



Low Emission
Strategies
Building on Good Practice

The Low Emission Toolkit

Regional Coordinators Meeting

27 July 2011

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LES Partnership

Introducing the Toolkit

Worked example

National significance

Next Steps

Reducing Transport Emissions by ...



Low Emission Strategies

Building on Good Practice

... working across environment, planning, transport and procurement sectors ...

... supporting and delivering sustainable transport ...

... accelerating the adoption of low emission fuels and technologies.



A partnership of local authorities working to reduce road transport emissions - tackling air pollution and climate change.

INFLUENCING POLICY

PROMOTING BEST PRACTICE

DELIVERING PROJECTS

www.lowemissionstrategies.org

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Low Emissions Toolkit

Version 1.0: Final phase 1 tool presented as a Beta version for controlled trial by external users and in-house testing and proving.



Application 1 Technology Guidance

Application 2 Fleet Tool

Application 3 Development Tool

Aims	Describe technology available in 2010-2015 market. Provide comparative information at vehicle level on emissions (PM10, NOX and GHG), performance, costs and logistical issues. Flag important co-factors.	Provide analysis of costs and benefits of adopting green fleet options in the future (2010-15). Including emissions reductions (PM10, NOX and GHG), damage impacts (where possible) and associated marginal costs. Tailored to characteristics of a specific fleet.	Provide analysis of costs and benefits of Low Emission Strategies for development sites (e.g. through section 106 agreements). Including emissions reductions (PM10, NOX and GHG), damage impacts (where possible) and associated marginal costs.
Purpose	Enable an informed debate and to help users ask the right questions and be aware of all the options.	Provide easy to use scenario tool for fleet operators considering green fleet renewal/procurement strategies	Provide easy to use scenario tool for planning officers to aid design /justification of planning based LES
Example query	I'm a local authority environment manager and I want to have an informed discussion with the LA fleet manager regarding pros and cons of specific vehicle technologies.	I'm a local authority fleet manager, with 300 transit vans, and a renewal rate of 20% per year. What low emission vehicle technologies are available, what is the cost increment and what are the emissions benefits compared with continuing as business as usual?	I'm a local authority planning officer, assessing a proposed development of 300 new houses. What are the transport emissions impacts of this proposal? What transport emission reduction measures could I negotiate through a section 106 agreement and what benefits would they bring? What emissions remain for consideration?

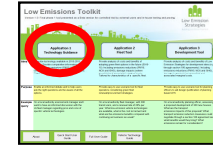
About

Quick Start User Guide

Full User Guide

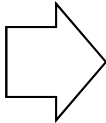
Vehicle Technology Guide

TECHNOLOGY GUIDANCE (Application 1)

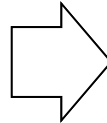


Compare individual vehicles

Select vehicles



Compare emissions, costs, etc.



Output results

Vehicle select

Filter selection by:

Drive train:

Category:

Fuel:

Size:

Particle trap:

Registration year:

Euro class:

Select Vehicle

- Small car, <1.4 l, Full Hybrid, Petrol
- Small car, 1.4-2 l, Full Hybrid, Petrol
- Small car, >2.0 l, Full Hybrid, Petrol
- Large car, All, Full Hybrid, Petrol
- LGV <1.3 t, All, Full Hybrid, Petrol
- LGV 1.3-1.8 t, All, Full Hybrid, Petrol
- LGV >1.8 t, All, Full Hybrid, Petrol
- Small car, <1.4 l, Mild Hybrid, Petrol
- Small car, 1.4-2 l, Mild Hybrid, Petrol
- Small car, >2.0 l, Mild Hybrid, Petrol

Select Cancel

Comparison of new technology vehicles

Legend:

- Small car, 1.4-2 l, Full Hybrid, Petrol
- Small car, 1.4-2 l, Internal Comb. Biomethane
- Small car, 1.4-2 l, Stop-start, Petrol
- Small car, 1.4-2 l, Internal Comb. Euro 4/IV, Diesel

Return to input

B30 HGV

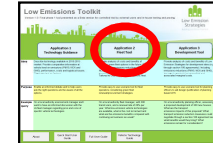
Overview: 30% biodiesel in a conventional diesel engine vehicle.

