stay Healthy and stay safe.



Lionel STEINITZ
Chief Executive Officer
LYS Energy Group & Green Freight Asia



1. MILESTONES

1.1 PV Systems Commissioning

- January

Industry: Aerospace

Plant Type: Bi-facial PV modules
Combination Metal + Concrete Roofs

Size: 1,141.00 kWp

Location: Calshot Road, Singapore



- February

Industry: Pharmaceutical

Plant Type:
Combination Metal + Concrete Roofs

Size: 1,369.06 kWp

Location: Tuas, Singapore

January

Industry: Real Estate

Plant Type: Two Systems on Metal Roofs

Size: total 454.88 kWp

Location: Ang Mo Kio and Eunos, Singapore

"Alongside to high level of expertise and execution, LYS Energy has demonstrated their agility to comply with our internal Quality, Health Environment and Safety standards of excellence, and mostly deliver a tailored end-to-end solar energy solution that mitigates risks associated with climate change and cost-effectively reduce carbon emissions.

As part of our constant commitment to support sustainability, we are delighted to inaugurate this first clean initiative together with LYS." – Kelvin Lim, Chief Executive Officer of LHN GROUP.

1.2 Upcoming Landmarks



Manufacturing



Self Storage



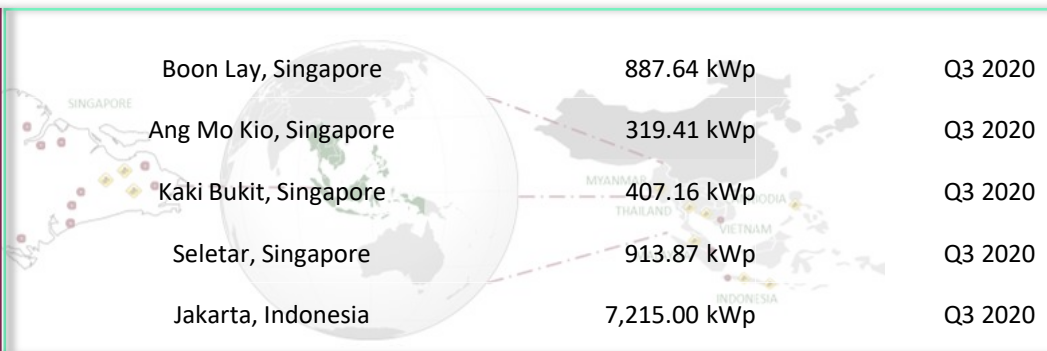
Self Storage



Aerospace



F&B



1.3 New Leadership

Top Management



Marie Samson is the Chief Operating Officer of LYS Energy Group and takes part to the company's strategic leadership. She is responsible for setting up the execution plan of the projects. She designs, staffs and oversees the company's ongoing operations as well as gives support to the business development team.

Prior to that, Marie spent 10 years working for the French public sector, as a civil servant and team leader on various positions at the French ministry of budget. Further, recruited by the City of Paris as a deputy director, she followed by joining the Economic Development Department.

Marie SAMSON

As key headship, she ensures the proper execution of the projects in a timely and cost-efficient manner.

After moving to Singapore, with the expertise acquired over the years she worked as an infrastructure advisor and project manager at Mott MacDonald Singapore.

1.3 Financing

January:

GROUP'S
NEW EQUITY
INVESTMENT



bpifrance

Banque Publique d'Investissement
French Government Sovereign Wealth Funds

RGREEN
INVEST

Asset Management specialized in energy
infrastructure projects investments with +15 years
of experience and +1Bn€ of assets under
management



50.1% of LYS Energy



LYS Energy plays key role in Langa International development.



April:

LYS ENERGY OBTAINS S\$14 MILLION GREEN LOAN FROM UOB

LYS Energy Group (LYS), the leading Singapore home-grown Solar Independent Power Producer (IPP), has received a S\$14 million green loan from United Overseas Bank (UOB).

The loan is issued under the UOB's Green Infrastructure Framework as part of the Bank's U-Solar programme, the first solar industry ecosystem in Asia to power the development and adoption of renewable energy across Southeast Asia (SEA).

The loan will be used to finance LYS' solar energy assets in Singapore and to support the Group's expansion as it seeks to drive the adoption of clean energy in the commercial and industrial sectors across the region.

Corporate sector leaders are increasingly prioritizing the need for responsible and sustainable business practices. This has also brought about a surge in the demand for clean energy in Singapore and in SEA. LYS' efforts to promote the use of clean energy are in line with that of the Singapore Government's push to scale-up the use of renewable energy, including solar deployment, in its power sector.

LYS has deployed more than 50MWp of high-performance solar photovoltaic (PV) systems, with a pipeline of more than 500MWp in Singapore and South East Asia. It is one of the fastest-growing clean energy producers and end-to-end solutions providers, with a five-star portfolio of commercial and industrial projects and customers across diversified and multiple industries. These comprise energy-intensive industries such as aerospace, electronics, food and beverage, logistics, manufacturing, pharmaceutical, and real estate.

