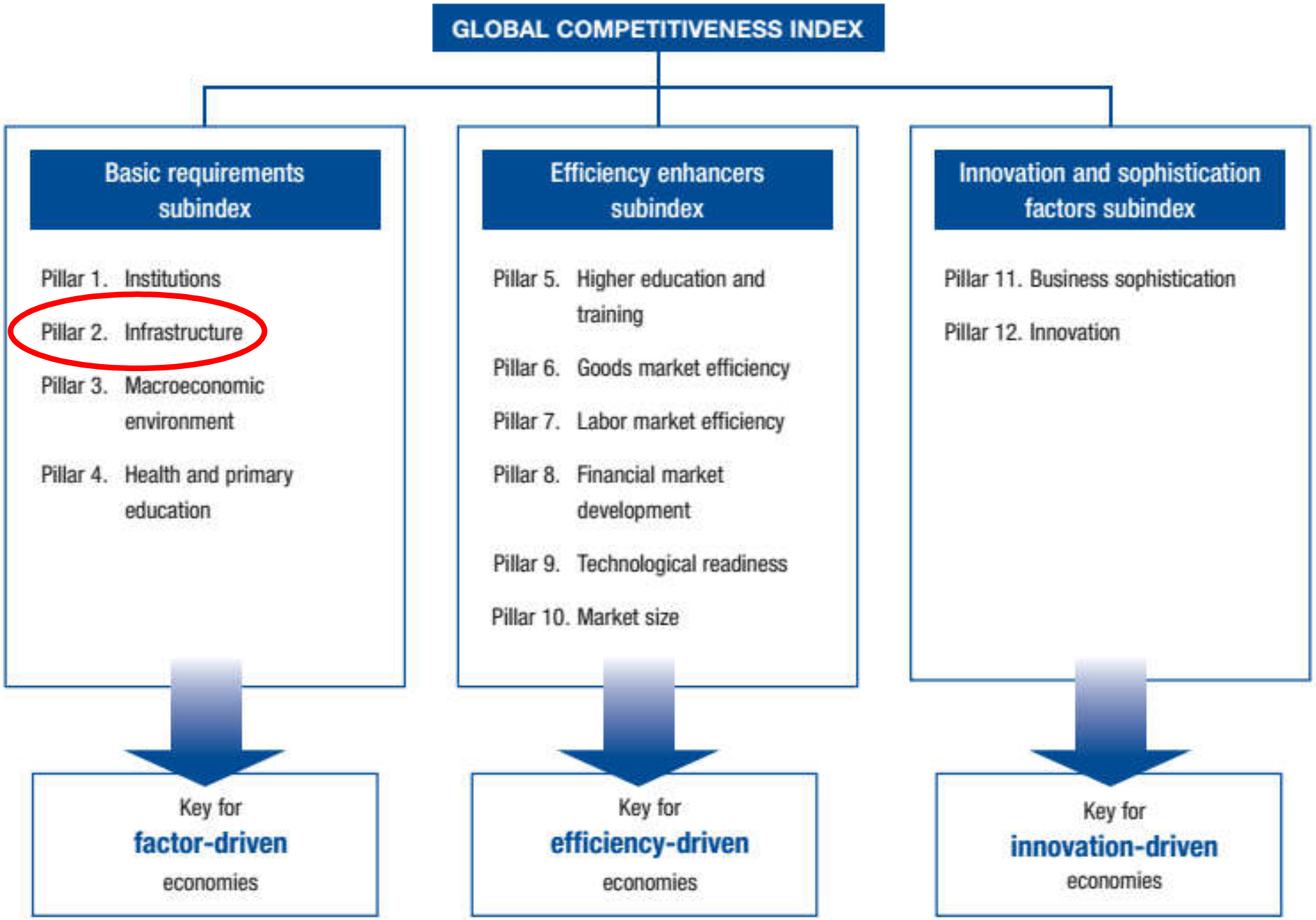
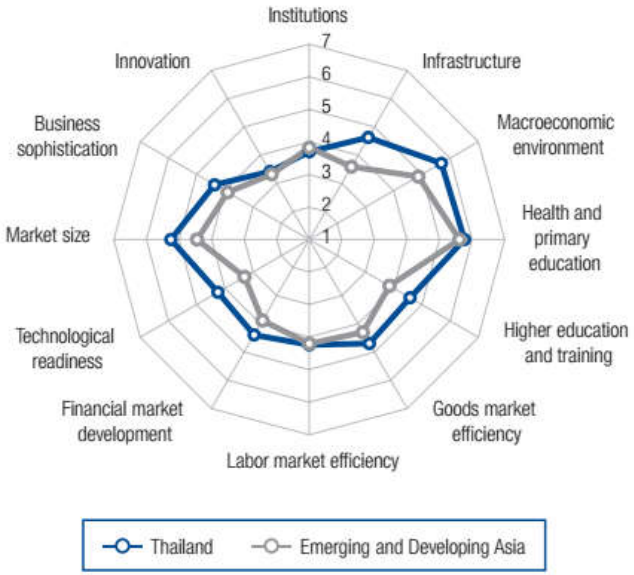
การคมนาคม | การบริหารแบบคิดนอกกรอบ

ความสำคัญของการคมนาคมขนส่ง



ความสำคัญของการคมนาคมขนส่ง



Second pillar: Infrastructure

Extensive and efficient infrastructure is critical for ensuring the effective functioning of the economy. Effective modes of transport—including high-quality roads, railroads, ports, and air transport—enable entrepreneurs to get their goods and services to market in a secure and timely manner and facilitate the movement of workers to the most suitable jobs. Economies also depend on electricity supplies that are free from interruptions and shortages so that businesses and factories can work unimpeded. Finally, a solid and extensive telecommunications network allows for a rapid and free flow of information, which increases overall economic efficiency by helping to ensure that businesses can communicate and decisions are made by economic actors taking into account all available relevant information.

ภายใต้ข้อตกลงทางการค้าบริการที่หลายประเทศภาคีได้ตกลงร่วมกันที่จะเปิดเสรีภาคบริการในอนาคต โดยมีหัวข้อการเปิดเสรีภาคบริการอยู่หลายหัวข้อ ครอบคลุมทั้ง การพาณิชย์นาวี การขนส่งทางราง การขนส่งทางถนน การขนส่งทางท่อ การบริการอื่นที่เกียวข้องกับทุกรูปแบบของการคมนาคมขนส่ง