- Technological Maturity:** This technology is widespread, and has reached mass scale exploitation.
- Co-Benefits:** lower polluting if spilled, reduced shelf-life
- Practicability:** There are few, but plural manufacturers for this vehicle type. Few or no specific / additional safety implications compared to standard vehicles. There are few public refuelling stations, operators will require their own depot to refuel vehicles. Fuel is available for depot delivery.

	Per km	Annual
GHG (g) (WTW)	818.58	40928943
NO _x (g)	3.0075	150376
PM (g)	0.0257	1285
Capex (£ per veh)	-	48000
Maintenance (£)	0.1286-0.2318	2572-4630
Refuelling Infrastructure (Total Cost in £)/(Cost per veh in £)	£10,000-£12,000 total (20,000 tanks) / £106-£200 per vehicle	

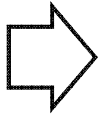
All figures are derived from a per km basis. Annual figures are based on 50,000km p.a.

FLEET TOOL (Application 2)



Assess options for replacing fleets

Describe current fleet



Review baseline



Compare alternatives

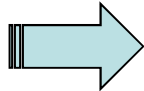


X 10

10,000 km / year

X 3

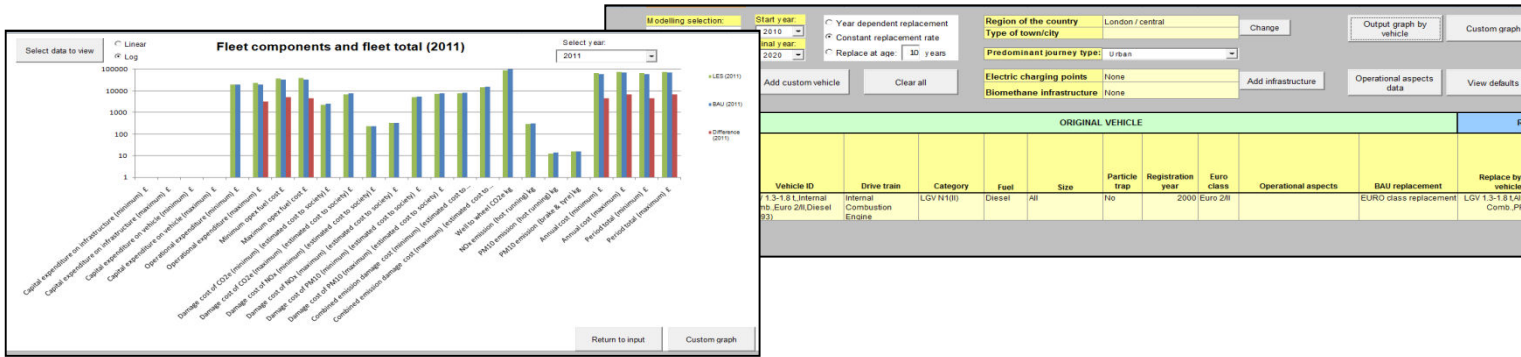
30,000 km / year



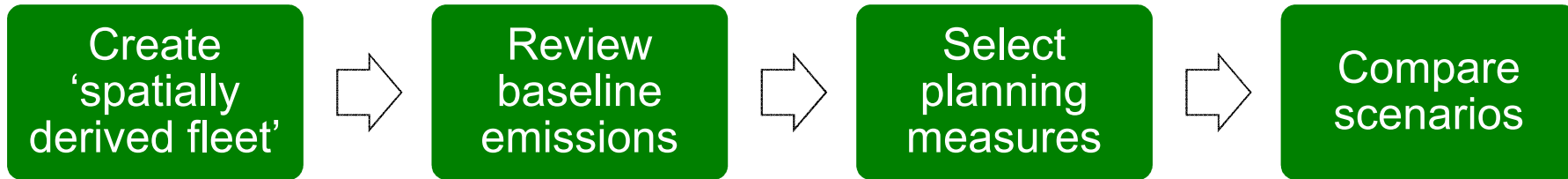
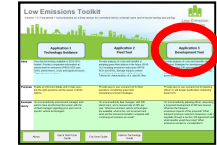
$$\text{Dist} \times \text{EF} = \text{Emissions}$$

