

Environmental Responsibility Report 2012



Beijing Delhi Guangzhou Hong Kong Kuala Lumpur London New York Shanghai Shenzhen
Houston Singapore Taipei Bangalore Mumbai Chengdu Irvine

M Moser Sustainability: A Story of Success



LEED-certified offices, everywhere we are

By adhering to LEED CI standards and achieving a minimum Silver rating at all our offices, M Moser is on course to be externally verified and recognised as LEED compliant. As LEED requires a mandatory accounting of energy uses, further analysis can be conducted on internal energy consumption and associated GHG emissions.



Virtual Project Room

Our continuing investment in in-house CoBIM technologies and Virtual Project Room tools enables our people to connect with distant colleagues and clients via videoconferencing, shared desktops, file-sharing, email and other virtual tools rather than travel. Ultimately, this reduces our global transportation and time/cost impacts.



Recycling/re-use programmes

By maintaining recycling and re-use programmes at our offices, we reduce the waste we generate. These programmes also take into account the reduction of waste at the products' source.

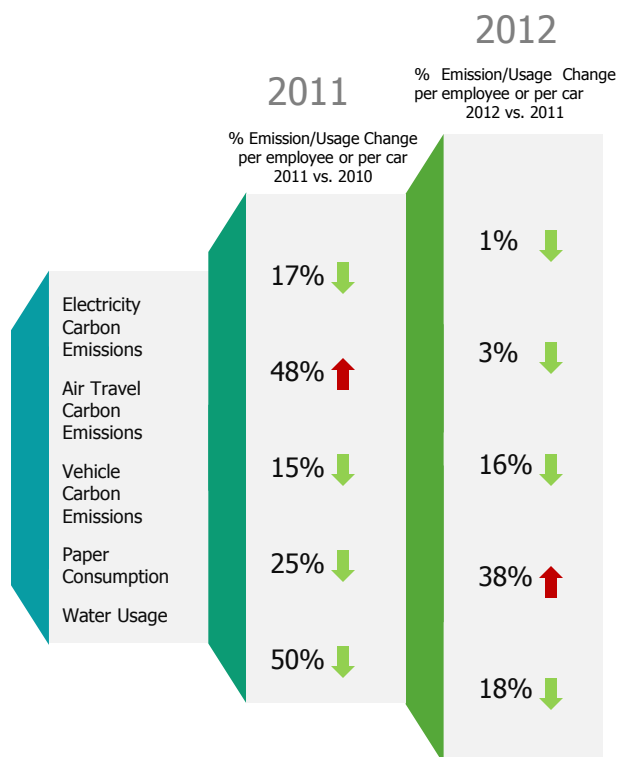


Energy-efficient IT tools

As a human capital intensive, service oriented business, a large proportion of our emissions is generated by computers, printers and other IT equipment. To minimise their impact, we procure certified energy-efficient equipment (including EnergyStar-rated) whenever possible – which also contributes to our offices' LEED credits.

Executive Summary

Welcome to the 2012 edition of M Moser Associates' Environmental Responsibility Report. Between 2011 and 2012, M Moser reduced per capita carbon emissions by 1% in electricity, 3% in air travel and 16% in company vehicles. Other improvements included per capita water usage decrease by 18%, and approximately 70% of M Moser staff commuted to work with public transportation or zero-emission modes of transport. On the other hand, per capita paper consumption increased by 38%. The online survey revealed that effectiveness of recycling programmes, paper consumption and indoor air quality are among staff's major concerns, and that major improvements – including recycling programmes – are necessary in most offices.



Item	8 East Asia offices in 2010		11 global offices in 2011 *		11 global offices in 2012 **	
	Total	Per employee or per car	Total	Per employee or per car	Total	Per employee or per car
Electricity carbon emissions	948,706 kg CO ₂	1,993 kg CO ₂ per employee	1,082,887 kg CO ₂	1,658 kg CO ₂ per employee	1,027,106 kg CO ₂	1,645 kg CO ₂ per employee
Business air travel carbon emissions	255,427 kg CO ₂	537 kg CO ₂ per employee	518,007 kg CO ₂	793 kg CO ₂ per employee	510,984 kg CO ₂	768 kg CO ₂ per employee
Company vehicle carbon emissions	111,400 kg CO ₂	12,378 kg CO ₂ per car	94,638 kg CO ₂	10,515 kg CO ₂ per car	79,621 kg CO ₂	8,847 kg CO ₂ per car
Paper consumption	16,991 kg	36 kg per employee	20,477 kg	29 kg per employee	28,124 kg	40 kg per employee
Water usage	1,993 cubic metres	11 cubic metres per employee	1,728 cubic metres	5.5 cubic metres per employee	1,944 cubic metres	4.5 cubic metres per employee

* Three additional offices included between 2010 and 2011: London, USA (New York) and India (Delhi).

** The 11 main offices in the report are: Hong Kong, Taipei, Shanghai, Singapore, Beijing, Guangzhou, London, USA (New York), Kuala Lumpur, India (Delhi) and Shenzhen. Two more offices each were added under 'USA' (Houston and Irvine) and 'India' (Mumbai and Bangalore).

Executive Summary

Continuous Improvement in Office Space Efficiency

Two major M Moser offices – Shanghai and London – were relocated in September 2011 and December 2012, respectively. Compared to their predecessors, both new offices are expected to yield measurable improvements in work environment efficiency and environmental sustainability in the coming years.

M Moser Biggest Improvers

In 2012, more than half of M Moser offices reduced their electricity carbon emissions. The greatest per capita improvement was in Shenzhen, where electricity consumption shrank by more than 50%. In terms of vehicle carbon emissions, the Beijing and Shanghai offices showed the greatest improvement, with each reducing emissions by more than 15%. New York led the way in cutting per capita paper consumption with its 33% reduction. For per capita water consumption, the Singapore office showed the biggest improvement with a 60% reduction.