"LYS Energy Group is delighted to be partnering with a committed and forward-thinking financial institution such as UOB to play our respective roles in the transition to a decarbonized economy and to increase our involvement in the clean energy sector."

The COVID-19 pandemic, with its sudden outbreak and its ferocity, forces us to realize how fragile we are as human beings are. While the sanitary crisis and climate change are two separate problems, I trust that the post-pandemic era will open on the observation that our environment is also very delicate and require a subtle balance with global economic activity.

LYS Energy, the group that I founded in 2012, and now part of Langa International, has been a pioneer in rolling-out distributed solar solutions and a key figure of renewables in South East Asia. Our holistic approach to sustainable development, through GHG emissions measuring and reporting, carbon footprint reduction and offsetting, has granted us the praise of our clients, appreciative of the innovative solutions that we tailored for them.

Following the entry of the French Sovereign Wealth Fund in our group (Banque Publique d'Investissement or BPIfrance), this green loan marks another important milestone for LYS Energy in our journey to bolster the adoption of a low-carbon energy path in Singapore and SEA. Further, it acknowledges our company's dynamic and robust business solutions, combined with solid technical expertise to innovate and deploy high-quality solar PV systems.

UOB's support will help to accelerate our company's expansion and enable us to promote the adoption of renewable energy across the region." - Lionel Steinitz, Founder and Chief Executive Officer of LYS Energy Group



"Through our U-Solar programme, UOB has been working actively with our clients, including LYS Energy Group, to accelerate the use of solar energy in Singapore and across the region. Our support of LYS is another example of how we can all work together to contribute to the long-term economic, social and environmental well-being of our community."

We hope that such collective efforts also help in encouraging more companies to make the switch to renewable energy sources such as solar power, as we focus on building a more sustainable future." - Eric Tham, Head of Group Commercial Banking of UOB



■

100GWh

of Green Electrons

produced by our systems

SINCE

|

ENERGY GROUP

GREEN ENERGY

|

2013

■

In 2019, all our PV systems in Singapore has performed at an average performance rate of

~81%

(Plants commissioned in 2019)

produced to date

MWh

Electricity meter

SOLAR PV SYSTEM BY:

ENERGY GROUP

MONITOR

GRAPH

■

Q1 Performance rate

of our PV system in West Tuas at our Engineering Client

was in average

~83%

SUN

111

■

Performance rate

of our PV system in East Calshot Road at our Aerospace Client

was in average

~84%

since commissioning in

January

Did you know?
2019 was very sunny and has a higher irradiance:
2018: 1548 kWh/m2 vs
2019: 1689 kWh/m2
(Average irradiance of our plants in SG)

■

41,880 Tons

of CO2

offset by our systems in Singapore from 2016-2019

(based on EMA SG Carbon Emission Factor 2018)

Dashboard

■

Equivalent to:

3,669,668

Trees

(based on monitoring platform Meteocontrol, Germany Environment Agency)

22,347

4-room Public Housing Household

(based on 4-room public housing electricity consumption 2017 by EMA SG – Average 372.9 kWh/month)

Current performance

Daily overview (18.02.2020)

Monthly overview (February 2020)

Total overview

3. INNOVATION PRACTICES | TECHNOLOGY FEATURES

- Design

1. PV String:

In order to improve our monitoring resolution, our PV string is configured to as little as 2 strings per MPPT. This practice allows string level analysis – i.e: where identical strings can be compared to verify any possible deviation.

2. Curtailing PV energy output:

One of the major factor that reduces PV energy output is soiling. LYS's design is to tilt our modules 10 degrees to promote "natural wash" from the rain – i.e: water flowing on the modules. However, for sites that have dustier air, water ponding at the bottom of the module (due to module frame) are common. To overcome this, LYS uses frameless modules to eliminate any water ponding, hence reduces soiling on the module.

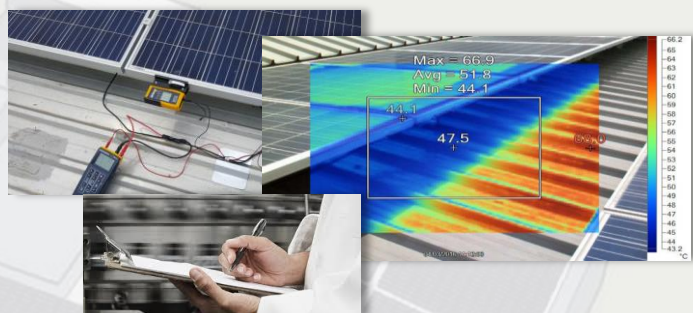
3. Solar PV Modules:

LYS uses bifacial modules to capture reflective lights (albedo), mostly for roofs that are made from reflective material or colour (eg: white).