↓

Costs



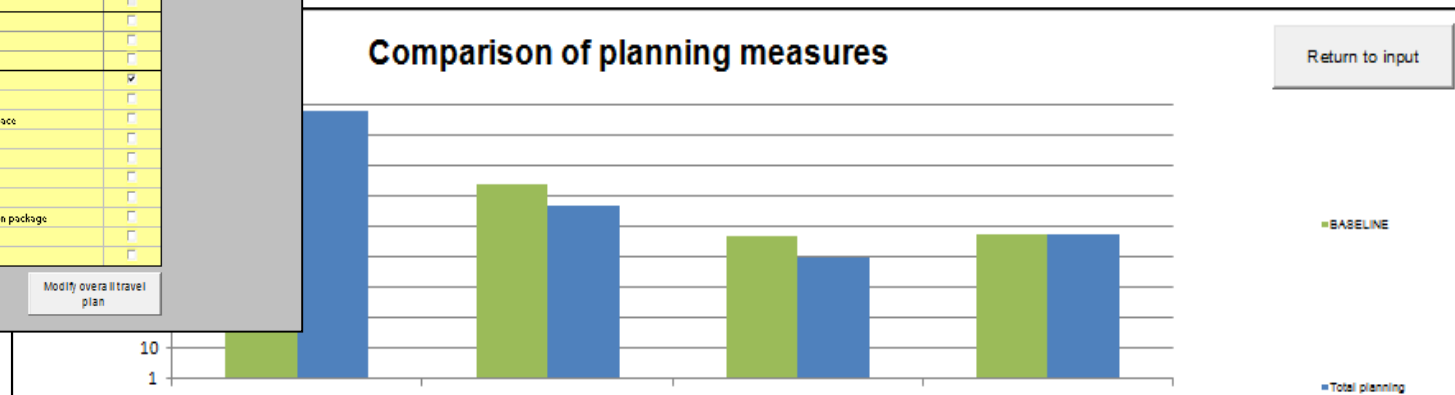
DEVELOPMENT TOOL (Application 3)



