

空氣質素指標檢討 業界諮詢會議

Review of the Air Quality Objectives (AQO)
Stakeholders Engagement Meeting

含揮發性有機化合物的消費品
VOC-containing Consumer Products

AECOM  **Environmental Protection
Department**

29 August 2017

會議議程 Agenda

1. 空氣質素指標檢討 - 背景資料

AQO Review - Background

2. 探討為現時《空氣污染管制(揮發性有機化合物)規例》規管範圍外的消費品制定揮發性有機化合物含量限值的可行性

The practicability of imposing VOC limits on consumer products that are currently not regulated under the Air Pollution Control (Volatile Organic Compounds) Regulation

3. 其他事項

Any Other Business

空氣質素指標檢討 - 背景資料

The AQO Review - Background

空氣質素指標 vs 世衛的《空氣質素指引》及中期目標

AQO vs WHO Air Quality Guidelines (AQG) and Interim Targets (IT)

綠色方格為現行空氣質素指標
Current AQOs in Green

		世衛中期目標 (微克/立方米) WHO Interim Targets (ug/m ³)			世衛《指引》 (微克/立方米) WHO AQG (ug/m ³)
		IT-1	IT-2	IT-3	
	10分鐘 min		--		500
二氧化硫 SO ₂	24小時 hr	125	50		20
可吸入懸浮粒子 RSP(PM ₁₀)	24小時 hr	150	100	75	50
	1年 Annual	70	50	30	20
微細懸浮粒子 FSP (PM _{2.5})	24小時 hr	75	50	37.5	25
	1年 Annual	35	25	15	10
二氧化氮 NO ₂	1小時 hr		--		200
	1年 Annual		--		40
臭氧 O ₃	8小時 hr		160		100
一氧化碳 CO	1小時 hr		--		30,000
	8小時 hr		--		10,000
鉛 Pb	1年 Annual		--		0.5

檢討空氣質素指標 The AQO Review

- 《空氣污染管制條例》的要求
Requirement in the Air Pollution Control Ordinance (APCO)
- 環境局局長最少每五年檢討一次
Secretary for the Environment to review at least once every five year
- 向環境諮詢委員會(環諮會)呈交檢討報告
Submit review report to the Advisory Council on the Environment (ACE)



工作展望 Action Ahead



- 建議切實可行的空氣質素改善措施(主要污染源)
- Identify Potential measures for improving air quality (Key Sources)

進行中
In progress

- 評估現時空氣質素狀況、排放估算
- Evaluation of current air quality data, emission reduction estimation, etc.



Q2
2016 –
Q3 2017

- 檢視及評估已建議的措施
- Review & Assessment of the proposed measures

Q3-Q4
2017

- 提供檢討結果初稿
- Draft the review findings



Q4 2017

- 向環境局局長匯報檢討結果
- Report to Secretary for the Environment



Mid 2018

- 向環境諮詢委員會及環境事務委員會報告
- Report to Advisory Council on Environment and LegCo EA Panel

Q3 2018

- 公眾諮詢
- Public Consultation



2019

- 建議新的空氣質素指標
- Propose New AQOs

持份者及各專家透過工作小組參與討論
Engaged experts and stakeholders to form working group

公眾參與
Public Engagement



空氣質素指標檢討工作小組

AQO Working Group



實施可行性

Practicability for Implementation



短期措施 Short term	可能在2025年或以前可見成效 Likely to produce results by 2025 or earlier
中期措施 Medium term	於下一次檢討期間再作考慮 Maybe ready for consideration in the next AOQ Review period
長期措施 Long term	需要更詳細規劃或進一步研究以確定在下一個檢討期以後的實施可行性 Require detailed planning or further study to ascertain the practicability for implementation beyond the next Review period
其他 Others	非切實可行, 不具改善空氣質素的效益或合乎是次檢討範圍 Considered as not practicable, short of air quality improvement benefits or not suitable to be considered under the current scope of the Review

揮發性有機化合物

Volatile Organic Compounds

- 在陽光下與氮氧化物產生化學作用，形成臭氧，繼而引致微粒形成。臭氧、微粒和其他污染物的積聚會形成煙霧，令能見度下降。

VOCs react with oxides of nitrogen (NO_x) in the presence of sunlight to form ozone and fine particulates. The accumulation of ozone, fine particulates and other gaseous pollutants results in **smog that reduces visibility**.

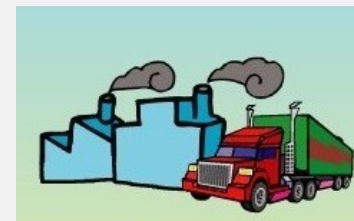
- 臭氧濃度高時可引致眼睛不適及上下呼吸道疾病，長期接觸高濃度臭氧可能令肺部組織永久受損，影響免疫系統運作。

Cause eye irritation, upper and lower respiratory disease in high ozone concentration; permanent damage to lung tissue and affect immune system in prolonged exposure.