Biggest Improver	1 st Place	2 nd Place	3 rd Place
Electricity (kgCO ₂ e/sq m)	London -19%	Kuala Lumpur -12%	Singapore -3.8%
Vehicle (per office)	Beijing -18%	Shanghai -15%	Hong Kong -4%
Paper (per capita)	New York -33%	London -18%	Kuala Lumpur -14%
Water (per capita)	Singapore -60%	Beijing -14%	No third place
Sick Leave (per capita)	New York	Shenzhen	Taipei

M Moser Biggest Consumers

The Beijing office became M Moser's leading per capita consumer of paper and also showed the highest vehicle carbon emissions. Shanghai was the biggest per capita consumer in electricity and had the most sick leaves in 2012. The Hong Kong office also joined the top three in terms of electricity consumers per capita, air travel carbon emissions, and vehicle carbon emissions.

Biggest Consumer	1 st Place	2 nd Place	3 rd Place
Electricity (kgCO ₂ e/sq m)	Shanghai	Taipei	Hong Kong
Air Travel (per capita)	New York	Singapore	Hong Kong
Vehicle (per office)	Beijing	Hong Kong	Guangzhou
Paper (per capita)	Beijing	Shanghai	Taipei
Water (per capita)	Taipei	Guangzhou	London
Sick Leave (per capita)	Shanghai	Hong Kong	Singapore

Suggested Improvements for M Moser Offices – Recycling Programmes

STEP 1

Assess the situation.

Walk through the office noting what type of waste is discarded in each area:

- Administrative and office areas – office paper, corrugated paper & cardboard, other paper, cans, bottles, toner cartridges
- Food services area – glass, metals, cans, plastic containers, corrugated paper & cardboard

STEP 3

Establishing recycling policy incentives.

- Issue a memo, throw a kick-off party and explain any separation procedures.
- Set up a logbook or receipt system to record the volume of recyclables leaving the premises.
- Set up incentives such as pizza parties or coupon/vouchers for teams with the best recycling record.

Facts about office paper

77% of paper waste generated in offices is recyclable.

Typical business offices generate about **0.70 kg** of waste paper per employee each day.

M Moser generates about **0.12 kg** of paper per employee each day.

STEP 2

Choose good locations for recycling containers.

- Place wastebins in close proximity to recycling containers to enhance convenience and encourage use.
- Discuss with employees who work in each specific area of the office where recycling containers should be placed to maximise their use.



Suggested Improvements for M Moser Offices

Hong Kong

- Reduce air travel costs and carbon emissions by taking advantage of virtual conferencing technology
- Reduce paper consumption by tracking and sharing each employee's printing record
- Improve office hygiene by regularly cleaning personal desks and staying at home when sick

Taipei

- Encourage greener commuting by subsidising transportation fees
- Reduce energy consumption by switching off computers after work
- Reduce water consumption in next office relocation

Shanghai

- Reduce paper consumption by tracking and sharing each employee's printing record
- Reduce energy consumption by switching off computers after work
- Improve office hygiene by regularly cleaning personal desks and staying at home when sick

Singapore

- Reduce paper consumption by tracking and sharing each employee's printing record
- Reduce air travel costs and carbon emissions by taking advantage of virtual conferencing technology

Beijing

- Improve indoor air quality with green plants and/or air filtration equipment
- Reduce paper consumption by tracking and sharing each employee's printing record
- Reduce energy consumption by switching off computers after work

Guangzhou

- Improve indoor air quality with green plants and/or air filtration equipment
- Reduce energy consumption by switching off computers after work

Suggested Improvements for M Moser Offices

London

- Reduce paper consumption by tracking and sharing each employee's printing record

New York

- Reduce air travel costs and carbon emissions by taking advantage of virtual conferencing technology
- Reduce waste and encourage recycling by creating a more accessible centralised waste handling system

Kuala Lumpur

- Encourage greener commuting by subsidising transportation fees
- Improve office hygiene by regularly cleaning personal desks and staying at home when sick

Delhi

- Encourage greener commuting by subsidising transportation fees

Shenzhen

- Office should become more tidy and organised by having cleanup days on a regular basis



Report Methodology

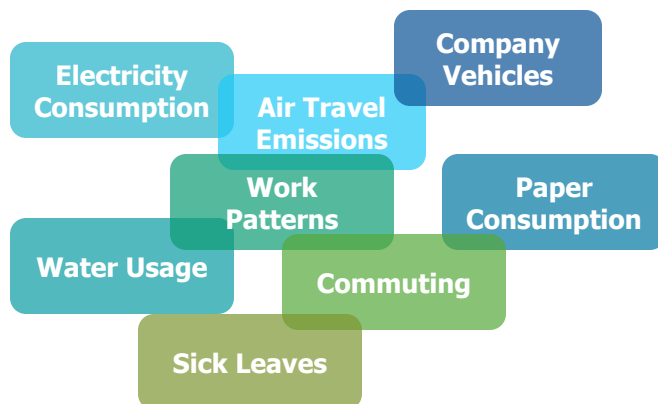
This report presents a comprehensive sustainability profile of M Moser based on analysis of offices' resource consumption, transportation trends, carbon emissions, and other related data. Sustainability trends can be understood through comparison of the data gathered in 2011 and 2012.

The purpose of this report is to not only paint a picture of the environmental and social impacts of our current activities, but also to prompt thought and discussion on our corporate social responsibility in the near future.

In particular, this report aims to encourage commitment and action among employees in order to make a positive impact on the M Moser workplace and the global environment.

Our 2012 data pertains to the period between January 1 and December 31, 2012. Consumption data was primarily collected from 11 M Moser offices* with nearly 700 employees.