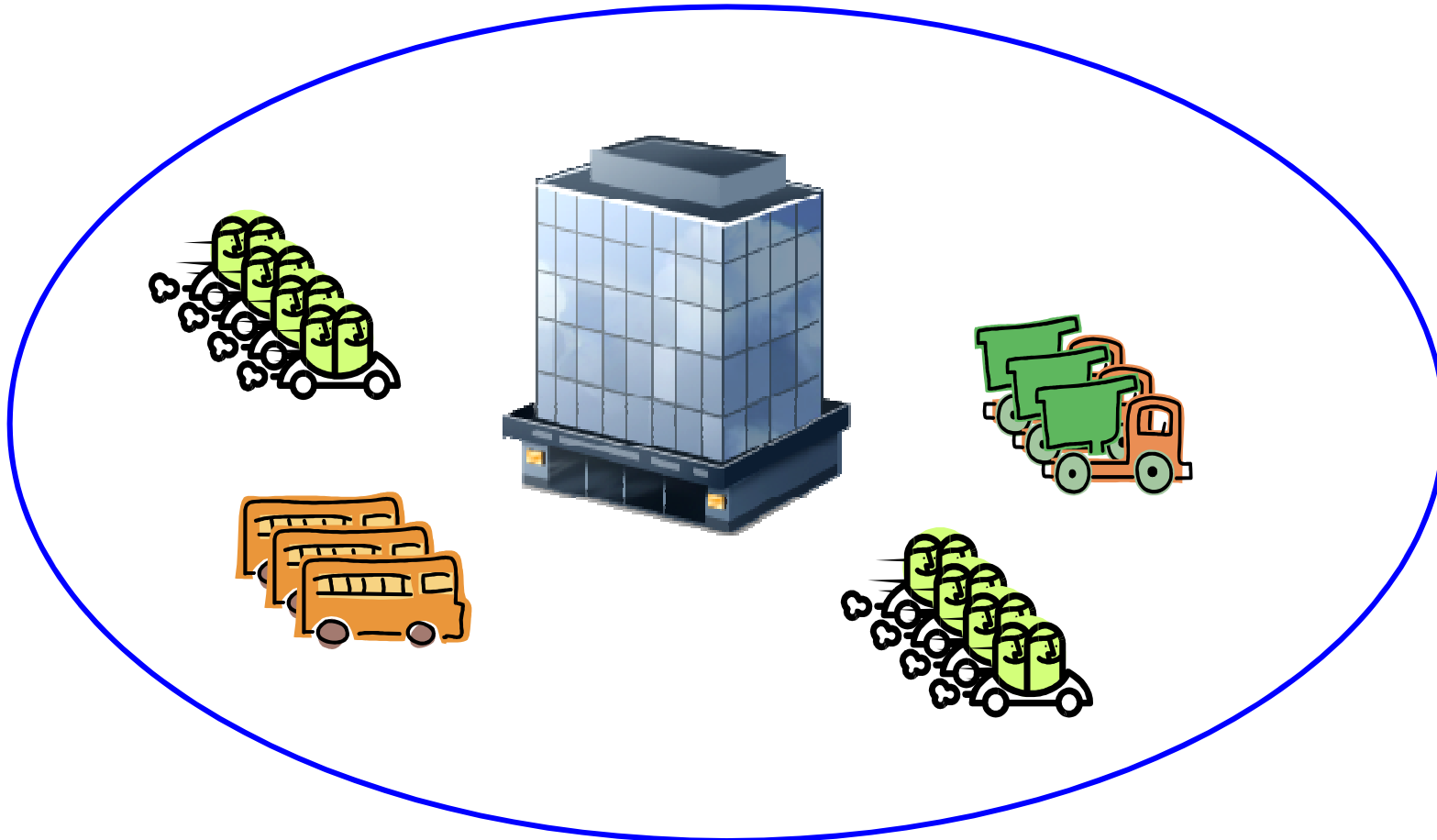
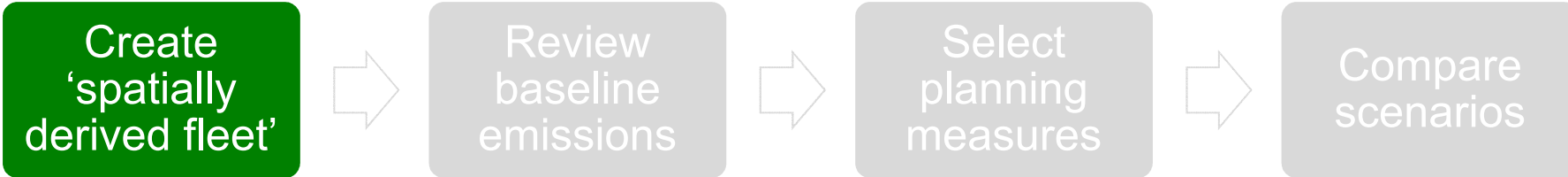
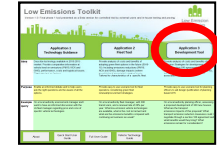
No.	Component name	Predominant journey type	Development type
	Shopping Centre	Urban	Non-residential

Measure type	Sub-category	Use
Vehicle substitution / deployment	Fleet/Pool cars	<input type="checkbox"/>
	Service fleet	<input type="checkbox"/>
	Public transport fleet	<input checked="" type="checkbox"/>
<input type="button" value="Specify impact"/>		
Fleet transformation incentives	Site based-low emission zone	<input type="checkbox"/>
	Emission based parking allocation	<input checked="" type="checkbox"/>
<input type="button" value="Specify impact"/>		
Provision of low emission infrastructure	Electric charging points	<input checked="" type="checkbox"/>
	Biometane infrastructure	<input type="checkbox"/>
Car clubs	Standard car club	<input type="checkbox"/>
	Low emission car club	<input type="checkbox"/>
User-based charging	Congestion charging	<input type="checkbox"/>
	Emission based parking charges	<input type="checkbox"/>
	Emission based user charging	<input type="checkbox"/>
Travel plans	Parking restraint	<input checked="" type="checkbox"/>
	Parking charges	<input type="checkbox"/>
	Cash-out for not using parking space	<input type="checkbox"/>
	Car sharing	<input type="checkbox"/>
	Public transport	<input type="checkbox"/>
	Walking	<input type="checkbox"/>
	Cycling	<input type="checkbox"/>
	Local recruitment and/or relocation package	<input type="checkbox"/>
	Personalised travel planning	<input type="checkbox"/>
	Home working	<input type="checkbox"/>
<input type="button" value="Modify overall travel plan"/>		