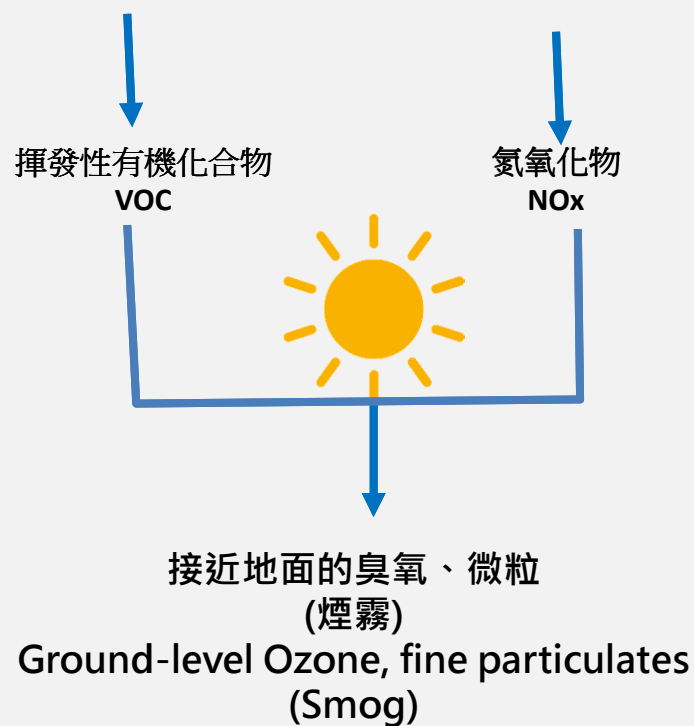
車輛、含揮發性有機化合物的產品等

Motor vehicles, VOC-containing products, etc.

