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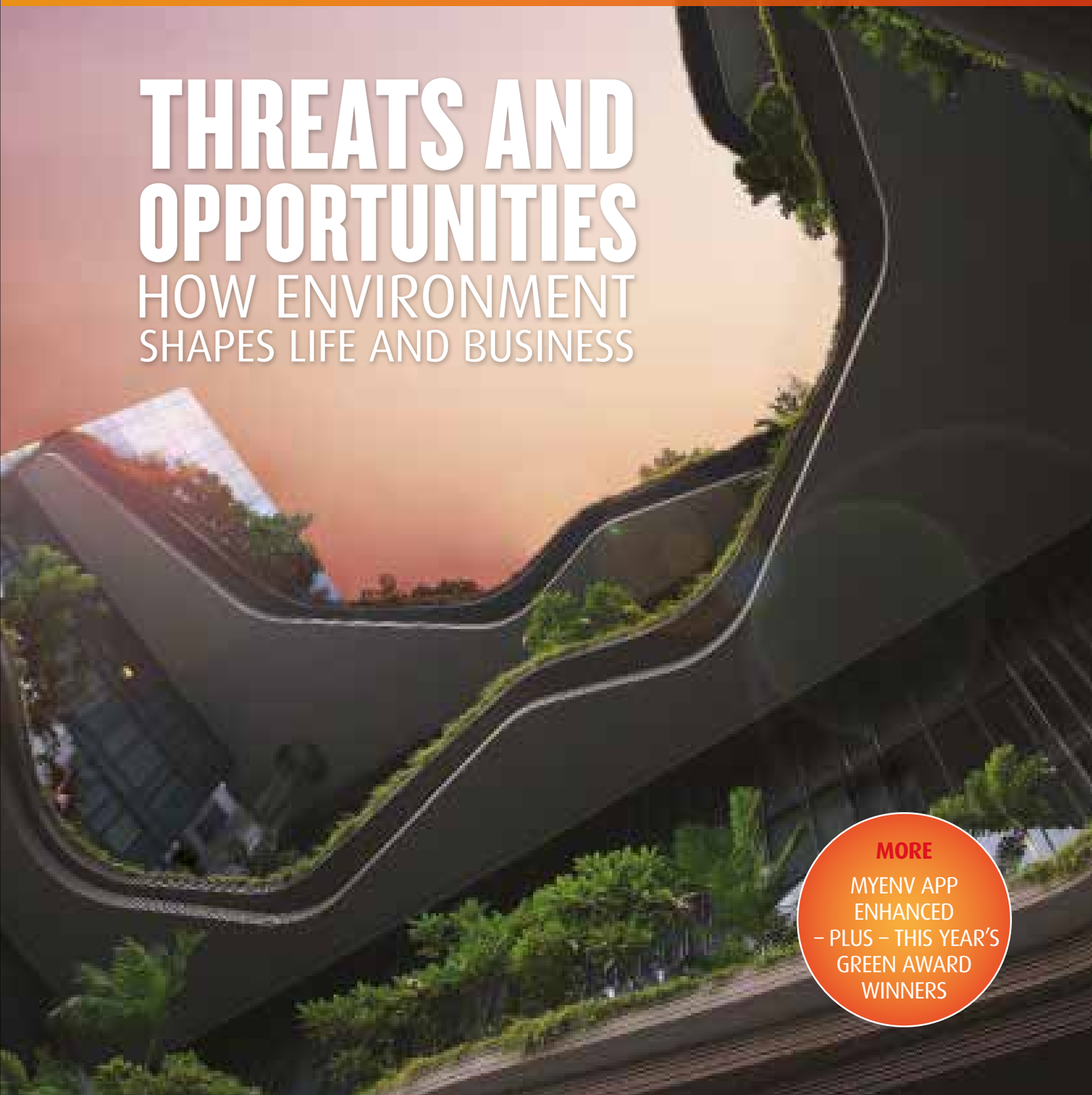
envision