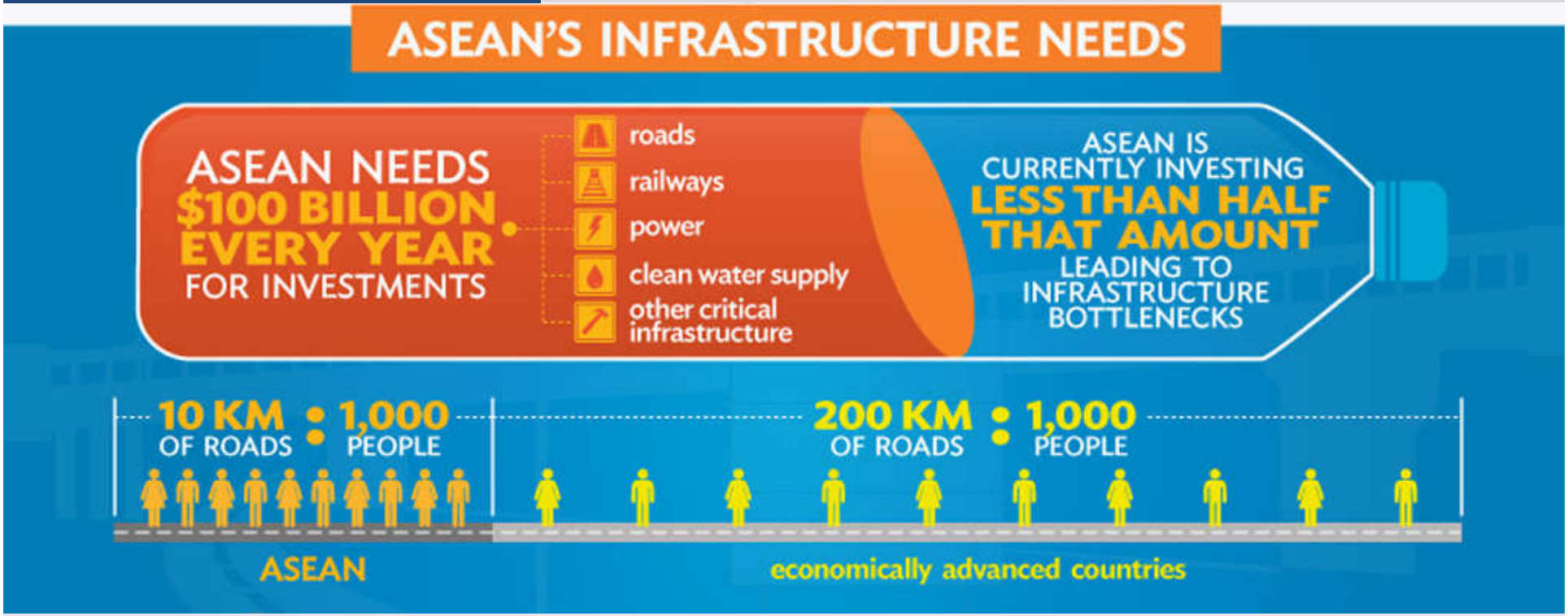
SERVICES SECTORAL CLASSIFICATION LIST

Rail Transport Services
Passenger transportation
Freight transportation
Pushing and towing services
Maintenance and repair of rail transport equipm
Supporting services for rail transport services

Road Transport Services
Passenger transportation
Freight transportation
Rental of commercial vehicles with operator
Maintenance and repair of road transport equipment
Supporting services for road transport services

Pipeline Transport
Transportation of fuels
Transportation of other goods

Services auxiliary to all modes of transport
Cargo-handling services
Storage and warehouse services
Freight transport agency services
Other



GROWING INFRASTRUCTURE NEEDS IN ASEAN

ASEAN countries are expected to experience double-digit growth within the next 10 years, coupled with robust GDP increase. With the growing middle-class pushing for better infrastructure and improved governance, an estimated USD60 billion a year will be needed to fulfill infrastructural needs. How can the public and private sector work together to catalyze this expansion, and what initiatives should be put in place?

POWER	ROADS	WATER & SANITATION	PORTS	RAILWAYS	AIRPORTS
USD228bn	USD128bn	USD26bn	USD33bn	USD119bn	USD16bn

Source: ASEAN's half a trillion-dollar infrastructure economy, Goldman Sachs, 2013

WORLD ECONOMIC FORUM

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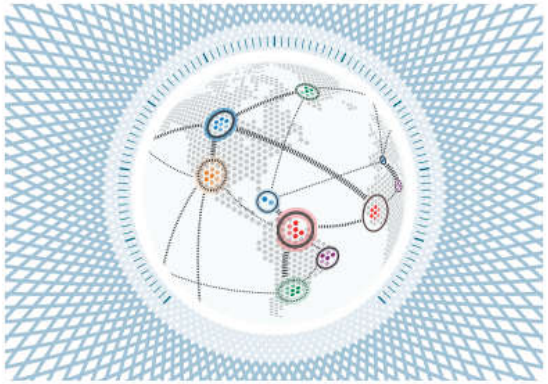
Insight Report

The Global Risks Report 2016
11th Edition



Top 10 risks in terms of **Impact**

1. Failure of climate-change mitigation and adaptation
2. Weapons of mass destruction
3. Water crises
4. Large-scale involuntary migration
5. Energy price shock
6. Biodiversity loss and ecosystem collapse
7. Fiscal crises
8. Spread of infectious diseases
9. Asset bubble
10. Profound social instability

จากสถิติข้อมูลของโลก ทำให้ทราบว่าทรัพยากรด้านพลังงานในโลกนี้มีค่อนข้างจำกัด ดังนั้นจึงต้องเร่งหาทางรับมือกับวิกฤติพลังงานที่จะมาถึงในไม่ช้านี้ โดยเฉพาะอย่างยิ่งธุรกิจอุตสาหกรรมทุกประเภทจะได้รับผลกระทบเป็นอย่างมาในเรื่องของต้นทุนการผลิตและการขนส่งที่จะสูงขึ้นเป็นอย่างมาก