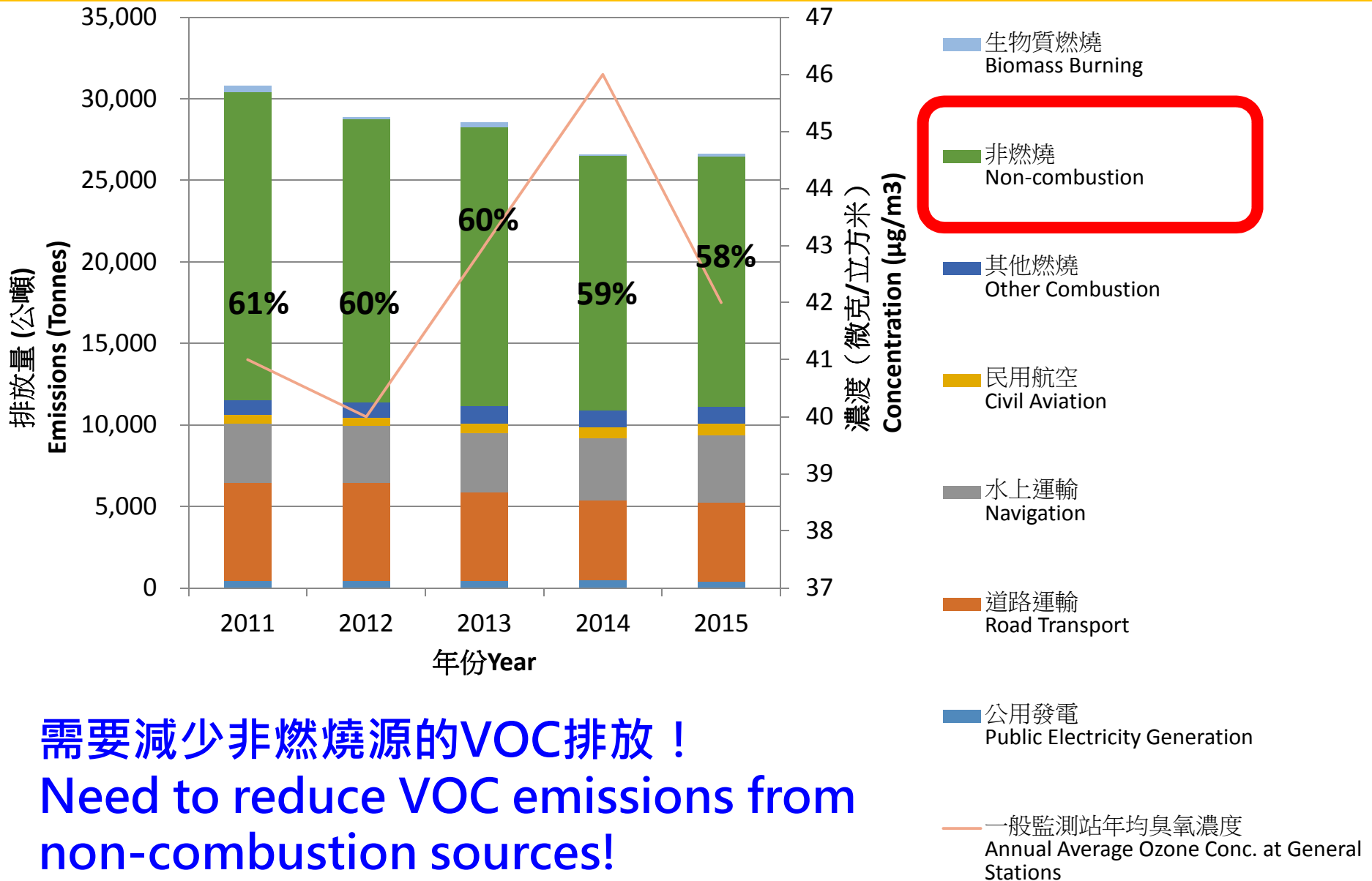


車輛、發電廠、工業程序等

Motor vehicles, power plants, industrial activities, etc.



揮發性有機化合物排放量 VOC Emissions (2011-2015)



就規管消費品的揮發性有機化合物 含量的現行管制措施

The prevailing control measures on
the VOC contents of consumer
products



《空氣污染管制(揮發性有機化合物)規例》 Air Pollution Control (Volatile Organic Compounds) Regulation (the VOC Regulation)

- 於2007年4月1日起實施
Implemented since 1 April 2007
- 分期管制包括六大種類指定消費品的揮發性有機化合物含量。

Controls the VOC contents of six selected categories of consumer products in phase.

- 空氣清新劑 air fresheners
- 噴髮膠 hairsprays
- 多用途潤滑劑 multi-purpose lubricants
- 地蠟清除劑 floor wax strippers
- 除蟲劑 insecticides
- 驅蟲劑 insect repellents

香港現時未受規管的消費品

Non-regulated consumer products in HK

包括(但不限於)

Including (but not limited to):

止汗劑 Antiperspirant	一般用途清潔劑 General Purpose Cleaner	汽車清潔劑 Motor Vehicle Wash
緊膚水/收斂水 Astringent/ Toner	多用途除油劑 General Purpose Degreaser	指甲美化清除劑 Nail Polish Remover
浴室及瓷磚清潔劑 Bathroom and Tile Cleaner	玻璃清潔劑 Glass Cleaner	清潔液 Sanitizer
香體劑 Deodorant	噴髮泡沫 Hair Mousse	剃鬚膏 Shaving Cream
消毒劑 Disinfectant	髮油 Hair Shine	剃鬚凝膠 Shaving Gel
布料保護劑 Fabric Protectant	髮型用品 Hair Styling Product	衣物除漬劑 Spot Remover
地板光油 / 光蠟 Floor Polish / Wax	衣物預洗劑 Laundry Prewash	廁所 / 尿廁護理產品 Toilet / Urinal Care Product
傢具保養用品 Furniture Maintenance Product	金屬打磨劑 Metal Polish	

其他地方做法

Control practices in other areas

美國國家環境保護局 United States Environmental Protection Agency

- 規管24類消費品的揮發性有機化合物含量
- Control the VOC contents in 24 categories of consumer products

加州空氣資源管理局 California Air Resources Board (CARB)

- 規管超過60類消費品的揮發性有機化合物含量
- Control the VOC contents in more than 60 categories of consumer products

美國的消費品揮發性有機化合物含量上限 VOC Limits of Consumer Products in the U.S.

產品種類 Product Category	加州空氣資源管理局 (重量百分比) CARB (% by wt)	美國環保局 (重量百分比) USEPA (% by wt)
止汗劑 Antiperspirant		
噴霧(高揮發性有機化合物) Aerosol (HVOC)	40	60
噴霧(中度揮發性有機化合物) Aerosol (MVOC)	10	--
非噴霧(高揮發性有機化合物) Non-aerosol (HVOC)	0	--
非噴霧(中度揮發性有機化合物) Non-aerosol (MVOC)	0	--
緊膚水/收斂水 Astringent / toner		
	35	--
香體劑 Deodorant		
噴霧(高揮發性有機化合物) Aerosol (HVOC)	0	20
噴霧(中度揮發性有機化合物) Aerosol (MVOC)	10	--
非噴霧(高揮發性有機化合物) Non-aerosol (HVOC)	0	--
非噴霧(中度揮發性有機化合物) Non-aerosol (MVOC)	0	--
消毒劑 Disinfectant		
噴霧 Aerosol	70	--
非噴霧 Non-aerosol	1	--
一般用途清潔劑 General purpose cleaner		
噴霧 Aerosol	8	10
非噴霧 Non-aerosol	0.5	10
廁所 / 尿廁護理產品 Toilet / urinal care products		
噴霧 Aerosol	10	--
非噴霧 Non-aerosol	3	--

我們的下一步

Our Next Step

是否可考慮為部分現時不受規管的消費品制定揮發性有機化合物含量上限？

Is it possible to establish VOC content limits on some consumer products that are currently not regulated?





Thank You

29 August 2017



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