EXPLORING HUMANITY'S ENVIRONMENT

SOUTHEAST ASIA'S NATURAL HAZARDS **CLIMATE CHANGE ENDANGERS BUSINESS** DENGUE RED ALERT **BACTERIA TO END MOZZIE MENACE** E-WASTE RECYCLING EXPANDS **ASIA RESOURCE RECOVERY** TAIWAN HOUSEHOLD RECYCLING IMPROVEMENTS **SAN FRANCISCO CURBS FOOD WASTE** SOLDIER FLY LARVAE TURN WASTE TO FOOD **NEW GREEN FREIGHT MOVEMENTS** SYDNEY'S ENERGY EFFICIENCY RETROFIT **CUT PACKAGING TO SAVE MONEY** INSPIRING INTERNATIONAL IDEAS **SMART CLEANING** CHANGI AIRPORT CHAMPIONS CLEANSING **ENVIRONMENTAL AWARD WINNERS** OPPORTUNITIES



THREATS AND OPPORTUNITIES

HOW ENVIRONMENT SHAPES LIFE AND BUSINESS

MORE

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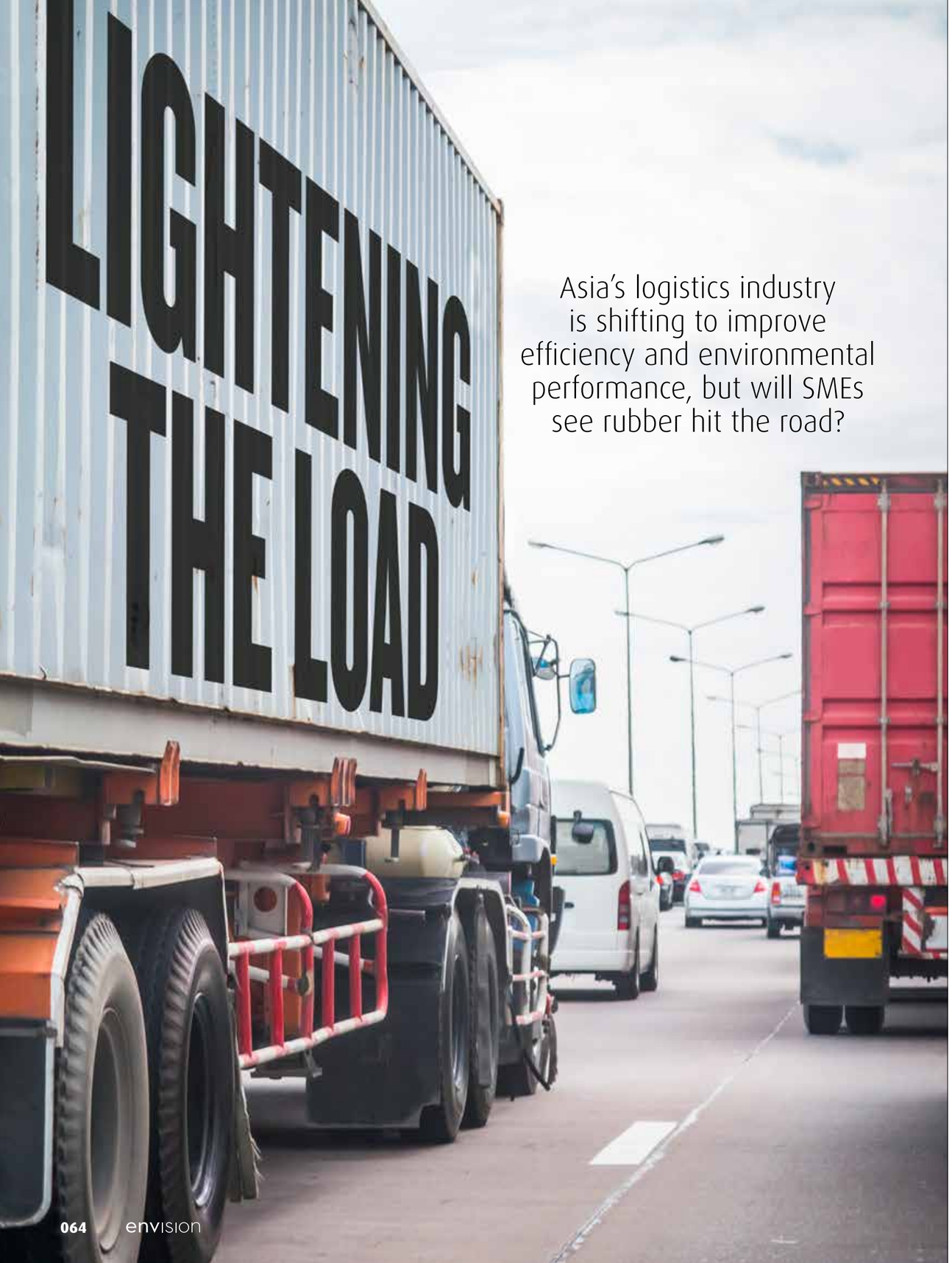