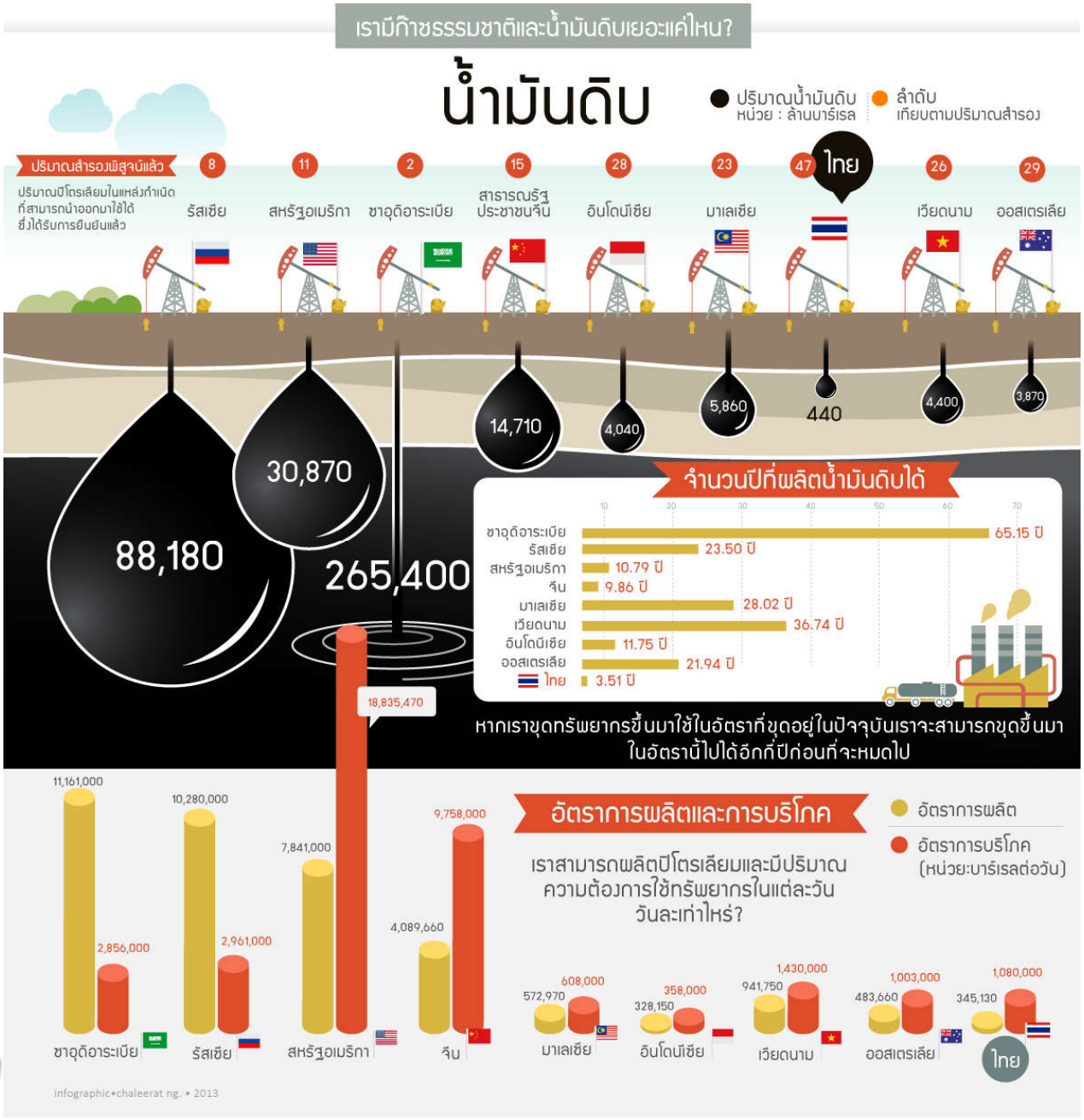
ถึงแม้จะมีทางเลือกของพลังงานอยู่หลากหลายแต่ประเทศทั่วโลกก็เริ่มตื่นตัวกับความไม่มั่นคงทางด้านพลังงานมากขึ้นเรื่อยๆ จนมีความจำเป็นจะต้องเตรียมความพร้อมอย่างเร่งด่วนเพื่อรองรับวิกฤติพลังงานที่อาจจะเกิดขึ้นในอนาคต

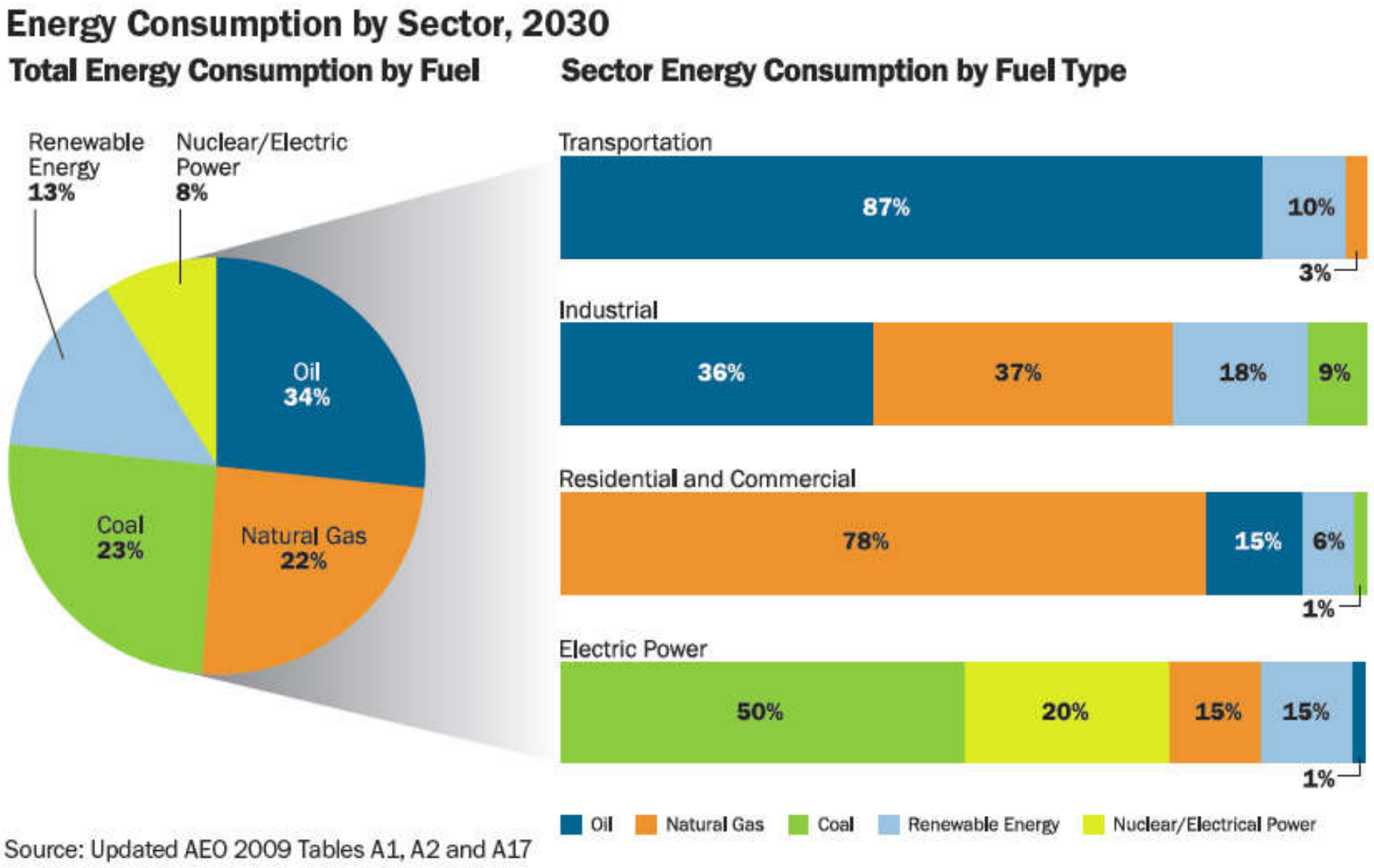
worldometers

ENERGY

333,912,079	Energy used today (MWh), of which:	[+]
270,467,314	- from non-renewable sources (MWh)	[+]
63,444,765	- from renewable sources (MWh)	[+]
2,493,082,346,562	Solar energy striking Earth today (MWh)	[+]
71,458,067	Oil pumped today (barrels)	[+]
1,151,510,854,257	Oil left (barrels)	[+]
13,708	Days to the end of oil (~38 years)	[+]
1,123,543,608,988	Gas left (boe)	[+]
59,134	Days to the end of gas	
4,358,793,875,546	Coal left (boe)	
150,303	Days to the end of coal	