Green KPIs analysed this year



Our employees are our most important stakeholders. Their commitment, dedication and power to innovate are the keys to our success. In the 2012 online survey, staff members were asked to describe their working patterns and share their thoughts and concerns on workplace environmental performance. This information contributed to a significant portion of the Report.

Survey distribution facts

The 2012 survey was **distributed online** to reduce its environmental impact.

Staff from **11 offices** participated in the online survey.

The overall response rate was **above 90%** – a great improvement compared to 2011's survey response of 72%.

In interpreting the survey results, it should be noted that office relocations, changes in employee headcount and other variables precluded exact 'apple-to-apple' comparisons between 2011 and 2012 data.

Carbon Emissions Summary Results

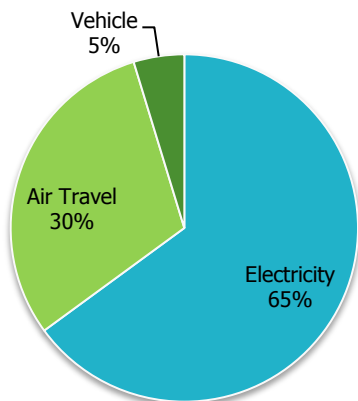
In 2012, each M Moser employee produced 2,500kg of CO₂. This is equivalent to what would be generated by:

- ❖ Each employee leaving a 60-watt light bulb burning for eight years
- ❖ Making five round-trips between Shanghai and Beijing by car
- ❖ Each employee making one round-trip flight from London to Miami

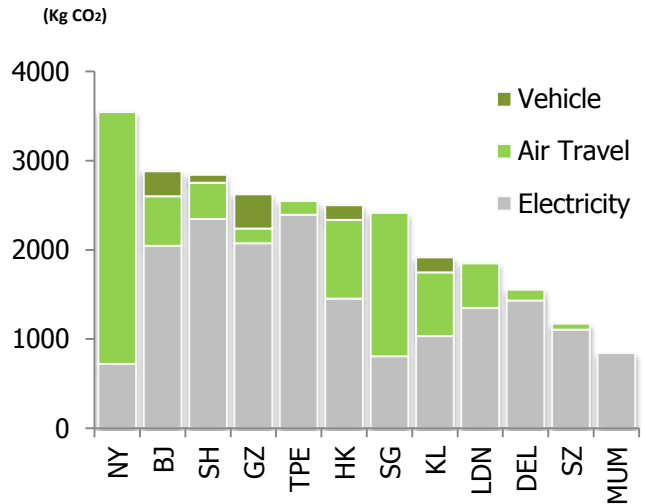
M Moser as a whole emitted a total of 1,689,312 kg of CO₂ in 2012. The Shanghai office was the largest single emitter of CO₂ in both 2011 and 2012. Electricity consumption contributes to 65% of M Moser's total carbon emissions.

The amount of carbon emitted from electricity consumption is significantly affected by the cleanliness of the energy source, which is determined by the type of fuel or technology utilised to generate electricity. The graph to the right illustrates the varying cleanliness of energy sources used by M Moser offices. An increase in clean energy sources can help reduce carbon emissions.

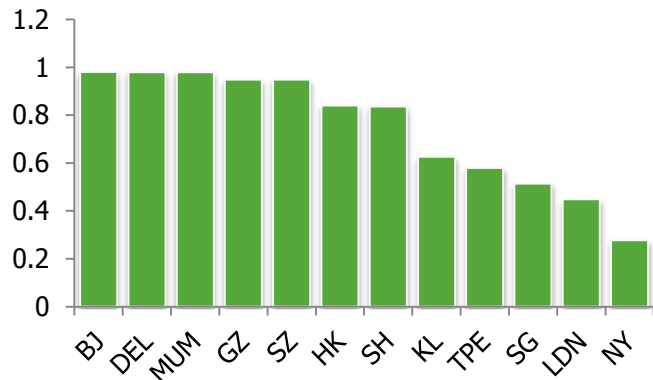
Carbon emissions by activity (kg CO₂)



Carbon emissions per employee



Cleanliness of energy source by city (kg CO₂/kWh)



* Lower kgCO₂/kWh indicates cleaner energy source



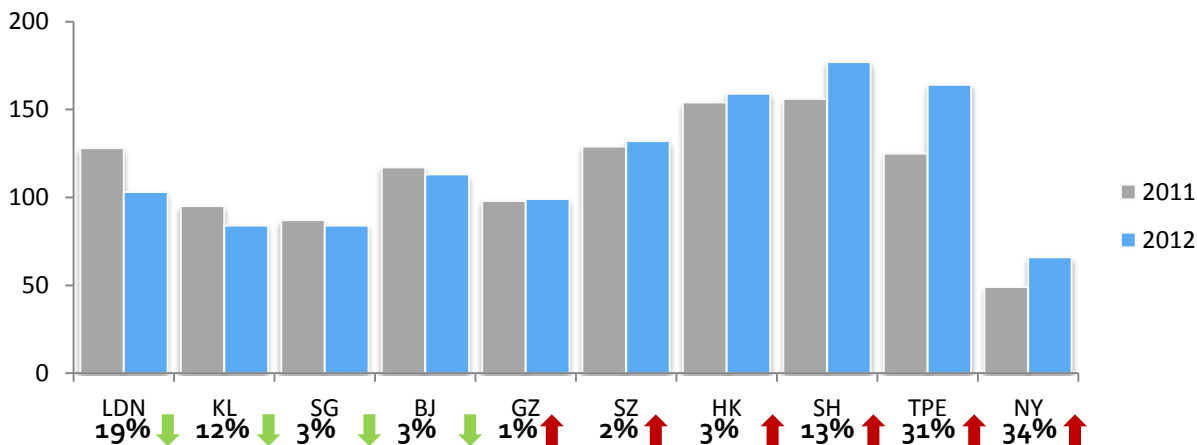
Electricity

The range of per capita carbon emissions across M Moser’s locations was extremely wide in 2012; for example, emissions generated by the Taipei, Shanghai, Guangzhou and Beijing offices were three times greater than that of the New York office. Causes for this disparity may be found in offices’ respective power plant sources, amount of clean energy used, scheduling, etc.