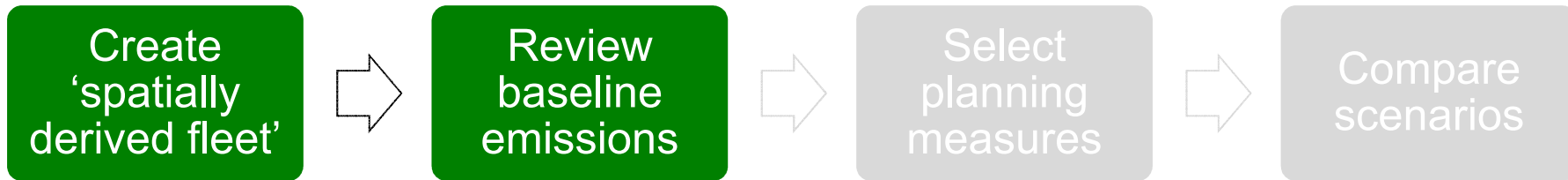
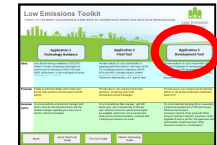
Estimate transport emissions from development sites
Assess abatement options



DEVELOPMENT TOOL (Application 3)



DEVELOPMENT TOOL (Application 3)

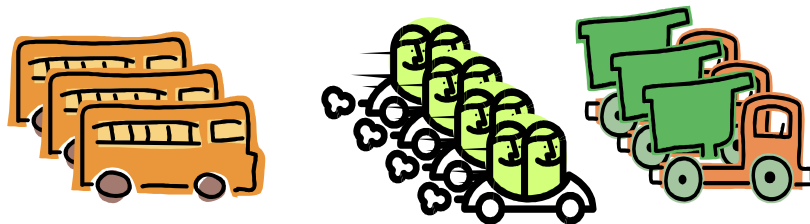


Land use?

Geographical area?

Size of Development?

Toolkit defaults



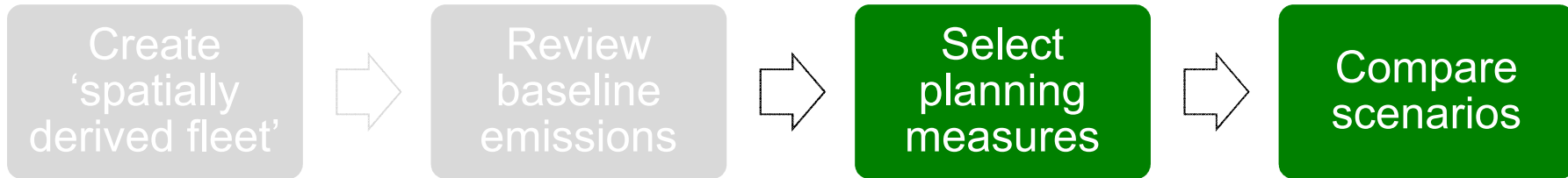
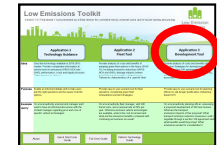
X 10	10,000 km / year
X 3	30,000 km / year

$$\text{Dist} \times \text{EF} = \text{Emissions}$$

↓

Costs

DEVELOPMENT TOOL (Application 3)