LYS's Rigorous and Solid Risk Mitigation Cycle

- Operations & Maintenance



1. Monitoring System:

LYS monitoring system is based on visualization in order to easily detect faults. For example, our heatmap analysis allows us to easily determine at real-time if an inverter is under normal operation.

2. Monitoring Practices:

To prevent any issue during the life span of the solar PV system, LYS practices a disciplined routine of PV system monitoring. It combines daily monitoring practices with our pre-configured monitoring system allowing us to detect faults and react quicker accordingly, whilst reducing downtime of the PV Array.

3. Going extra-mile for Monitoring:

Nowadays with a "install and forget" mentality, many system installers do not monitor their PV system after Testing & Commissioning. However, errors might occur during installation which do not result systematically in a fault but reduce the efficiency of the PV system. LYS practices extra care after a PV system is turned on in order to monitor for any underperforming PV string. For example, if there are shadings detected only post-commissioning, re-stringing or shifting of modules are executed to improve the overall PV system's performance. Additionally, clustering identical performing strings to the same MPPT increases uniformity, hence resulting in a better performing plant.

4. EVENTS & EDUCATION



- February

Education is a key driver for the Energy Transition that is required to achieve a low-carbon environment.

Since the beginning, LYS Energy Group is enthusiastic to give the learning curve enabling future leaders to contribute to their full potential in driving the circular economy.

Today, we were pleased to be meeting ESSEC Asia-Pacific business school like-minded peers to share how we collaborate with corporations to mitigate risks associated with climate change and reduce cost-effectively greenhouse gas emissions with our end-to-end carbon solutions.

5. PARTNERSHIPS



GCNS – Recognizing Excellence in Sustainable Business

Now than ever, LYS Energy has a crucial role to play in progressively reducing carbon-intensive business practices and supporting our clients in their low-carbon transition journeys.



LYS Energy is pleased to collectively commit with the UN Global Compact Network Singapore, and its local and international corporate members, towards responsible and sustainable business activities whilst helping Singapore and the region, to lead by example in reducing carbon emissions and promoting sustainable development towards a decarbonized economy.

6. MEDIA & COMMUNICATIONS



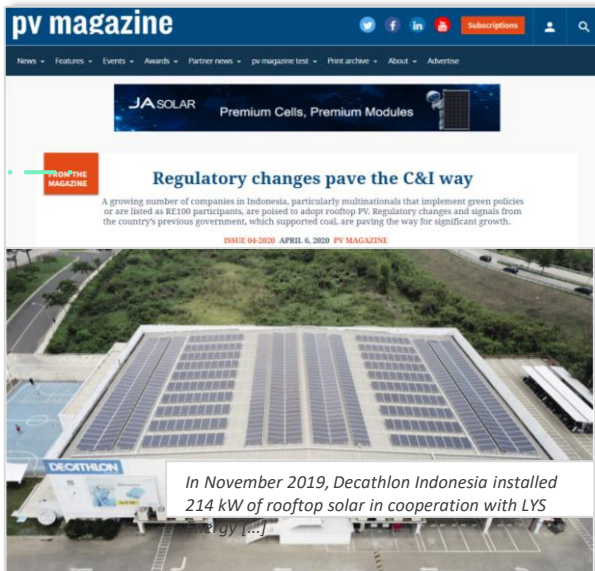
Collective widespread of Sustainability

The Media plays an important role in the Energy Transition through their support in promoting and educating clean energy adoption.

LYS Energy is supported a fortiori by Media leaders in Singapore and across the region to accelerate the widespread of Renewable Energy adoption.



February Issue | Eco-Business
<https://www.eco-business.com/news/fear-cost-fame-whats-turning-on-asian-businesses-to-renewable-energy/>



April Issue | pv-magazine
<https://www.pv-magazine.com/magazine-archive/regulatory-changes-pave-the-ci-way>



April Issue | The Business Times
<https://www.eco-business.com/news/fear-cost-fame-whats-turning-on-asian-businesses-to-renewable-energy/>

GREEN
FREIGHT
ASIAGREEN
FREIGHT
ASIA

- Driving Sustainable Road Freight in Asia -

1. MILESTONES

1.1 New Members



Zuellig Pharma is strengthen its engagement towards sustainability as the leading health car services provider by becoming a Certified Member of GFA. Their teams across different markets have taken part in several forums and eco-driving trainings.

"Sustainability is a key component of our business strategy. We are committed towards doing our part to combat the impact of climate change. Joining Green Freight Asia is an important first step towards improving the energy efficiency of our transport fleet and lowering carbon emissions, as well as helping our partners and suppliers work towards greener fleet practices. We are exited to work with GFA to build a healthier future for Asia, and respecting the environment is as starting point." - Maarten Kelder, SVP Strategy & Corporate Development Zuellig Pharma.

LF Logistics is moving towards a stronger commitment to safety and sustainability practices. Earlier this year, LF Logistics China joined LF Logistics Hong Kong In their efforts of promoting sustainable road freight. We are thrilled to see that our community is growing with highly committed companies that lived up to the highest compliance, moral and the ethical standards.