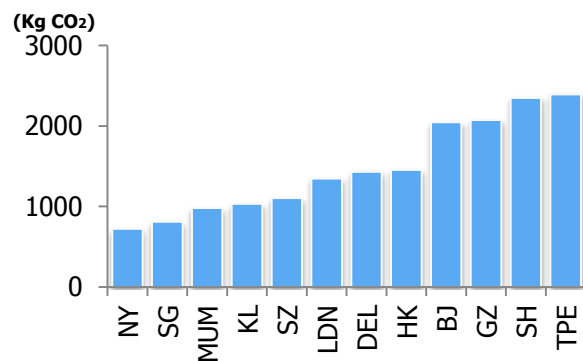
Similarly, the office that used the most electricity (per sq-m) used almost three times more than the office that consumed the least.

There was no significant difference (a 1% reduction) between M Moser’s total electricity consumption in 2011 with 2012. However, the offices that showed the greatest improvement in 2012 (Shenzhen and Delhi) were those with highest electricity carbon emissions per capita the prior year, and also tended to be smaller offices (60 of fewer employees).

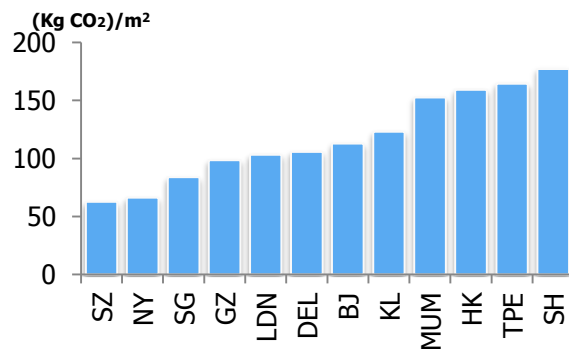
Year on year per capita electricity carbon emissions comparison by office (Kg CO2e/sq-m)



CO₂ emissions from electricity consumption per employee (ranked lowest to highest)



Cleanliness of energy source by city (lower means cleaner)



Paper Consumption

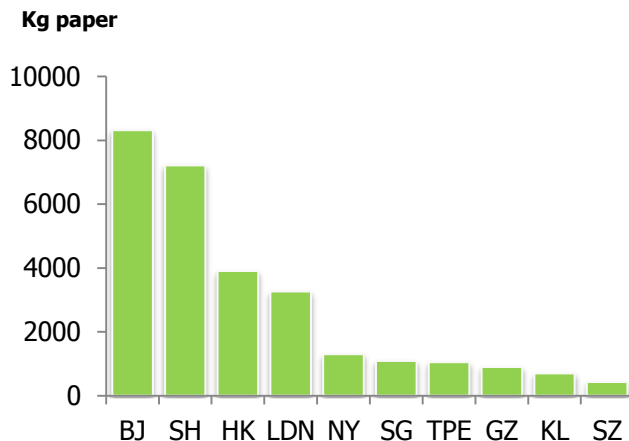
The Beijing office was the biggest consumer of paper in 2012. Between 2011 and 2012, per capita paper consumption doubled in both the Beijing and Kuala Lumpur office.

Only four offices reduced their paper consumption during 2012: New York, London, Guangzhou and Shenzhen. The M Moser offices that showed the poorest performance in paper consumption in 2011 actually made the greatest improvement in 2012.

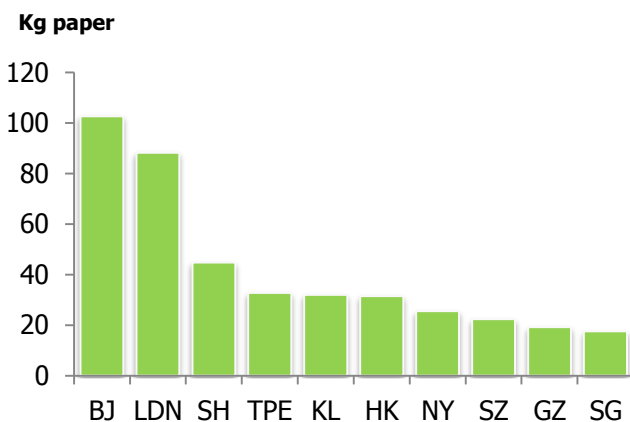
In 2012, M Moser's total global paper consumption increased by **48%** -- equivalent to **9,198 kg** = **261 trees**



