Remote Sensing Symposium
遥感研讨会

Programme Performance for LPG Taxi Emissions
液化石油气（LPG）出租车排放项目的表现

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捐助機構
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Remote Sensing – Programme Effectiveness for LPG Taxis
遥感 - LPG出租车项目的有效性

One of the critical assessment criteria of any emissions monitoring or enforcement programme is determination of it effectiveness.

任何排放监测或执法计划的关键评估标准之一是确定其有效性

Since 1st of September 2014 the Hong Kong Environmental Protection Department (HKEPD) have utilised Remote Sensing (RS) for monitoring the emissions of Gasoline and LPG vehicles.

自2014年9月1日起，香港环境保护署（HKEPD）利用遥感（RS）监测汽油和液化石油气（LPG）车辆的排放。

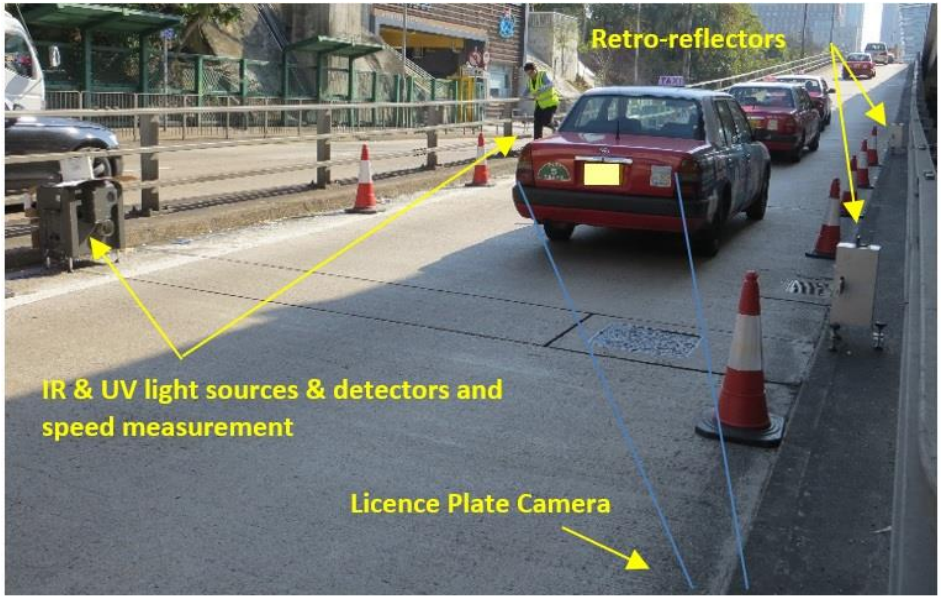
To assess the effectiveness of HKEPD emission reduction programmes, RS survey data from January 2012 to April 2017 was analysed to determine the emissions performance of Hong Kong LPG taxis.

为评估HKEPD减排计划的成效，我们分析了2012年1月至2017年4月的RS调查数据，以确定香港LPG出租车的排放表现

Remote Sensing – Programme Effectiveness for LPG Taxis
遥感 - LPG出租车的计划有效性

Over 2.2 million RS data measurements for Hong Kong LPG vehicles were recorded. These records were evaluated to assess if the speed measurement and exhaust plume measurements were valid.

香港LPG车辆的遥测数据超过220万。分析了这些数据，以评估速度和排气测量是否有效。



Remote Sensing – LPG Taxis
No. of measurements & vehicles
遥感 - LPG出租车测量和车辆数量

After filtering there were 763,863 (34.7%) valid measurements for assessment.

过滤后，有763,863（34.7%）个有效测量值用于评估。

No. of RS samples and vehicles measured in survey year

在各个调查年度测量的RS样本和车辆数量

	2012	2013	2014	2015	2016	2017
RS Samples RS样品	59,283	150,715	132,779	194,192	177,246	49,648
Vehicles 汽车	11,465	13,877	15,355	15,554	15,449	11,540

This information was assessed to determine the emissions factors over the survey period.