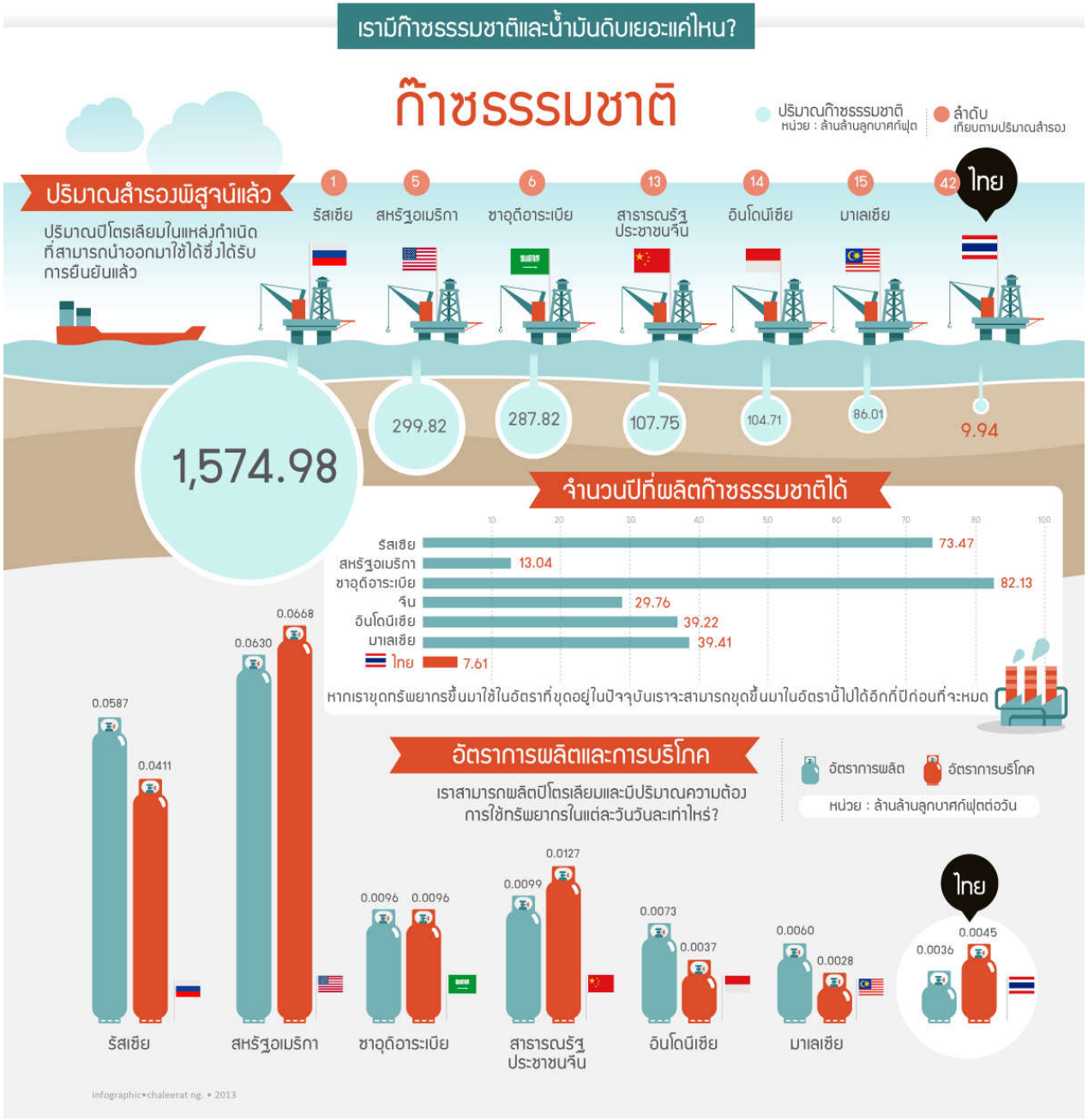
วิกฤตน้ำมันที่กำลังจะเกิดขึ้นในอนาคต จะทำให้ต้นทุนการเดินทางและการขนส่งจะสูงขึ้นเป็นอย่างมาก และอาจจะทำให้อุตสาหกรรมขนส่งต้องเปลี่ยนโฉมในการพัฒนานวัตกรรมใหม่ๆออกมาเพื่อให้การเดินทางและการขนส่งนั้นบริโภคน้ำมันให้น้อยที่สุด หรืออาจจะใช้เชื้อเพลิงประเภทอื่นทดแทนน้ำมันในเวลาอันใกล้นี้อย่างเต็มที่





จากส่วนแบ่งของการบริโภคพลังงานในโลกนี้ การคมนาคมใช้น้ำมันมากที่สุดถึง 87% ... ดังนั้นหากเกิดวิกฤตการณ์น้ำมันขาดแคลนขึ้น การคมนาคมขนส่งทั่วโลกจะหยุดชะงักลงอย่างรุนแรง

จากที่น้ำมันเริ่มที่จะหายากขึ้น ทำให้อุตสาหกรรมต่างๆเริ่มเปลี่ยนมาบริโภคก๊าซธรรมชาติมากขึ้นเรื่อยๆ ซึ่งในอนาคต ก๊าซธรรมชาติของประเทศไทยก็มีน้อยลงเรื่อยๆ จนอาจจะทำให้ส่งผลกระทบต่อการผลิตขึ้นมาใช้งานได้ไม่พอ และอาจจะต้องนำเข้าเกือบทั้งหมด อันจะส่งผลกระทบต่อการคมนาคมขนส่งของประเทศเป็นอย่างมากต่อไป



Global airline traffic trends

Analysis by Amadeus and its partner airconomy reveals that Asia Pacific, the Middle East and Europe have become hot spots for inter-regional airline traffic. The BRIC countries are also global drivers of growth in aviation

The global emerging economic centres are also leading in domestic growth. Domestic traffic has increased in :