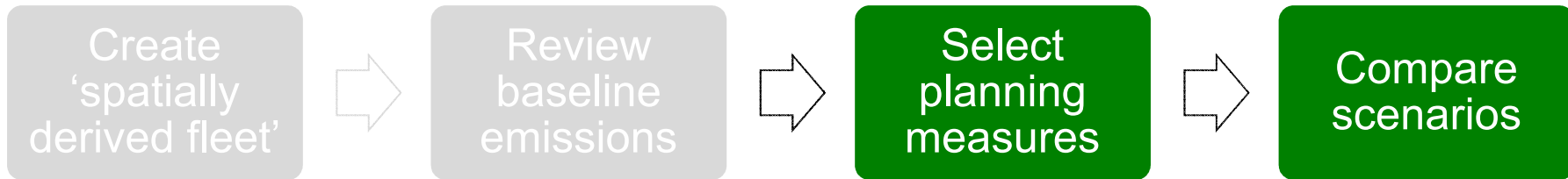
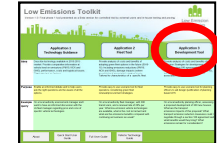
MEASURE	
Vehicle Substitution	Fleet/Pool Cars
	Service Fleet
	Public transport fleet
Fleet Transformation	Site based-LEZ
	Emission based parking
Low Emission Infrastructure	Electric charging points
	Biomethane infrastructure
Car Clubs	Standard Car Club
	Low Emission Car Club
Travel Plan	Multiple interventions
User-based Charging	Congestion Charging
	E based parking charges
	E based user charging

Reduce
(Trips / Distance)

Shift
(to less polluting mode)

Improve
(emission performance)

DEVELOPMENT TOOL (Application 3)



		<i>Car sharing</i>	<i>Standard Car Club</i>	<i>Site Based Low Emission Zone</i>
Fleet Element	Baseline	Reduce	Shift	Improve
Cars	1,000,000 km	500,000 km	500,000 km	1,000,000 km
Buses	2,000 km	2,000 km	3,000 km	2,000 km
HGVs	1,000 km	1,000 km	1,000 km	500 km Euro IV 500 km Biomethane

Distance Travelled (km) **X** **Emission Factor (tonnes/km)** = **Total Emissions (tonnes)** → **Damage Cost (£s)**



Low Emission
Strategies
Building on Good Practice

Underlying principles

- Transparent
- Flexible
 - For purpose
 - Data and assumptions
 - For future development
- Promote action



LES Partnership

Introducing the Toolkit

Worked example

National significance

Next Steps

LES Partnership

Introducing the Toolkit

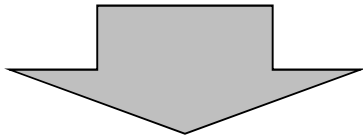
Worked example

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Next Steps

Making the case for action

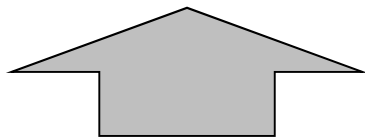
Top Down – National Emissions Projections



**Council Fleet
Management**

**Planning and
Development
Control**

**Area-wide
transport
emissions
management**



Bottom up – approx 100 Case Studies plus Low Emission Toolkit

**Council Fleet
Management**

**30% emissions
reduction for all
Council Managed
Fleets**

**£19.1 Million
damage costs
avoided each year**

**Planning and
Development
Control**

**40% emissions
reduction for all
new development
sites**

**£15.9 Million
damage costs
avoided each year**

**Area-wide transport
emissions
management**

**20% emissions
reduction across
AQMA**s

**£1.3 Billion
damage costs
avoided each year**

=> Impact on Ambient Air Quality?

www.lowemissionstrategies.org

- Tools and Resources / Discussion Papers

LES Partnership

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Next Steps

Testing, development, release

- 2010 AQ Grant – further testing and development
- User testing of Version 1.0
 - Signing up Local Authorities
 - Exploring potential for ‘resourced case studies
- Development priorities / tweaks
 - Full release of Version 1.1
- Review options for developing Version 2.0



What's next for the Partnership?



- Funding through to end of 2011
 - Low Emission Toolkit
 - Low Emission Strategies Assessment Method
- New project bids
 - Impacts of Low Emission Strategies on concentrations
 - The Low Emissions Hub
- ***The right time for a Partnership***

More information



- Speak to me / email: katherine@green-sphere.co.uk
- Contact the Partnership: info@lowemissionstrategies.org
- LES Website: www.lowemissionstrategies.org
- Sign up to LES Newsletter