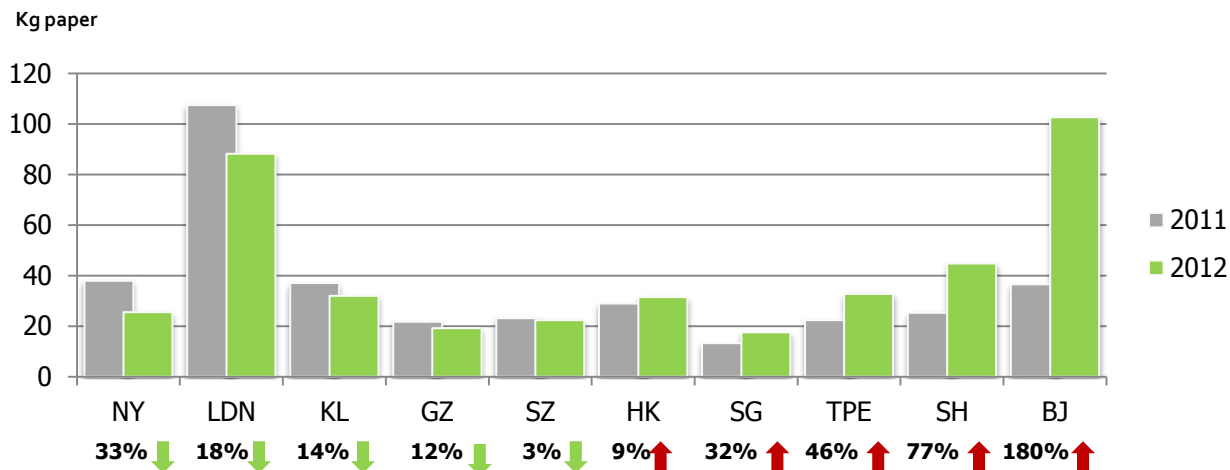
Total paper consumption



Paper consumption per employee



Year on year comparison of per capita paper consumption, by office



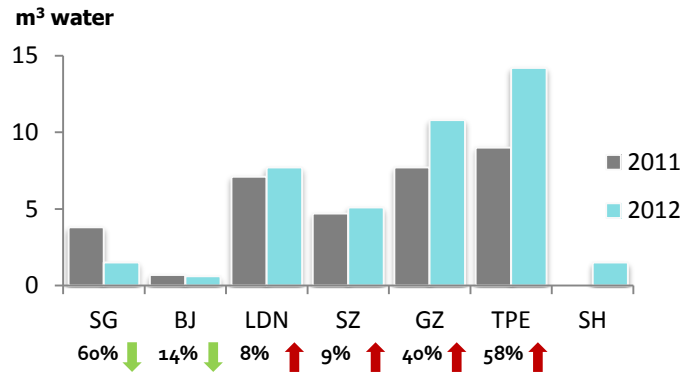
Water Usage

Our 2012 survey included office water usage as one of M Moser's sustainability metrics. All data was derived from monitoring office water usage, including pantry sinks.

Shanghai's water usage data was not collected in 2011, but was collected in 2012. The low water usage per capita of the Shanghai office drove M Moser's average per capita water usage down by **18%**.

Singapore and Beijing were the only M Moser offices that reduced their per capita water usage in 2012.

Year on year per capita water usage, by office



Sick Leave

M Moser is committed to providing a healthy work environment that not only enhances effectiveness and satisfaction, but also minimises the number of days lost due to sickness.



**1 cubic metre of water =
running a faucet for 106
minutes**

Office	Water usage (cubic metres)	Per employee (cubic metres)
Taipei	441	14.2
Guangzhou	560	10.8
London	263	7.7
Shenzhen	66	5.1
Shanghai	464	2.7
Singapore	94	1.5
Beijing	56	0.6

* Water usage was not metered in Hong Kong, Kuala Lumpur, New York and Delhi.

Office	Sick leave (days)	Annual sick leave day per employee (days)
Shanghai	605	3.8
Hong Kong	344	2.8
Singapore	154.4	2.5
Kuala Lumpur	44	2.0
London	64	1.7
Guangzhou	81	1.7
Beijing	231	0.9
Shenzhen	37	0.8
Taipei	9	0.3
New York	14	0.3
Delhi	3	0.2




Business Air Travel

In 2012, M Moser emitted a total **512,569 kg of CO₂** through air travel. This represented a 3% decrease compared to 2011's value, even though more offices and employees were included in this year's analysis.

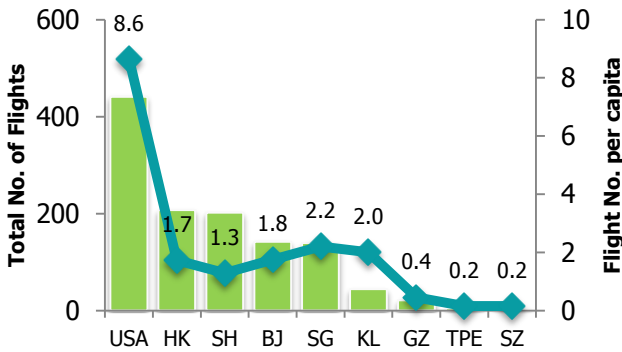
M Moser encourages employees to use greener modes of transport whenever feasible, especially for short-haul trips. Only 5% of M Moser's total business flights in 2012 could be classified as 'short-haul'.

The USA offices made the biggest contribution to M Moser's air travel carbon emissions in 2012.

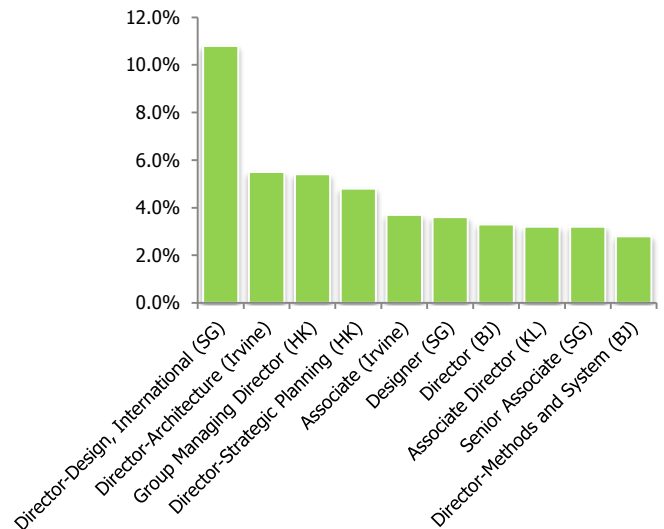
In 2012, our top 10 flyers generated 46% of M Moser's total CO₂ emissions from air travel.