Brazil by **28%** *Russia by* **23%** *China by* **14%** *India by* **14%**

airconomy think network | amadeus Your technology partner

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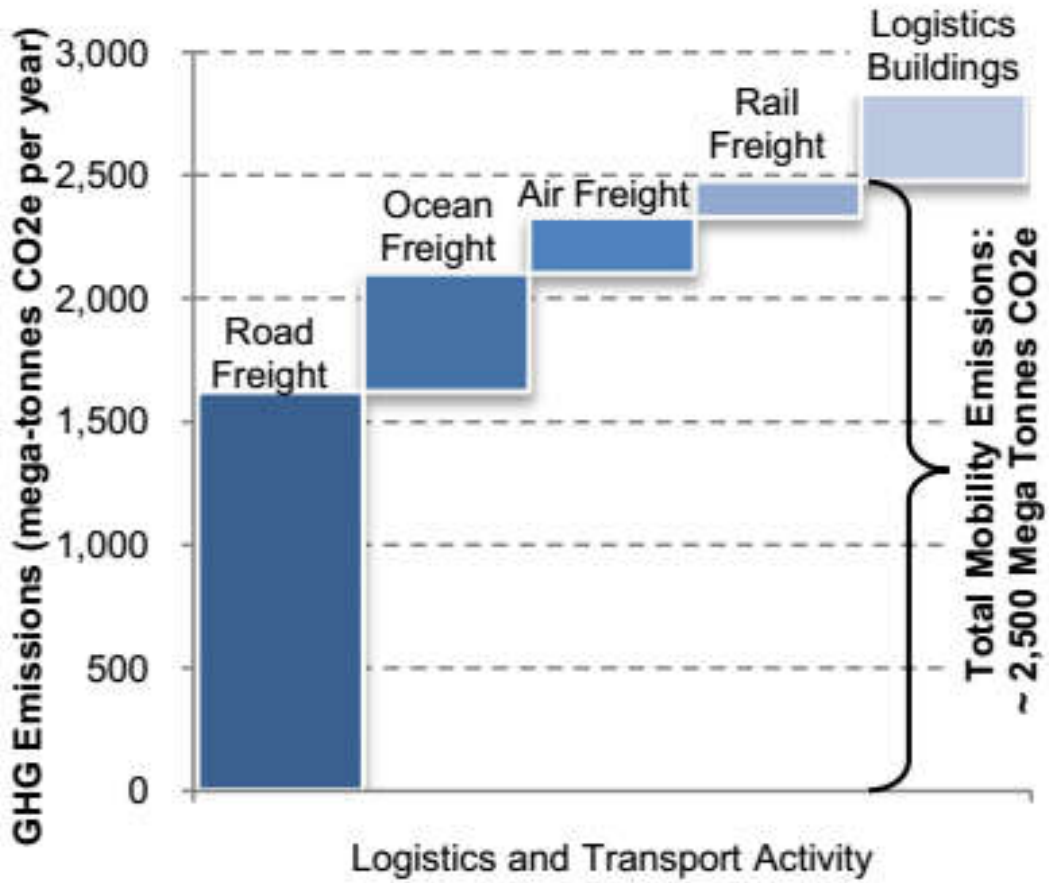
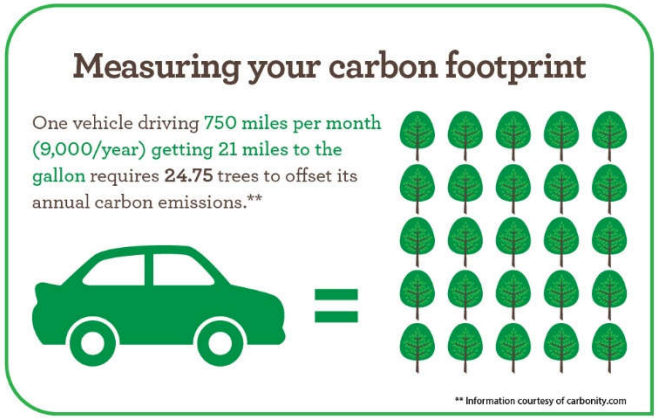
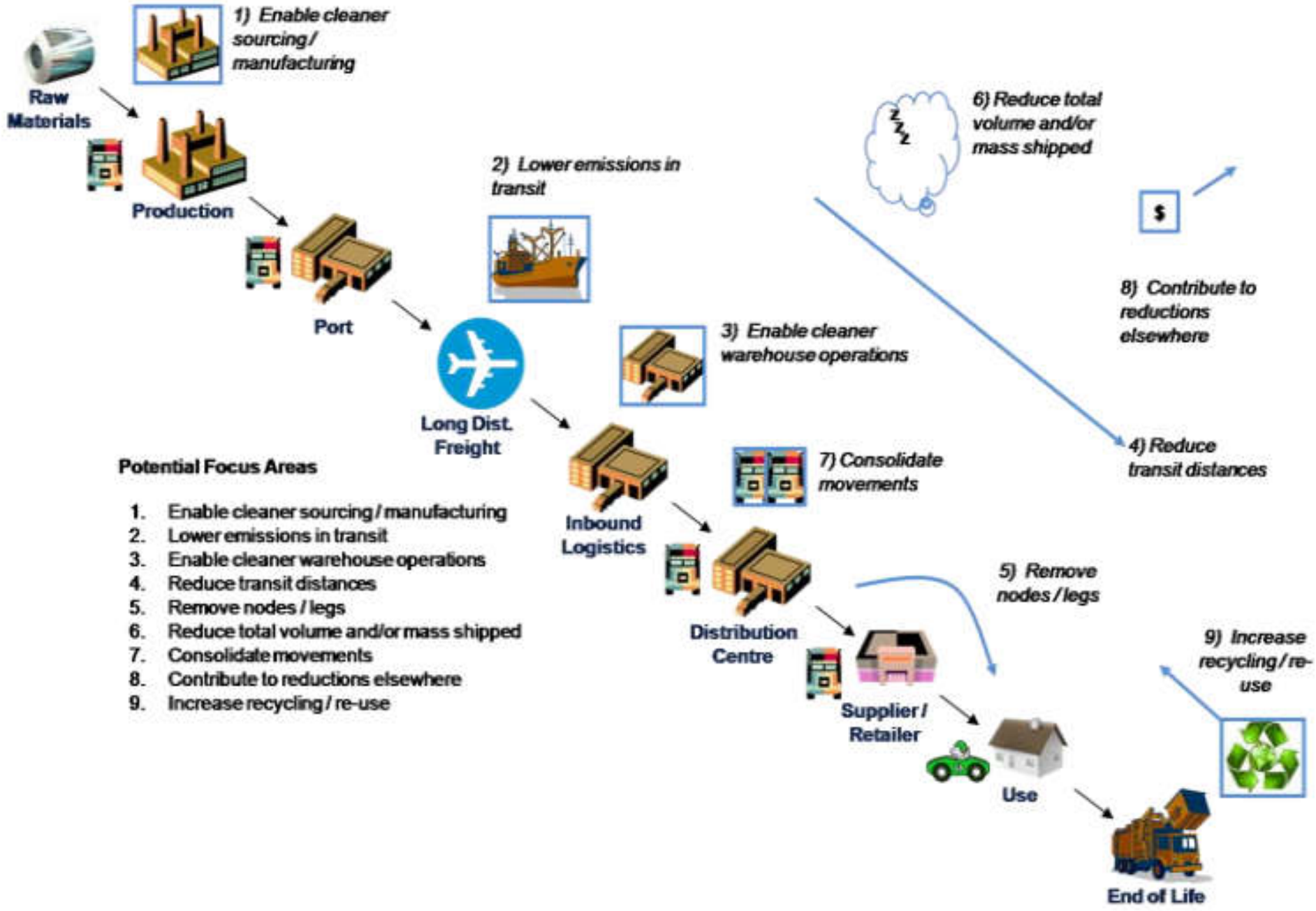
Human activity generates annual greenhouse gas emissions of around 50,000 mega-tonnes CO_2e. We estimate that 2,800 mega-tonnes – or 5.5% of the total – are contributed by the logistics and transport sector.