"LF Logistics is looking for and committed to contribute our efforts to build a green and sustainable transportation network. We are glad to join Green Freight Asia who can help us to develop the framework and share best practices with us to improve and move forward to help the environment." - Rotella Lo, Vice President Transportation, LF Logistics (China)



1.2 GFA Labels

■ DHL Singapore & DHL Thailand

Logistics plays a central role in the global economy and therefore the industry can play a crucial part in the way business is done with regard to the environmental impact.

In today's climate, leading companies are looking for a variety of ways to go green.

DHL as a pioneer of green logistics has made their mission to achieve zero emissions by 2050 and together with Green Freight Asia (GFA), both organisations are working together on the journey to identify and reduce emissions. Recently, their offices in Singapore

(Leaf-3) and Thailand (Leaf-4) achieved GFA Labels respectively, making the business more sustainable and a benchmark for responsible business practices.

As Singapore and Thailand's offices continued their journey that started with the achievement of their first Leaf in 2014, both countries are keeping their high commitment to a greener supply chain.

The team at Green Freight Asia is delighted to present DHL Singapore the GFA Label Leaf-3 and DHL Thailand Label Leaf-4 certifications (for the third year in a row), the latest remaining as the highest GFA Label achiever among all the Label holders.

Companies that are part of the GFA network are working towards improving fuel usage, carbon emissions reduction and lowering overall transport costs. This certification is an affirmation of DHL in Singapore and Thailand's continued commitment in implementing programs, engagement

and investments to reduce its transport emissions in the country.



Businesses on the journey to achieve four leaves have demonstrated to themselves also with their ecosystem to be sustainability leaders.

Through maintaining the highest level of GFA Label, DHL's supply chain Singapore and Thailand were able to demonstrate their green transformation strategy and efficient use of technology, but overall doing more to help the environment by driving the greening of the logistics industry.



■ iHub Solutions

iHub Solutions started its certification journey last year when they were awarded GFA Label Leaf-1.

The team continuous commitment to green freight practices and promoting sustainable road freight in the region has been a great support towards achieving GFA Label Leaf-2.

"iHub Solutions' mission is to deliver smart #logistics to our customers and we strive to pursue the best practices developed in an environmentally responsible manner that aligns with green strategies to drive smart and sustainable mobility.

We will continue to harness appropriate #technologies to

enhance our sustainable supply chain practices.

This is our commitment to the Green Freight Asia program." - Mr. Koh San Joo, Managing Director at iHub.



1.2 GFA Labels

Lenovo China

Lenovo has been implementing a sustainable development strategy and making social responsibility a driving force for enterprise development.

The company has been recognised by the government in China among the top companies *Going Green* in China for *Manufacturing and Supply Chain Innovation* as well as it has been recognised as a *Green Supply Chain* enterprise.

Earlier in the year, Lenovo became the first manufacturer to achieve the GFA Label *Leaf-3* certification.

As the first shipper to be awarded this accreditation, this award is a testimonial to their increasing accountability in engaging their supplier to also adopt sustainable practices.

As a global technology leader, Lenovo fully recognised its role and

responsibility in ensuring their operations as an sustainability business.

Their belief is through smarter technology for all, the company also has the opportunity to empower the industry, communities and citizens to teach and share knowledge, but overall to contribute to a change for good.



Lenovo's commitment extends beyond products and packaging – i.e. where they are innovating in their manufacturing processes – using biodegradable materials, and

eliminating one-time use plastics throughout their plants where they have carbon balanced 100% of their *Scope 1* and *Scope 2* emissions in China.

Through each and every employee, The Lenovo Foundation, and partners they have been recognised for their governance by the Hong Kong Institute of Certified Accountants.














Lenovo regards green and environmental protection as one of its core values.

"...Logistics is a critical area needing sustainable solutions. Lenovo is proud of our strategic partnership with Green Freight Asia and incredibly proud to be the first shipper to ever be awarded Leaf-3 Certification for our efforts under our 'Champion China' initiative."
– Gareth Davies, Head of Global Logistics at Lenovo.

How to become a GFA Supply Chain Certified?