Asia's logistics industry is shifting to improve efficiency and environmental performance, but will SMEs see rubber hit the road?

Contributor

Stephan Schablinski, CEO Green Freight Asia Network Ltd.

LOGISTICS MAKES THE WORLD GO ROUND: the World Bank estimated that in 2010, 56 per cent of global GDP was attributed to trade. The APAC region contributed substantially to this figure, and the regional transportation and logistics market is expected to reach US$4.09 trillion in revenue by 2016. Maritime shipping accounted for the majority of trade volume by revenue, followed by road and rail. The road freight segment accounted for some 90 per cent of all ground freight revenues in 2012. By end-of-year 2017 the Asian ground freight industry is forecast to reach US$985.8 billion in annual revenues.

Not breathing easy

While these numbers sound economically impressive, there are stark costs to account for. The UN Framework Convention on Climate Change estimates that more than 20 per cent of global greenhouse gases emissions stem from the transport of goods and people. APAC's advancement tallies heavily in this context. With effects of climate change being felt internationally and supply chains increasingly interrupted by climate-related natural disasters, the logistics industry is targeted to play its part in reducing emissions (see also, *ENVISION* Issue 5).

Beyond climate related issues, there are health concerns: air pollution is now one of the top 10 killer diseases in the world. The Global Burden of Disease (GBOD) study published in December 2012 found that in 2010 a record 3.2 million people died as a result of air pollution, compared to only 800,000 in the previous decade. Many of these deaths can be attributed to the minute particles of diesel soot and gasses emitted by cars and trucks. Ground-level ozone is also a big issue, warns the World Health Organization, causing breathing difficulties, asthma and lung disease.

The situation is especially serious in rapidly developing APAC countries. The GBOD study found that of the 3.2 million air pollution deaths in 2010, 2.1 million were in Asia. This also has economic effects: in the most heavily polluted cities, such as Bangkok, Kuala Lumpur, and Jakarta, economic losses from air pollution are estimated to reach 10 per cent of GDP according to the World Business Council for Sustainable Development.

For these reasons, logistics – especially road freight – are prime targets for improvement. Putting the health and environmental considerations aside momentarily, there is also a strong business case regionally to do so.

APAC: regionally high logistics inefficiencies, costs

Due to a variety of factors, the Asia Pacific region experiences higher supply chain costs than other parts of the world: logistics costs in Europe and the US tend to hover around 10 per cent of GDP, but the figure trends higher for developing countries such as Indonesia (27 per cent) and China (18 per cent), according to the Economist Intelligence Unit according to the Economist Intelligence Unit and others.

With the majority of oil producing countries having passed peak production, and with the simultaneous increase in energy consumption of about 45 per cent in the past 20 years (120 per cent in India and 150 per cent in China), it is no surprise that by 2020, the price for oil is estimated to be at least twice as high as it was in mid-2008. According to a Green Freight Asia study, long-term increases in oil price volatility also make the APAC region highly vulnerable to cost increases.

Factors like these demonstrate that investments in efficiencies, fuel and emissions reductions would pay handsomely over time, not to mention the knock-on health and environmental benefits.

The road to progress

The growing scarcity of natural resources due to dwindling sources of raw materials and simultaneously increasing demand will pose huge challenges for all industries. As an integral component of all other industries, logistics can make a contribution to reducing the dependence on natural resources so it can continue to perform its important role reliably and economically in the future. Indeed, logistics should be viewed as part of the solution, especially since its cross-sector activity results in considerable spillover effects.