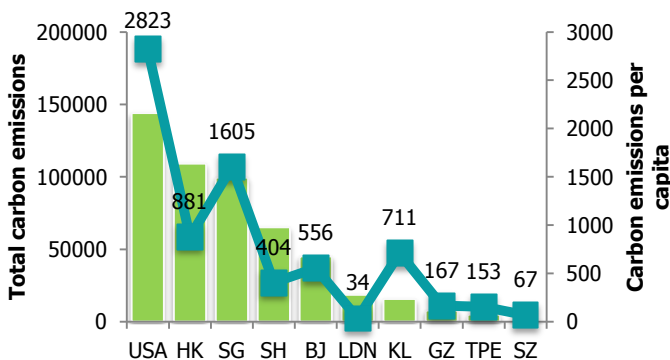
Business air travel



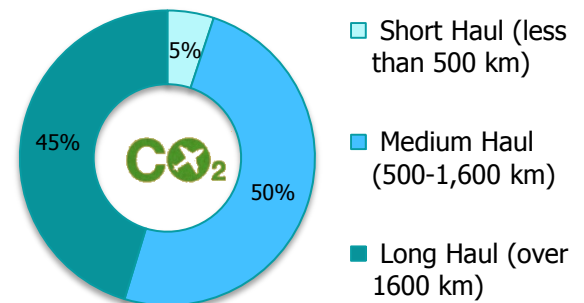
M Moser's top 10 flyers



CO₂ emissions from air travel



Flight types



Company Vehicles

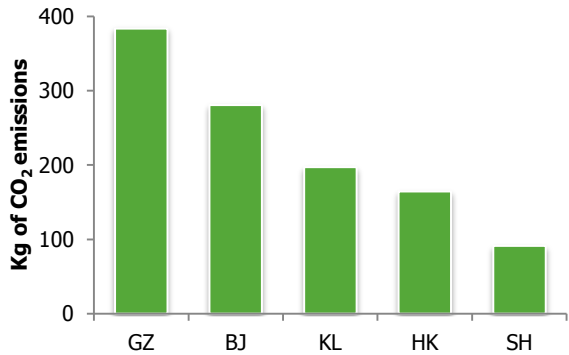


In 2012, a total of **79,622 kg of CO₂** was released by M Moser's company vehicles. This was 16% less than the amount released from company vehicles in 2011 (94,636 kg).

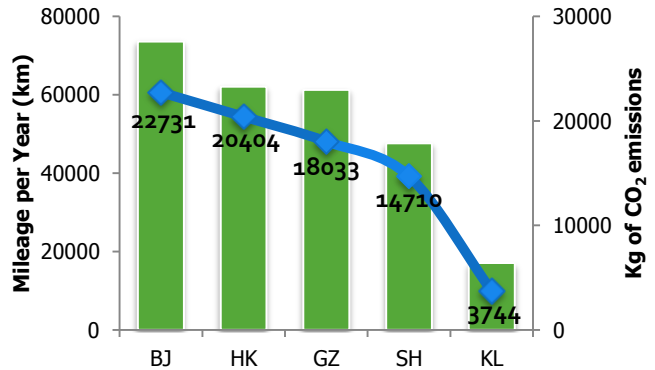
In both 2011 and 2012, Beijing's company vehicles emitted the highest amount of carbon emissions of all M Moser offices.