	<div>ONE</div> <div></div>	<div>TWO</div> <div></div>	<div>THREE</div> <div></div>	<div>FOUR</div> <div></div>
STRATEGY	<div>L1-C-S-B#1</div> <div><ul style="list-style-type: none">GFA MemberGFA Commitment Letter signed</div>	<div>L2-X-S-B#6</div> <div>GFA contact for queries</div> <div>L2-X-S-C#4</div> <div>GFA in Transportation RFPs as directional statement(s)¹</div>	<div>L3-X-S-B#7</div> <div>Active GFA supporter</div> <div>L3-X-S-C#6</div> <div>GFA in Transportation RFPs as requirement statement(s)¹</div>	<div>L4-X-S-C#8</div> <div>Smart planning/ opt.</div> <div>L4-X-S-C#9</div> <div>GFA in Transportation RFPs as requirement weighting(s)¹</div>
	Basic Data	Enhanced Data		
DATA	<div>L1-X-S-C#11+12.1</div> <div>Submit for 75% of your road freight volume, by country (Registration Country)</div> <div><ul style="list-style-type: none">total # of carriers# of carriers per GFA Label leaf level (leaf 0-4)</div>	<div>L2-X-S-C#12.2</div> <div>Submit for 75% of road freight volume, by Leaf/ non-Leaf and by country</div> <div><ul style="list-style-type: none">Total Freight VolumeTotal Distance Travelled# of Consignments% Procurement Spend<div>[at least one above]</div></div>	<div>L4-X-S-B#8</div> <div>Public commitment specific % to reduce CO₂ own and subcontractor emissions, incl. progress reporting.</div> <div>L4-C-S-B#9</div> <div>CO₂ reduction progress reporting to GFA.</div>	
CARRIER	Carrier informed	> X% ² Contracted freight volume awarded to GFA Leaf carriers		
	<div>L1-X-S-B#4</div> <div>100% carriers informed about Green Freight Asia¹</div>	<div>L2-X-S-C#12.2c</div> <div>This criterion is relevant for GFA Label applications submitted from 2016 onwards</div> <div>10%</div>	<div>L3-X-S-C#12.2c</div> <div>30%</div>	<div>L4-X-S-C#12.2c</div> <div>50%</div>

Criteria for Shippers

	  	  	  	  	
STRATEGY	L1-C-S-B#1 <ul style="list-style-type: none">• GFA Member• GFA Commitment Letter signed		L3-C-X-B#6 Active GFA supporter	L4-C-X-C#5_6 Smart planning/ opt.	
DATA	BASIC DATA L1-C-X-C#8+9.1-9.3 <ul style="list-style-type: none">8 Total number of vehicles9.1 Fuel type9.2 Emission standard9.3 Applied fuel/ CO₂ reduction technology [all of the above by vehicle class]	Enhanced Data L2-C-X-C#9.4 <ul style="list-style-type: none">• Annual freight volume• Distance travelled• Fuel consumption [all of the above by vehicle class]	L3-C-X-B#5 <ul style="list-style-type: none">• Own scope 1,2 CO₂ emissions and• CO₂ efficiency gain reported	L4-C-X-B#7 <ul style="list-style-type: none">Public commitment specific % to reduce CO₂ emissions across own vehicles fleet. L4-C-X-B#8 <ul style="list-style-type: none">CO₂ reduction progress reporting to GFA.	
	TECHNOLOGY	Proven regular maintenance program in place L1-C-X-C#4	# of Fuel/CO ₂ reduction technologies		
		100% 	L2-C-X-C#9.3c 2	L3-C-X-C#9.3c 3	L4-C-X-C#9.3c 4
		Percentage of drivers received Eco-Driver training			
		L2-C-X-C#7 > 50%	L3-C-X-C#7 > 70%	L4-C-X-C#7 > 90%	

Criteria for Carriers

1.3 New Leadership

Board Member



Lynn LOH

Ms. Lynn Loh is the Regional Head of Sustainability with HP, championing HP's sustainability efforts in Asia Pacific with the bold goal of making life better for everyone, everywhere. Ms. Loh has joined Green Freight Asia's Board of Directors to support our organization's mission.

As a season manager at HP, she oversees providing access to HP's portfolio of environmentally responsible products and

services to enable customers to achieve their goals sustainably while providing the security and durability they expect and depend on. She is passionate about topics such as climate change, diversity, access to quality education and economic opportunity, and protecting workers.

To overcome these challenges, Ms. Loh partners to drive lasting improvements to the planet, people, and communities where we live, work, and do business. Welcome on board!

GFA Team Leaders

Green Freight Asia team is growing, we are delighted to welcome to seasoned experts who joined our team as Program Managers. The new GFA's team is looking forward to working and contributing to our organization's success and improvement.



Jelena
KREMENJAS

Jelena Kremenjas has work experience in the international markets, where she worked on the transition to a low-carbon economy, sustainable development, and green

supply chain projects. She developed Energy Strategies for local and national governments, managed energy efficiency projects and developed Renewable Energy markets across the globe at the United Nations system. She has broad experience in GHG reporting, LCA assessments and Policy Development.



Nayibe (Nash)
SEGURA

Nayibe (Nash) Segura has worked with multiple organizations in the private sector, social entrepreneurs and start-ups in Mexico, USA, and Singapore.

In the recent years she has been working closely with businesses that balance purpose and profit by helping them to shape their impact business models.

She also spent few years working in IT consulting projects in the financial industry.

1.4 Membership Updates

At Green Freight Asia, we set a transparent and collaborative new membership scheme for our Members. This new membership scheme is available to both existing and new Members who wish to join our growing network.



The new membership schemes defines the relationship between GFA and our existing Members, and it aims to build trust among our community by being transparent to them and sharing valuable knowledge that we all can use as platform for sustainable growth.