The road freight industry could be a useful starting point for wins. It is highly fragmented though, with upward of half a million trucking companies in the world, compared to a few hundred airlines and about 150 shipping lines. It also consumes more energy than airlines and shipping lines combined.

This fragmentation is especially acute in Asian countries such as China, where 90 per cent of trucking companies consist of a single truck owned by its driver, and only 0.1 per cent of companies owning 100 trucks or more, according to a study done by Clean Air Initiative Asia. Similarly, the Environmental Protection Agency notes that in the US, over 88 per cent of trucking companies are small businesses and 82 per cent operate six or fewer trucks.

	WORLD TRANSPORT ENERGY USE[1]	MARKET FRAGMENTATION
	12%	300 – 400 airlines
	10%	150 shipping lines
	25% Heavy and Medium freight trucks only	> 500,000 trucking companies

Source: 1 IPCC Fourth Assessment Report: Climate Change 2007, Chapter 5: Transportation

Several regional initiatives launched to tackle these challenges in the ground freight industry in recent years (see sidebar) by helping to organise and provide the data needed to enable decision making towards greener supply chains. They also created incentives for companies to increase their commitment to and progress toward more sustainable freight operations as they awarded these companies through benchmarking and labelling schemes. Such initiatives also facilitated the sharing of best practices as well as of information about green technologies.

SUMMARY OF REGIONAL GROUND FREIGHT INDUSTRY INITIATIVES

Region:	US	Europe	Asia
Initiative:	SmartWay	Green Freight Europe	Green Freight Asia
Started:	2004	2010	2011
Stakeholders:	US government programme co-developed by the Environmental Protection Agency (EPA), the American Trucking Association, various industry participants, and socio-environmental groups.	Started with a small group of shippers and logistics companies that designed and piloted an industry-driven approach to create a standardised system for collecting, analysing and monitoring emissions from road freight across Europe. Later expanded into a larger industry-led, independent voluntary programme.	Formed as an informal network with a consortium of freight logistics and shipping companies that were interested in improving supply chain sustainability, and also established partnerships with Clean Air Asia, the Smart Freight Centre and the Green Transformation Lab, a joint initiative by DHL and Singapore Management University. Evolved into non-profit organisation.
Details:	Offers a market-based approach for partner companies to improve fuel efficiency and lessen the environmental impact of ground freight operations. Created performance based quantification, reporting and ranking system, shared best practice info, and provided a tool to measure emissions against industry benchmarks.	Built around the central goals of monitoring and reporting member CO_2 emissions and assisting members to reduce those emissions in a verifiable way. Members submit data, share best practice and promote progress on their sustainability efforts.	Offers its members a single voice to help educate and inform stakeholders, information pipeline on changing metrics and measurement standards as well as fuel saving technologies. Provides recognition and a fair and level playing field through Green Freight Label certification, aligning with other green freight programmes and national initiatives
Results:	By 2010, SmartWay's 3,000 plus partners represented most of the larger transport companies and also many small and medium-sized companies in the US. Between 2004 and 2014, SmartWay partners had saved a total of 120.7 million barrels of oil, or US$16.8 billion in fuel costs. Also was model for other regional initiatives.	By 2013, membership had expanded to over 100 companies.	In May 2014, at GFA's 5th bi-annual conference with shippers, carriers, partners NGOs and academia, the GFA Label concept was reviewed and its launch endorsed.
More info:	www.epa.gov/smartway/about/index.htm	www.greenfreighteurope.eu	www.greenfreightasia.org

Developments in Asia

In APAC, one such initiative is Green Freight Asia (GFA), formed in 2011 as an informal network of 25 freight logistics companies that were interested in improving supply chain sustainability.

Founding members agreed that the key objective should be to facilitate reduced CO_2 emissions and lower shipping costs across entire supply chains by decreasing fuel consumption. This was to be achieved primarily through the GFA Label programme.

Like Green Freight Europe, GFA also sought to help its members align their sustainability efforts with government initiatives and coordinate with regional and global NGOs, as well as academia.

To this end, GFA established partnerships with Clean Air Asia, the Smart Freight Centre and the Green Transformation Lab.

Furthermore, GFA intended to provide a forum for its members to share information on best practices, potential partners, pitfalls to avoid, and experiences in navigating the regulatory environment as they worked to "green" their supply chains.