100 km of driving = 14 kg of carbon emissions

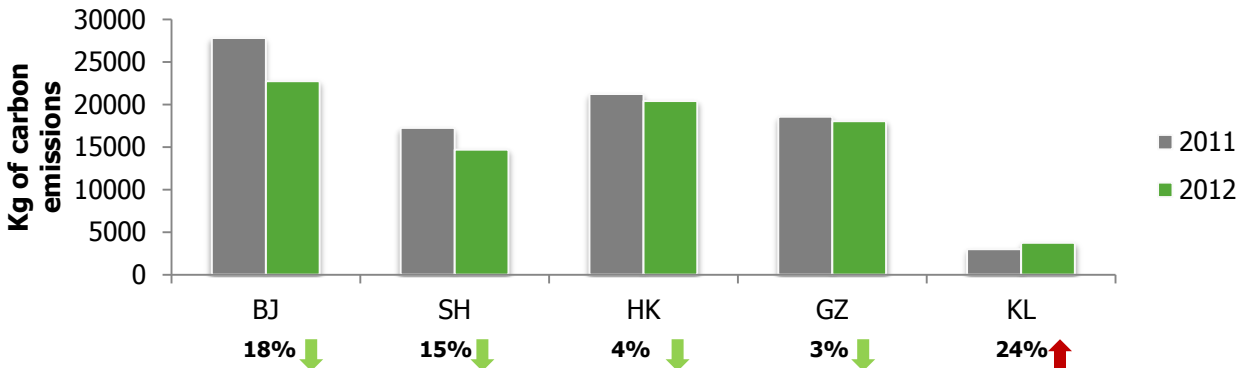
Vehicle carbon emissions, per employee



Vehicle mileage and carbon emissions



Year on year comparison of company vehicle carbon emissions, by office

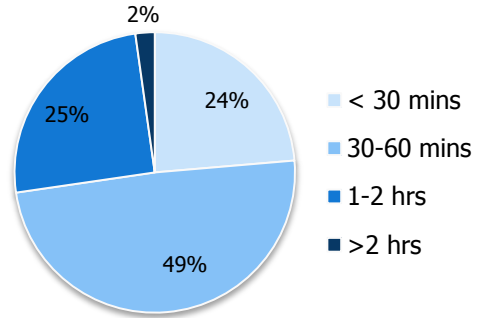


Commuting

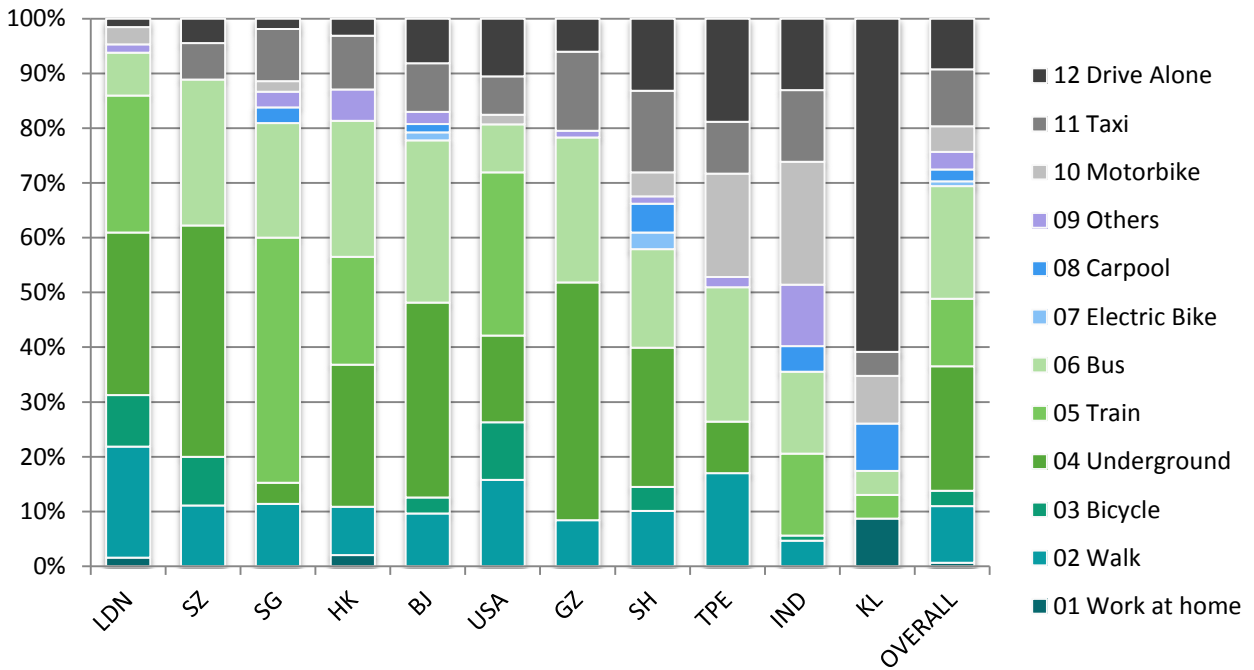
The results indicate that 73% of employees commute to work within one hour.

Approximately 70% of M Moser staff commutes to work on public transportation or zero-carbon emitting modes of transport. Bus, train and underground are the most popular modes of transport among M Moser staff.

One-way commute time to work



Means of transportation to work



Higher percentage of green commuting ways



Walk:
ZERO CO₂!



Bike:
ZERO CO₂!



Electric bike:
229 CO₂/person/km



Bus:
1019 CO₂/person/km

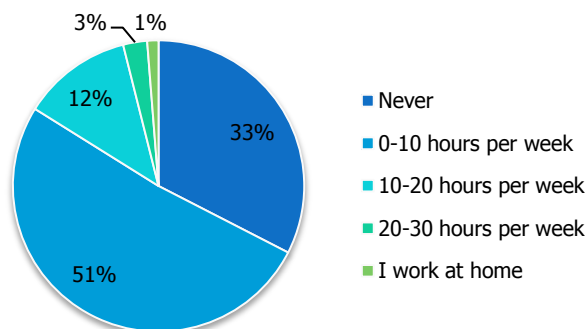


Car:
2719 CO₂/person/km

Work Patterns

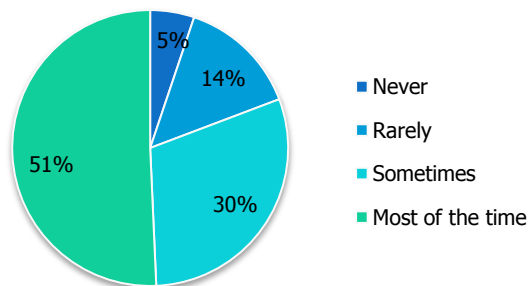
'How often do you work at home?'

Around 50% of M Moser staff responded that they occasionally take work home rather than working overtime at the office.



'Are you in the habit of recycling?'

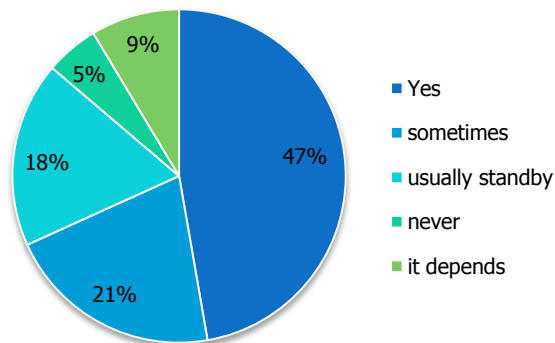
Over 80% of M Moser staff responded that they habitually recycle.



'Do you turn off your computer after work?'

Around 50% of M Moser staff responded that they switch off their computers after work.

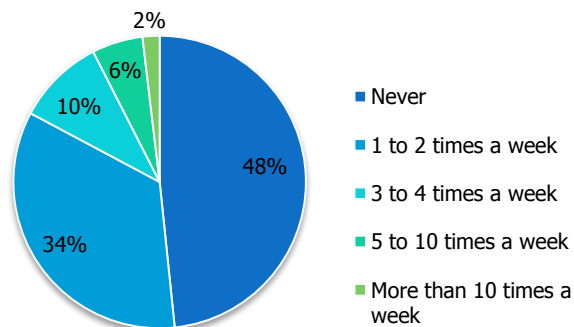
The power consumed by an 'idling' computer overnight is equal to that used by a task light burning overnight.



'How often do you use conferencing technology at work?'

Over 50% of M Moser staff use conferencing technology at work.