We are specially focusing on the benefits of the membership and how Members can be automatically shifted to their tiers – ie Bronze, Silver, Gold, Platinum – to ensure that the organizations are strengthening their foundations to a greener and sustainable growth.

We are including new benefits as GHG and GRI Integrated Reporting as well as preferential price on the application to the GFA Label Certification.

2. FIGURES AND FACTS

Counting **59** Members in 2020

56% members increment from 2018 to 2019

Total of **110** GFA Labels

Forecast **50%** label switch from *Leaf-1* to *Leaf-2* in next **couple of years** post-restructuration of membership scheme

GFA operates with businesses in **22 APAC** countries

Our mission: **+20%** of increase in the next **five years** in all the operating countries

3. INNOVATION |

GHG & Integrated Reporting

Carbon emissions reporting is used to report on the emissions created from commercial activity, such as road freight activities. Reporting on greenhouse gas emissions is an important business operation which is helping businesses in identifying, monitoring, and verifying pollution emitted through their typical core business operations. Every socially responsible freight and the logistic company should, voluntary or mandatory, collect, analyse, and report on data regarding the fuel consumption and linked GHG emissions to encourage companies to reduce the greenhouse gas emissions resulting from their activities.

Green Freight Asia is helping companies from different sectors, and especially from freight and logistics industry, to assess and address the potential threats and opportunities of climate change for their business, by measuring the greenhouse gas (GHG) emissions generated by their activity, assess their exposure to physical climate change impacts as well as climate change. When assessing and reporting on GHG emissions, the GFA reports on:

- **Scope 1 – All Direct Emissions** from the activities of an organization or under their control. Including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.
- **Scope 2 – Indirect Emissions** from electricity purchased and used by the organization. Emissions are created during the production of the energy used by the organization.
- **Scope 3 – All Other Indirect Emissions** from the organization, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travels, procurement, waste and water. This means they are interested not just in the quality of their service or product within the supply chain but also the effect it will have on their carbon footprint.

Companies which want to contribute more to development of the communities and societies are turning to more comprehensive reporting, such as Integrated Reporting (many times mentioned as Sustainability Reporting). This is because they understand and recognize that development is possible only if it is happening in all spheres of their business, at all levels, involving wide range of stakeholders including employees.



GREENHOUSE
GAS PROTOCOL



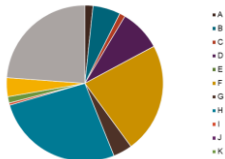
The company does not have to be a multinational nor big enterprise to report on their development achievements. Any company, regardless of its size and orientation, should report on materiality important for their business operations. It is therefore recommended that the companies include not just environmental criteria related to energy, waste, or water consumption, but also social and economic criteria such as labour management, taxation, health and security, marketing and labelling, gender balance and much more.

GFA is dedicated to helping companies across Asia in achieving the 17 Sustainable Development Goals (SDGs), to recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range social needs including education, health, equality and job opportunities, while tackling climate change and working to preserve clean air, oceans and forests.

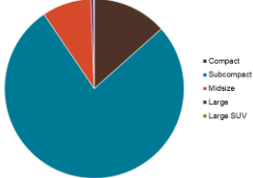
GFA
Reporting
Tool

Fleet average								
Year	Company	Segment	Quantity	Emissions (g/km)	Fuel consumption (l/100km)	Weight (kg)	Footprint (m2)	Power (hp)
2012			630913	150.80	15.8	1193	3.7	134.3
By type								
Year	Company	Segment	Quantity	Emissions (g/km)	Fuel consumption (l/100km)	Weight (kg)	Footprint (m2)	Power (hp)
2012	A		10563	203	12.0	1506	4.1	262.0
2012	B		35967	143	17.5	1112	3.6	120.3
2012	C		7477	205	12.8	1644	4.0	319.7
2012	D		54165	155	15.3	1270	4.0	148.3
2012	E		117	272	8.6	1846	5.1	452.4
2012	F		143983	141	16.7	1101	3.5	104.1
2012	G		24867	159	14.8	1271	4.0	148.5
2012	H		167518	140	16.8	1110	3.7	119.4
2012	I		2845	165	14.2	1275	3.9	121.7
2012	J		151	208	11.3	1478	4.4	202.6
2012	K		8193	146	16.0	1105	3.6	119.8
2012	L		24701	176	13.3	1274	3.9	149.4
2012	M		150366	161	14.6	1297	3.8	155.6
By segment								
Year	Company	Segment	Quantity	Emissions (g/km)	Fuel consumption (l/100km)	Weight (kg)	Footprint (m2)	Power (hp)
2012		Compact	84637	163.7	14.4	1388.8	4.1	172.1
2012		Subcompact	486486	144.0	16.4	1111.7	3.6	114.1
2012		Midsize	55740	183.7	13.1	1545.3	4.5	235.9
2012		Large	3284	258.4	9.1	2037.5	5.0	390.8
2012		Large SUV	765	203.1	11.6	1755.9	4.7	263.1

Footprint by type of the vehicle



Footprint share by segment



GFA is an industry-led program and is helping companies to assess the fuel consumption and collect, analyze and report on the related GHG emissions.