评估了该信息以确定调查期间的排放因子

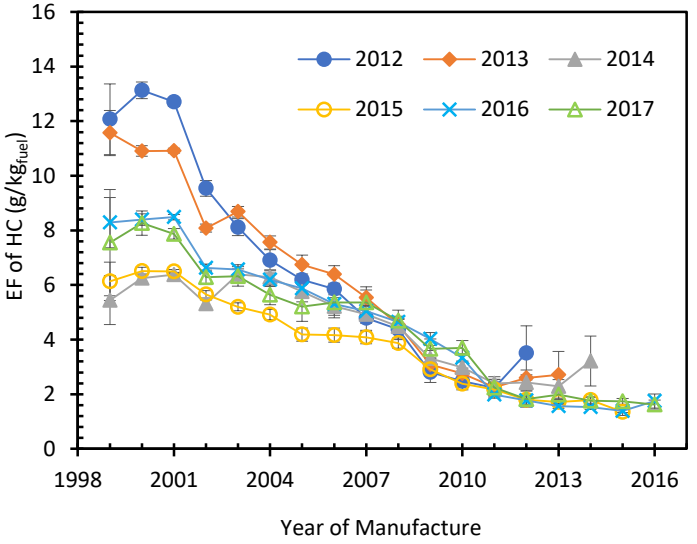
Remote Sensing – LPG Taxis
Fleet Average Emissions
遥感 - LPG出租车舰队平均排放量

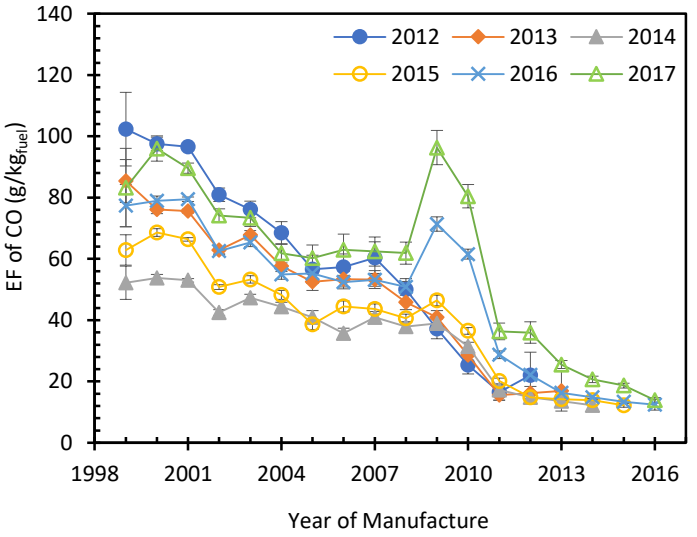
The Hong Kong LPG taxi fleet average emissions concentrations measured for each survey year

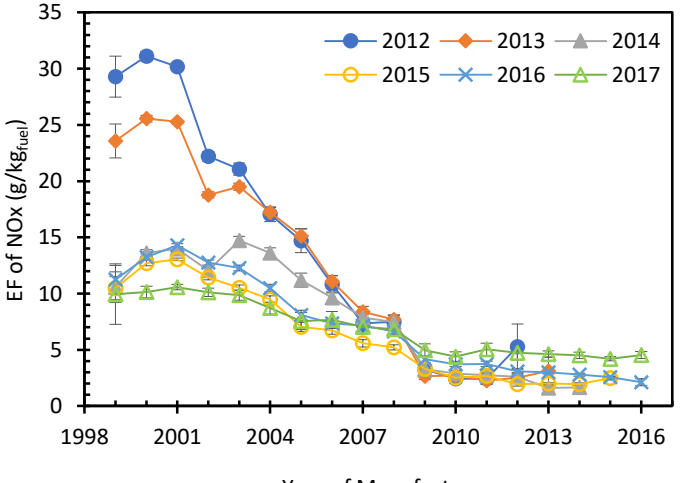
每个调查年度的香港LPG出租车车队平均排放浓度

Survey Year 调查年份	HC (ppm)	CO (%)	NO (ppm)
2012	256.5	0.648	1708.1
2013	223.5	0.515	1436.3
2014	137.8	0.355	820.7
2015	116.0	0.371	616.0
2016	126.3	0.395	607.6
2017	110.4	0.419	502.7

Remote Sensing – LPG Taxis Emissions Factors
遥感 - LPG出租车排放因子







LPG taxi Emission Factors (EF) for HC, CO and NO.

LPG出租车的HC，CO和NO排放因子（EF）。

Remote Sensing – Programme Effectiveness for LPG Taxis
遥感 - LPG出租车的计划有效性

Conclusions 结论 :

Average fleet emissions concentrations reductions from 2012 to 2017:

2012年至2017年平均车队排放浓度减少：

- HC - 57.1%
- NOx - 70.6%
- CO - 35.4%

Emissions Factors effectively show trends of LPG taxi emissions reductions and impact of control programmes.

排放因子有效地显示了LPG出租车的排放趋势和减排计划的影响

The RS programme can be used to monitor almost the entire LPG taxi fleet.

RS计划可用于监控几乎整个LPG出租车车队。

Thank you.

谢谢

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