On 17 October 2013, with the support of founding members DHL, UPS, HP, Lenovo and IKEA, GFA was launched as a Singapore-registered non-profit organisation. Since incorporation, Heineken Asia Pacific, Procter & Gamble, Infineon Technologies as well as Ants Logistics Chengdu have also joined.

FOUNDING MEMBERS AGREED THAT THE KEY OBJECTIVE SHOULD BE TO FACILITATE REDUCED CO_2 EMISSIONS AND LOWER SHIPPING COSTS ACROSS ENTIRE SUPPLY CHAINS BY DECREASING FUEL CONSUMPTION.

Mobilising industry

While there has been strong initial support, the challenge ahead is that APAC companies, particularly smaller to mid-sized companies, are not as concerned about going green as their European counterparts. This presents a potentially serious barrier to adoption for any purely voluntary initiative.

However, it became clear that a programme akin to SmartWay and Green Freight Europe could offer significant value to freight and logistics companies in Asia Pacific.

Shippers could play a key role in motivating fleet owners to undertake the necessary transformation as they depended on these companies to get their products to market. As increased global competition pressures shippers to operate more efficiently, shippers in turn demand more sophisticated services from their logistics service providers, such as supply chain transparency, inventory optimisation, forecasting for production purposes, estimating risk in supply chain vulnerabilities, and streamlined delivery.

GFA intended to overcome this challenge by creating an appropriate incentive structure – in this case, tying a Green Freight Asia Label of a shipper to the Green Freight Asia Label of the carriers and logistics service providers that the shipper used in its supply chain. This tactic would cascade the incentive downwards from a multinational shipper, to the global logistics companies toward the smallest fleet owners.

Recognition for committed companies

Sourcing sustainable freight suppliers is useful for companies buying road freight transport services.

However, the information needed is often not available in Asia Pacific, and this is where the GFA Label comes in. It not only provides transparency about a freight company's sustainability commitment but also rewards the buyers of road freight transport services as they increasingly work with more sustainable companies.

As the label is transparent, shippers can make a conscious decision to reduce the environmental footprint of its own products, or the ones of its customers.

GFA Label leaf levels	Level of commitment
GREEN FREIGHT ASIA 2011	Minimum commitment
GREEN FREIGHT ASIA 2011	Enhanced commitment
GREEN FREIGHT ASIA 2011	Strong commitment
GREEN FREIGHT ASIA 2011	Outstanding commitment

WHILE IT MAY TAKE SOME TIME, THE GFA LABEL WILL HELP GALVANISE NECESSARY TRACTION WITH ALL LEVELS OF INDUSTRY PLAYERS.

The scheme ties the GFA Label of a shipper to the GFA Label of the carriers that the shipper uses in its supply chain. The more 'green carriers' the shipper uses in its supply chain, the higher it climbs on the GFA Label ladder, and it can demonstrate this to its customers. This creates a mutual interest between the shipper and its carrier to go green together.

There are four distinct tiers of recognition in the GFA Label scheme. A company that attains one leaf has demonstrated a minimum commitment to adopting green freight practices. A company that attains four leaves demonstrates itself as a true sustainability leader, with an outstanding commitment.

GFA also leveraged academia in the design of its labelling program as it was 'the case' of this years' APEX Business-IT Global Case Challenge organised by Singapore Management University (SMU) which was attended by 22 universities from around the world.

Set to roll out in APAC, starting with GFA member companies and the carriers they nominated, the GFA Label will be valid for the year in which the company submitted the data. For example, if a company submits the GFA Label questionnaire in 2014, then it receives the label for the year 2014 and can renew it in the following year.

GFA has engaged two certification partners, TÜV SÜD and Business for Social Responsibility (BSR), to manage the process of collecting and validating the data as well as computing the leaf criteria based on the responses.

While it may take some time, the GFA Label will help galvanise necessary traction with all levels of industry players. By helping freight companies to make improvements, influence their own supply chains, gain recognition, and share best practice, the industry as a whole can make strides towards cost savings, environmental improvements, and reduced health impacts. With major companies keenly interested in logistics innovation already supporting the initiative, the ground freight industry has plenty of reason to get on the road.