Specially designed questionnaire for industry players dealing with logistics and freight in road transport allows them to build a piece of knowledge on their own fleet and to understand how it reflects fuel consumption within the Scope 3 of the GHG emission category. The recognition of Green Road Freight Transport is provided through a Label that member companies of GFA can use to communicate their commitment to sustainability to their customers or their stakeholders.

Audits which assess the compliance with criteria that qualifies a company for the GFA Label are conducted strictly based on the official GFA Label questionnaire for Carriers and GFA Label questionnaire for Shippers/Buyers.

GFA also helps companies in Monitoring, Verification and Reporting on their GHG emissions from Scope 1 and Scope 2 and supporting Multinational Companies in disclosing their information through Integrated and Sustainability Reporting using the GRI Standards. To make transport cleaner and more efficient, companies undergo assessments to address the Environmental, Social and Governance impact of their operations.

Green Freight Asia Impact Programme

Together with our partners from the private and public sectors, we can connect hundreds of companies across the supply chain with an innovative two-way platform on solutions to the climate crisis and increase ambition ahead of the climate urgency.

GFA connects innovative companies that are providing solutions in logistics, especially in the transport sector to work with our Members on business models for the benefit of both parties.

We are seeing an urge for immediate solutions and we want to bridge companies that need solutions with the solution providers. This is an opportunity for start-ups to make an impact on logistics, supply chains, and heavy-duty road transportation.

GFA is running a Green Freight Asia Impact Program for its Members which is focused on the real engagement, designed to help start-ups to get traction in collaboration with industry leaders.

Green Freight Asia program is a start-up – corporate engagement program focused on executing pilots and partnerships between highly promising start-ups and transportation companies across Asian countries.



3. INNOVATION

Eco-Driving Training Programme

Unpredictable oil prices and regulations on carbon emissions are putting pressure on corporations to reduce fuel consumption and stakeholders are asking to see the environmental records of a company, and their efforts in fighting against climate change.

and safety on the roads.

Together with our partners, we measure the impact of the training modules by monitoring fuel consumption before and after the training.

The program is split into two parts train the trainers and train the drivers' module.

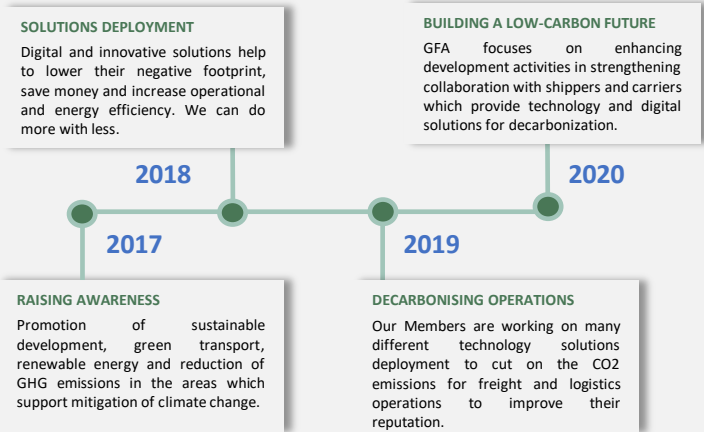
GFA offers Eco-driving training to its Members which helps them to successfully improve fuel-saving and safe driving as well as to improve the safe transport



Green Freight Asia Annual Awards

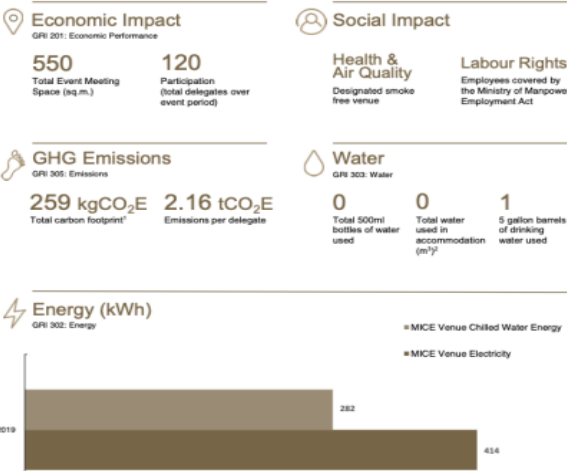
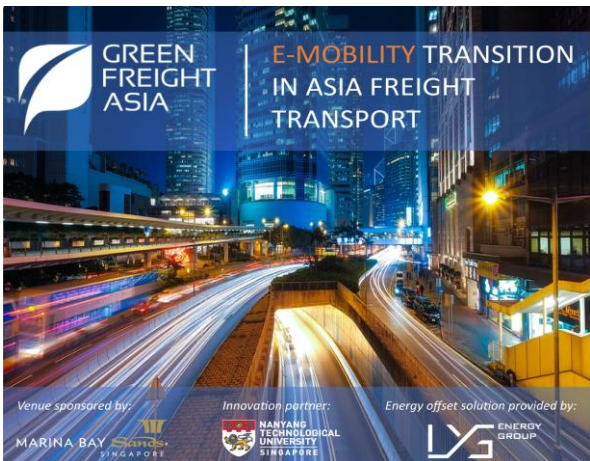
RECOGNIZING YOUR ACTIONS IN SUSTAINABILITY