Frequent use of conferencing technology helps reduce carbon emissions and paper consumption.



Staff Environmental Concerns & Feedback

Recycling

- USA offices and Hong Kong office



30% of staff hope to replace desk wastebaskets with a more accessible centralised waste handling system as a method to encourage recycling.

Paper Consumption



-Singapore, Hong Kong, Shanghai and London offices

About **30%** of staff recommend tracking and sharing each employee's printing record in order to reduce paper consumption.

Indoor Air Quality

- Guangzhou and Beijing offices



35% of Guangzhou staff and **43%** of Beijing staff suggest placing more green plants in their offices, and also suggest using a natural ventilation system.

Commuting



- Kuala Lumpur and India offices

A shuttle bus service was requested by staff to reduce carbon emissions.

Work Environment

- Taipei office



45% of staff suggest that more quiet rooms and breakout spaces are needed in the office.

Housekeeping



- Shenzhen office

50% of office staff suggested that the office could be tidier and more organised by holding regular cleanup days.

Looking Ahead



Our 2012 Environmental Report paints a picture of a company that is making steady progress in reducing its environmental impact. The data from this report also provides clues to how M Moser can further improve environmental performance. Our 2012 data will be carefully analysed and assessed in internal discussions and will help determine how improvement can be achieved by M Moser globally and by individual offices.

2013

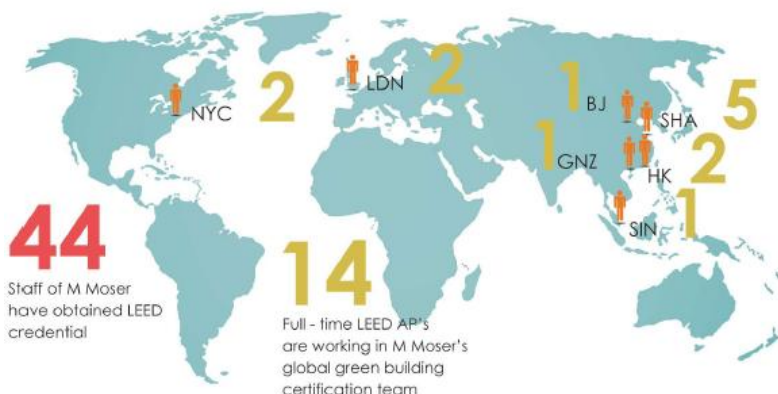
We are prepared to publish the 2013 Environmental Report at an earlier date than in previous years. The purpose of the 2011 Report was only to benchmark and track performance. However, beginning with the 2012 Report, suggestions will be set based on analysis in order to gradually improve M Moser's environmental performance. We hope to include more data and metrics for the 2013 report.

M Moser LEED Facts

1

There are currently **10** LEED-certified offices in the M Moser global network. A further two offices are in the process of being certified.

M Moser in-house LEED accredited professionals



Locations of LEED certified projects by M Moser



2

Despite a staff increase of 100 since 2011, **over 90%** of our people still work in LEED-certified offices.

3

70+ LEED-certified projects with a total **270,000 sq-m** of area have been completed world-wide by M Moser. Approximately **30%** of all LEED-certified projects in China and **25%** of all LEED-certified projects in Asia have been led by M Moser Associates.

Appendix

Office	Electricity kgCO2			Air Travel kgCO2			Vehicle kgCO2			Paper kg			Water m ³			Sick Leave days		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
Hong Kong	X	X	X	X	X	X	X	X	X	X	X	X					X	X
Taipei	X	X	X	X	X	X	X			X	X	X	X	X	X		X	X
Shanghai	X	X	X	X	X	X	X	X	X	X	X	X		X	X		X	X
Singapore	X	X	X	X	X	X				X	X	X	X	X	X		X	X
Beijing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Guangzhou	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
London		X	X		X	X					X	X		X	X		X	X
USA	New York		X	X		X					X	X					X	X
	Houston					X												
	Irvine																	
Kuala Lumpur	X	X	X	X	X	X	X	X	X	X	X	X					X	X
India	Mumbai			X														
	Bangalore																	
	Delhi		X	X		X			X		X						X	X
Shenzhen	X	X	X		X	X				X	X	X	X	X	X		X	X

Office	Electricity kgCO2			Air Travel kgCO2			Vehicle kgCO2			Paper kg			Water m ³			Sick Leave days		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
Hong Kong	176550	174202	180246	73035	161406	109224	20635	21230	20404	3245	3475	3903					465	344
Taipei	112289	58323	76609	1486	3288	4884	12598			3732	695	1050	649	279	441		27	9
Shanghai	292210	332566	377935	64893	74189	65071	29145	17233	14710	3756	4121	7212		465	464		569	605
Singapore	83939	52163	50175	55167	110894	99510				834	810	1088	790	233	94		148	154
Beijing	187913	171772	165640	47367	83376	45026	26355	27805	22731	3388	1764	8313	54	72	56		382	231
Guangzhou	61863	96417	9744	1959	9157	7834	18338	18551	18032	982	3913	900	477	414	560		92	81
London		51927	49866		24233	18539					3332	3265		222	263		116	64
USA	New York		27536	36816	13726						1293	1303					43	14
	Houston					143966												
	Irvine																	
Kuala Lumpur	15436	17659	22763	11520	21310	15652	4329	3013	3744	926	812	696					80	44
India	Mumbai			17683														
	Bangalore																	
	Delhi		79733	18616		13465			6806		474						154	3
Shenzhen	18506	20589	21013		2963	1278				128	208	425	23	43	66		28	37

These two tables show all environmental data that has been recorded in each M Moser office during the last three years. The electricity, air travel and vehicle columns each show their annual carbon emissions. Data regarding paper consumption, water consumption and sick leave days are all annual figures. If errors or mistakes in data are found, please feel free to contact us.