โอกาสในการลดการปลดปล่อยก๊าซเรือนกระจกใน Global Supply Chain มีอยู่มากมาย แต่ก็ไม่ใช่ทุกมิติที่จะมีโอกาสเท่ากัน แต่ละประเทศจะต้องพิจารณาและเลือกหนทางการลดการปลดปล่อยก๊าซเรือนกระจกที่เหมาะสมที่สุด โดยพิจารณาจากโอกาสและปริมาณการลดที่เป็นไปได้ และจะต้องเร่งนำเทคโนโลยีเหล่านี้มาประยุกต์ใช้ให้เร็วที่สุดเพื่อที่จะก้าวเข้าสู่ Green Supply Chain ได้อย่างมีประสิทธิภาพสูงสุด

Decarbonization Opportunity	Description	Potential Abatement Mt CO_2e	Assessed Index of Feasibility
Clean Vehicle Technologies	Introduce clean and environmentally efficient technologies	175	0.8
Despeeding the Supply Chain	Decrease transport speed and increase load fill	171	0.8
Enabling Low Carbon Sourcing: Agriculture	Optimise the location of agriculture	178	0.6
Optimised Networks	Improve network planning through transformation projects	124	0.8
Energy Efficient Buildings	Minimise emissions from operating activities	93	0.9
Packaging Design Initiatives	Reduce weight and volume of packaging	132	0.7
Enabling Low Carbon Sourcing: Manufacturing	Optimise manufacturing location	152	0.6
Training and Communication	Provide training to road transport contractors and building operators	117	0.8
Modal Switches	Transfer freight from air and long-haul road freight to ocean, road and rail freight	115	0.7
Reverse Logistics / Recycling	Improve percentage of total supply chain waste which is recycled	84	0.6
Nearshoring	Transfer long-haul air and ocean freight to road and rail freight	5	0.7
Increased Home Delivery	Rely on alternate transport services to deliver goods home	17	0.5
Reducing Congestion	Introduce traffic management techniques	26	0.3

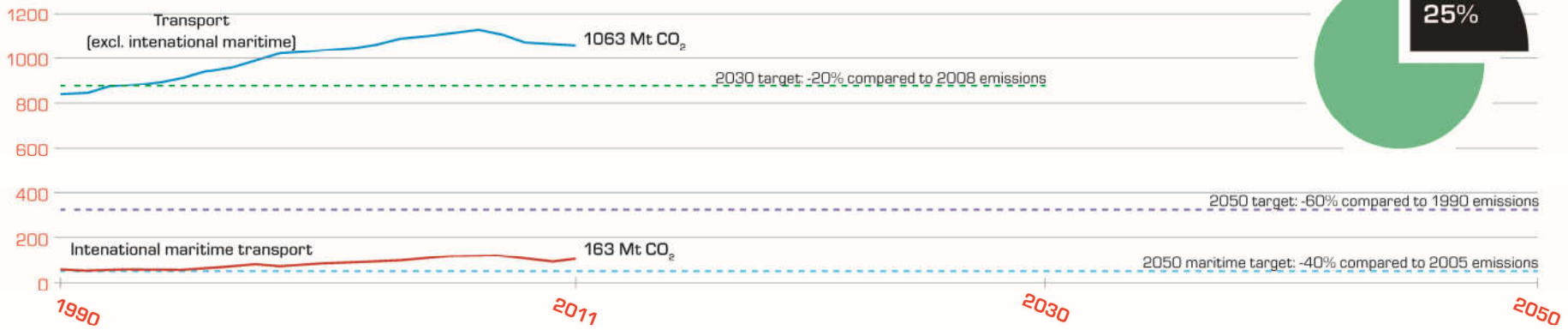

1) Enable cleaner sourcing / manufacturing
Raw Materials
Production
2) Lower emissions in transit
Port
Long Dist. Freight
3) Enable cleaner warehouse operations
Inbound Logistics
7) Consolidate movements
Distribution Centre
5) Remove nodes / legs
Supplier / Retailer
Use
End of Life
9) Increase recycling / re-use
6) Reduce total volume and/or mass shipped
8) Contribute to reductions elsewhere
4) Reduce transit distances
Potential Focus Areas
1. Enable cleaner sourcing / manufacturing
2. Lower emissions in transit
3. Enable cleaner warehouse operations
4. Reduce transit distances
5. Remove nodes / legs
6. Reduce total volume and/or mass shipped
7. Consolidate movements
8. Contribute to reductions elsewhere
9. Increase recycling / re-use

Reducing environmental impacts of transport

European Environment Agency

Several EU targets have been set to reduce the environmental impacts of transport in Europe, including its greenhouse gas emissions. The transport sector's targets are part of the EU's overall goal to reduce greenhouse gas emission by 80-95% by 2050.

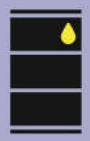
Key targets to be reached by 2050: Reduce transport (excl. international maritime) greenhouse gas (GHG) emissions by 60%, compared to 1990 levels and reduce international maritime transport emissions by 40%, compared to 2005.



Transport's total share of EU GHG emissions in 2011

-40%

Reduce international bunker GHG emissions by 40% by 2050, compared to 2005



-70%

Reduce transport oil consumption by 70% by 2050, compared to 2008

10%

For each EU Member State, the share of renewable energy consumed in transport must be at least 10% by 2020.

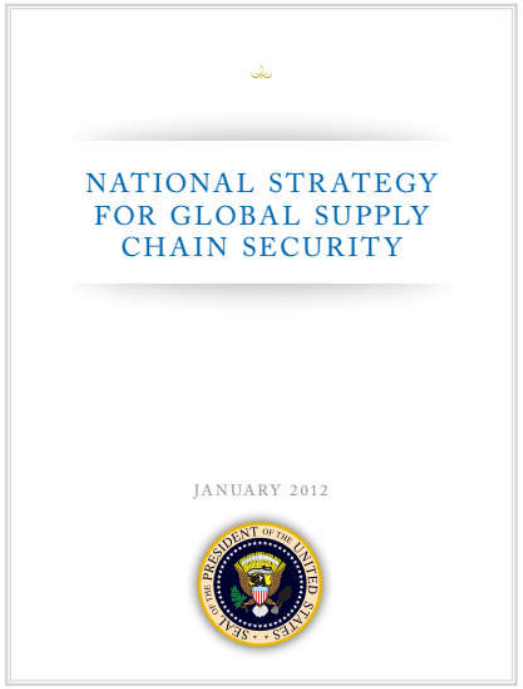
95g CO^2/km

Reduce average CO_2 emissions of new cars to 95 g/km by 2020

147g CO^2/km

Reduce average CO_2 emissions of new vans to 147 g/km by 2020

EEA report 11/2013: TERM 2013 — A closer look at urban transport | eea.europa.eu/transport



THE WHITE HOUSE

WASHINGTON

January 23, 2012

The United States and nations around the world depend upon the efficient and secure transit of goods through the global supply chain system. In recent years, advances in communications technology, along with reductions in trade barriers and production costs, have opened new markets and created new jobs and opportunity for workers. The global supply chain system that supports this trade is essential to the United States' economy and security and is a critical global asset.

We have seen that disruptions to supply chains caused by natural disasters – earthquakes, tsunamis, and volcanic eruptions – and from criminal and terrorist networks seeking to exploit the system or use it as a means of attack can adversely impact global economic growth and productivity. As a nation, we must address the challenges posed by these threats and strengthen our national and international policies accordingly.

Through the *National Strategy for Global Supply Chain Security,* we seek to strengthen global supply chains in order to protect the welfare and interests of the American people and secure our Nation's economic prosperity. We reject the false choice between security and efficiency and firmly believe that we can promote economic growth while protecting our core values as a nation and as a people. Through this Strategy, we endorse a national approach and active collaboration with the international community. We will integrate and energize our efforts to enhance our ability to manage risk by building a layered defense, addressing threats early, and fostering a resilient system that can absorb and recover rapidly from unanticipated disruptions. By institutionalizing information-sharing arrangements, streamlining government processes, and synchronizing standards and procedures, we can realize new efficiencies while strengthening global supply chains.