The Green Freight Awards brings insights into what the freight and logistic companies across Asia are doing to improve their environmental footprint. Many companies across Asia are excited to see how their counterparts benefit from different programs which are inspiring enterprises around the region.



4. EVENTS

Overview of GFA FORUM 2019



Figures and Fact about GFA Forum 2019 | Marina Bay Sands

Since its establishment, the Green Freight Asia Network has created notable value and benefits highly recognized by our members, hence attracts to its events an increasing number of like-minded businesses to partnering and cooperating with other counterparts across the South-East Asia region. Through the *Thought Leadership Opportunities* events or tailor-made workshops, digital investments, or a carbon offset - the companies across the region are putting even more efforts in greening their operations, raising awareness among their employees and cutting on their environmental negative footprint. Therefore, we are pleased to inform our members and other interested parties to explore this year's events which are taking part in our Annual Forum gathering.

6. CASE STUDIES

6.1 IKEA & LENOVO

SHIFTING TRANSPORT FROM TRUCK TO TRAIN: IKEA and Lenovo's green freight mission

Transport is becoming one major source of air pollution in China. In particular, heavy duty vehicles emit 68.3% of NOX and 99% of particulate matter (pm). Researchers suggested shifting 100 million ton/km volume from truck to train will lead to 80 tons of NOX and 4 tons of pm reduction. Emission reduction, safety and reliability are additional benefits from multimodal transport. IKEA and Lenovo - two Green Freight Asia Members, and together with their supply chain carriers, have set good examples in leading China's sustainable and green freight development.

IKEA is shifting furniture from Tianjin to Chengdu and Chongqing (Sichuan Province) with a distance of 1,800 km using trucks, that cost 4.4 million euros and takes 7.3% of total land transport costs; 15% of road transport distance and 6.6% of CO2 emission of IKEA China operation.

IKEA together with New Brother (both Green Freight Asia members), had carefully studied details of the route and enhanced it, they optimized the warehousing and distribution center (DC) storage, consolidated it and combined the total volume, further optimized DC and factory loading time and significantly decreased their lead time. After the adjustment, IKEA and New Brother successfully launched a new route using railway transport from Shanghai to Chengdu and Chongqing.

As a result, the lead time is kept within 7 days, reduced 0.6 million euro cost annually, and reduced 56% CO2 on the route, which equals to 4.6% IKEA transport CO2 emission across China.

The project further proved its value during the Corona virus breakout, IKEA South China operation using railway transport was one of the few routes that operate reliably.



Source: Article from Smart Freight Center

"Starting from two years ago we've set up intermodal development as one of our core strategies in transport in China. During the journey we overcame various challenges, convinced people to accept new transport products and new ways of working with pilots and facts - internally and externally.

Now it's time for payback, we not only enjoyed benefits on cost and sustainability, but in this very challenging period with extensive traffic restrictions, we still are able to secure the continuity of the flow as much as possible, wherever intermodal applies. We believe it would be a golden opportunity for the industry to promote intramodality and reduce emissions." – Ricky Jian, IKEA Business Development Manager.

Lenovo, another Green Freight Asia member, has already realized the benefits of green and high efficiency transport mode. In 2019, Lenovo kicked off railway transport from Huiyang to Beijing. In June 2019, more than 30 containers loaded with Lenovo IT equipment and computers embarked a journey to Beijing. Later on, Lenovo shifted transport from Huiyang to Shanghai, and Shanghai to Guangzhou. Lenovo was one of the early high technology IT firms adopting railway transport.

The achievements are huge, Lenovo cargo reached 100% successful delivery with zero damage, further optimized Lenovo's transport service, fitting perfectly with customer's requirement, most importantly, this brings down 5% of cost reduction and considerable amount of CO2 emissions.

Mr. Tang Wenquan, Lenovo Senior Logistic Manager said, "The benefit of using railway transport is impressive, as we are not in a hurry to deliver some of the computers, we are using railway to balance our transportation and storage, and most importantly, Lenovo is doing its part to reduce emissions and getting our supply chain green. We have reduced 85% of fuel and 90% of pollution on these routes".

IKEA, Lenovo and together with other Green Freight Asia Members, are working together in aligning partners like the government, technology providers, development agencies and NGOs on the journey of smart and green transport.

Contact Green Freight Asia's strategic partner, Smart Freight Center for more stories.

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