Hong Kong’s POLLUTING BUSES
A Major Threat to Human Health
Commercial diesel vehicles (buses & trucks) are the most polluting vehicles on our roads.

They contribute 80-90% of all roadside PM and NOx.

Source: HK Department of Transport
Buses contribute a lot of pollution:

• 40% of roadside emissions come from buses.

• On busy main roads, franchised buses contribute:
  ■ 15% of PM
  ■ 26% of NOx

Source: Verbal Statement by Edward Yau, LegCo Panel on Environmental Affairs, 29 July 2009
How do diesel bus fumes affect our health?
Diesel bus fumes contain:

- **Particulate matter (PM),** which can cause acute and chronic lung disease.

- **Oxides of nitrogen (NOx) & volatile organic compounds (VOCs),** which are toxic and can react together in sunlight to form ground-level **ozone.**

- **Ozone (O₃) can cause respiratory difficulties and permanent lung damage.**
Laws and Regulations

- Hong Kong’s bus fleet can be divided between FRANCHISED and NON-FRANCHISED buses.
- Both classes are subject to the same regulations, but franchised buses are subject to franchise agreements which fix routes, costs and conditions of operation.
- None of these licensing frameworks set ENVIRONMENTAL STANDARDS.*

* There is a control on smoke emissions, but the assessment is based on superficial factors, which are not necessarily tied to health impacts.
Composition of bus fleet

Source: HK Department of Transport, July 2009
Why focus on franchised buses?

Being controlled by only five companies, franchised buses represent the biggest opportunity for immediate clean-up of air pollution impacting human health.

In comparison, the non-franchised bus fleet’s ownership is more fragmented and complex, making action more difficult.
Hong Kong’s franchised bus fleet

- 75% of franchised buses are OLD and DIRTY (meeting only pre-Euro, Euro I and Euro II standards).

- Only 1-5% of the buses meet Euro IV and Euro V standards (Euro VI is the cleanest diesel engine standard available right now).

- Given the current rates of retirement, bus companies will be left with heavily polluting fleets for the next 20 years.
### Hong Kong’s bus fleet composition by Euro standards

The above graph shows the Euro standards of new buses in Hong Kong’s franchised bus fleet by year (e.g. there were 53 Euro IV new buses in 2009).
What are the differences between Euro buses in terms of emissions?

An old pre-Euro diesel bus is 34 times more polluting than a new Euro V diesel bus.
The replacement of old franchised buses is too slow

• Franchise regulation states that a bus can be used for up to 18 years, making replacement of old buses very slow.
• Current legislation requires that new buses be Euro IV or higher.

Some of the oldest, dirtiest buses will be on our roads until 2019:
• all pre-Euro and Euro I buses will be retired by 2012 and 2015, respectively
• all Euro II buses will be retired by 2019
Replacement is slower than in other cities

Hong Kong’s replacement scheme can be considered backwards when compared to cities with similar economic backgrounds, such as Singapore.

Singapore: 20% of its bus fleets are Euro IV or above

HK: Only 1-5% of buses are Euro IV or above standard

Our city will be heavily polluted for at least another 10 years

Other cities' policies:
2. Beijing— increased it’s fleet by 50 electric buses and 860 hybrid buses.
3. London— will launch 90 hybrid buses in 2011 and the whole bus fleet will meet the Euro IV standard before 2015.
What should the Hong Kong Government do?

We urge the Government to:

- Eliminate older, more polluting buses from the streets as soon as possible by:
  - Setting an earlier date by which ALL buses must meet stricter mandatory emissions standards (Euro III is currently being proposed);
  - Mandating the early retirement of all pre-Euro, Euro I and Euro II buses by a fixed date.

- Adopt a significant percentage of hybrid/clean-tech buses by a fixed date.
What should the Government do?

• Review the bus franchise agreements to:
  – Incorporate *environmental performance standards*.
  – Offer *variable franchise time lengths based on the use / disuse of environmentally friendly bus technologies* (i.e., longer franchises granted for major capital green investments by bus companies).
  – **Conduct a “green competition” for franchise agreements.** Namely, the use of more efficient vehicles and environmentally friendly policies as part of the bidding criteria.

• **Reduce or waive** the Transport Department’s annual license for buses that meet Euro IV and above standard.

• **Charge higher licensing fees** for vehicles that are below Euro III standard.