The Federal Government cannot achieve this alone. Partnerships with state, local, and tribal governments, the private sector, and the international community are critical to realizing our shared goal of building a new framework to strengthen and protect this vital system.

Table 2 – Focus Areas of the ATSP 2016-2025

Within the NTOs Purview	Beyond the NTOs Purview
• marketing and promotion	• travel facilitation
• product development/standards	• safety and security
• human resource development	• connectivity and infrastructure
• tourism investment	• responsiveness to climate change
• quality tourism	
• sustainable growth and development (including inclusive tourism development)	

การบริหารแบบคิดนอกกรอบ

INFRASTRUCTURE

Extent to which basic, technological, scientific and human resources meet the needs of business

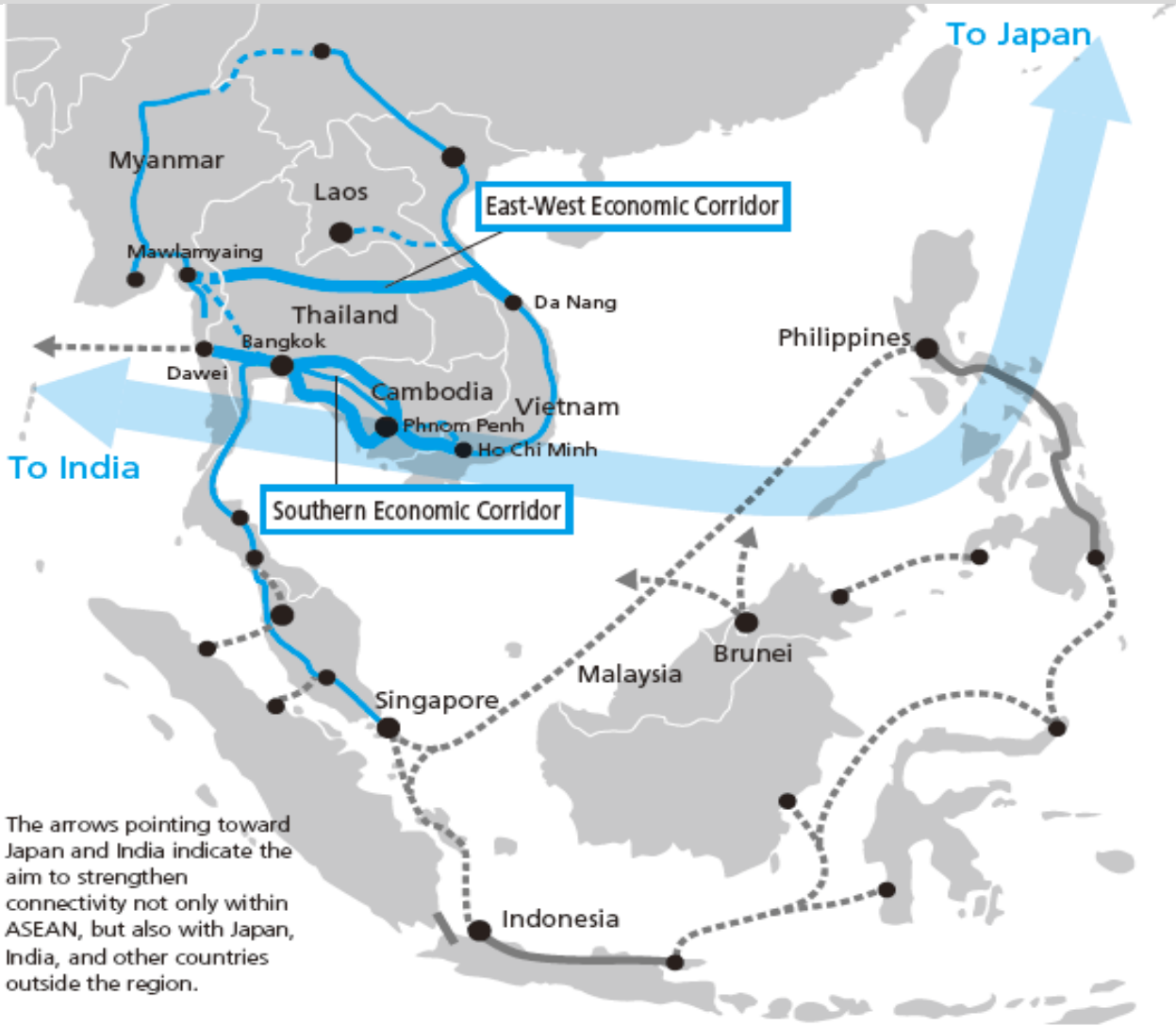
RANK

	2013	2014	CHANGE
Singapore	12	10	+2
Malaysia	25	25	0
Thailand	48	48	0
Indonesia	56	54	+2
Philippines	57	59	-2

	SCORE
Singapore	62.774
Malaysia	45.229
Thailand	16.069
Indonesia	9.978
Philippines	1.7

Source: IMD World Competitiveness Yearbook 2014

ASEAN Infrastructure



The arrows pointing toward Japan and India indicate the aim to strengthen connectivity not only within ASEAN, but also with Japan, India, and other countries outside the region.

Land corridors

Land corridors	Under construction
East-West Economic Corridor	Connects Da Nang and Mawlamyaing.
Southern Economic Corridor	Connects Ho Chi Minh and Dawei.

Improvement of highways, international bridges, motorways, ports, etc.

Ocean corridors

Ocean corridors	Improvement required
Connects the major cities of Malaysia, Singapore, Indonesia, Brunei, and the Philippines.	Improvement of ports, industrial development around ports, energy, ICT improvement, etc.

ASEAN Connectivity – Tourism Industry

1. *Policy rules and regulations*
2. *Environmental sustainability*
3. *Safety and security*
4. *Health and hygiene*
5. *Prioritization of Travel & Tourism*
6. *Air transport infrastructure*
7. *Ground transport infrastructure*
8. *Tourism infrastructure*
9. *ICT infrastructure*
10. *Price competitiveness in the T&T industry*
11. *Human resources*
12. *Affinity for Travel & Tourism*
13. *Natural resources*
14. *Cultural resources*

ที่มา : WEF

ASEAN Connectivity – Tourism Industry

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Insight Report

The Travel & Tourism Competitiveness Report 2013

Reducing Barriers to Economic Growth and Job Creation

Jennifer Blanke and Thea Chiesa, editors

Country/Economy	2013 Rank/140	2013 Score	2011 Rank/139
Switzerland	1	5.66	1
Germany	2	5.39	2
Austria	3	5.39	4
Spain	4	5.38	8
United Kingdom	5	5.38	7
United States	6	5.32	6
France	7	5.31	3
Canada	8	5.28	9
Sweden	9	5.24	5
Singapore	10	5.23	10
Australia	11	5.17	13
New Zealand	12	5.17	19
Netherlands	13	5.14	14
Japan			
Hong Kong SAR			
Iceland			
Finland			
Belgium			
Ireland			
Portugal			

Montenegro	40
Qatar	41
Poland	42
Thailand	43
Mexico	44
China	45

ที่มา : WEF

The Future of Public Transport?

With fossil-fuels swiftly running out, the drive to find more eco-friendly forms of transport is on.

Driverless Pods

A four seater vehicle that runs automatically along a guideway. There will be no timetable, so it is anticipated to run more like a taxi service than a bus service, with the advantage of bypassing current traffic congestion and travelling at speeds of up to 32km/h.
Leading Example: Heathrow Airport, London
Positives: Uses 1/4 of energy per passenger per mile of a car

SkyTran

Computer controlled, personal sized vehicles that ride on "guideways" built above ground. They will run like a non-stop freeway with designated exits and entrances to SkyTran stations.
Speed: 100mp/h in cities
Negatives: It will cost approx $10million per 1 mile of track

Zeppelins

Zeppelins are making a comeback 70 years after the Hindenburg disaster. Environmentalists are favouring this alternative to airplanes due to their low usage of fuel and the low altitudes at which they fly.
Leading Example: Zeppelin NT, Germany
Positives: Do not need a runway to take off

Electric Bicycles

In an attempt to solve the problem of increasingly congested streets, the electric bike combines the convenience and simplicity of riding a bike with electric power thereby increasing the speed and ease at which you can get from A to B.
Leading Example: YikeBike ($3,500)

Backpack Helicopter

A backpack helicopter consists of strapping a helicopter motor and rotor to an individual's back. It has been suggested that it will function significantly better than a jet-pack, which has had very few successful flights.
Negatives: Significant training will be required to use

MagLev Trains

Using magnetic-levitation, trains are propelled forwards at higher speeds than wheeled mass transit systems, with the potential to even reach speeds of 6,400 km/h. Not only being significantly faster than conventional trains, they will emit less CO2 and will be much quieter.
Leading Example: Transrapid, Shanghai, China
Negatives: Incompatible with existing tracks

Segway

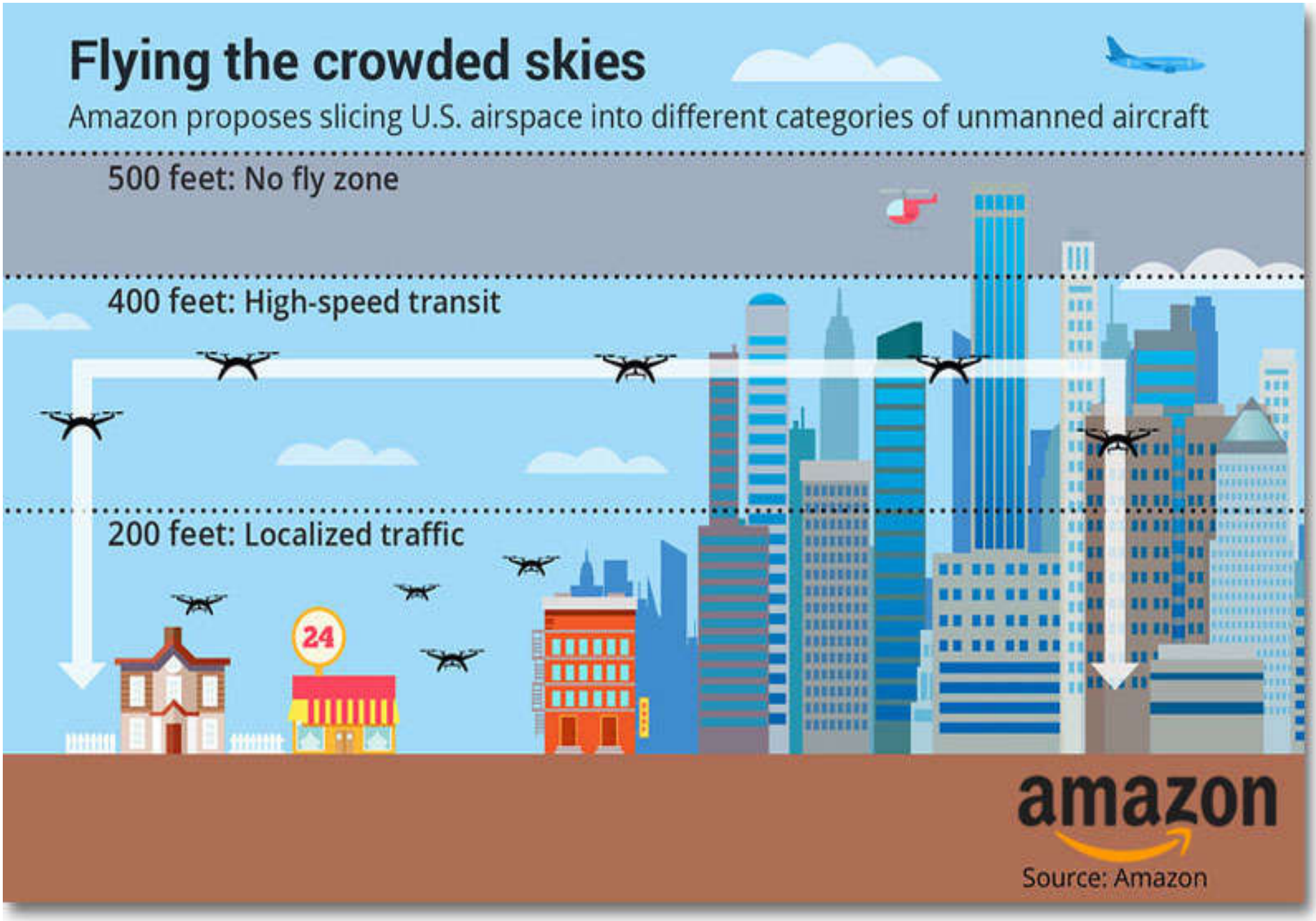
A 2-wheeled mode of transport running from electricity which allows the user to travel at speeds of up to 20km/h along a pavement.
Negatives: Is not classified as a bike and is not often allowed on the roads limiting how fast the user will potentially be able to travel.

SlideWalks

Similar to the travelators you find in airports, slidewalks will replace a high percentage of conventional pavements in major cities, allowing passengers to travel at higher speeds than walking whilst also reducing pedestrian congestion.
Leading Example: Trottoir Roulant Rapide, Paris
Top Speed: 9km/h during tests.
Negatives: Cost of implementation

Future of Transportation | Drone Delivery

ในโลกของการแข่งขันในปัจจุบัน ตลอดจนรูปแบบใหม่ๆของธุรกิจ รวมทั้งความก้าวหน้าด้านเทคโนโลยีสารสนเทศที่มีความเจริญก้าวหน้ามากขึ้น ทำให้ความต้องการบริการการคมนาคมและขนส่ง เริ่มตอบสนองความต้องการของลูกค้ามากขึ้น อันจะทำให้ส่งผลกระทบต่อการออกนโนบายและการกำกับดูแลมากขึ้น


Flying the crowded skies
Amazon proposes slicing U.S. airspace into different categories of unmanned aircraft
500 feet: No fly zone
400 feet: High-speed transit
200 feet: Localized traffic
24
amazon
Source: Amazon

Transportation Oriented Development

Transit Oriented Development

"Transit Oriented Development (TOD) is moderate to higher density development, located within an easy walk of a major transit stop, generally with a mix of residential, employment and shopping opportunities designed for pedestrians without excluding the auto. TOD can be new construction or redevelopment of one or more buildings whose design and orientation facilitate transit use."

Source: Technical Advisory Committee to the Statewide Transit-Oriented Development Study

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