
ANNEX A

ROADMAPS

The chapter has four roadmaps, setting out projected CO₂ emissions reductions for each sector set out in this strategy (homes, workplace and transport), along with those projected from energy supply. It also sets out assumptions behind those projections. Achievement of these projections is dependent upon additional private sector funding and commitment from government, and annex B sets out the actions required to deliver these reductions.

Energy supply CO₂ emissions reduction roadmap

		2015	2020	2025
Projected CO ₂ emissions under Business as Usual (MtCO ₂ per year)		34.01	33.50	33.25
Projected CO ₂ emissions reductions from committed government action (MtCO ₂ per year)		1.99	3.87	4.52
Projected CO ₂ emissions reductions from committed Mayoral action (MtCO ₂ per year)		0.23	1.46	3.20
Projected CO ₂ emissions reductions from further government action (MtCO ₂ per year)		0.87	1.62	3.90
Projected CO ₂ emissions from energy supply (MtCO ₂ per year)		30.93	26.55	21.63
Assumptions on Mayoral activity to meet targets	Percentage of energy demand in 2025 from homes and workplaces that is from decentralised energy	5.6 per cent	14.8 per cent	25 per cent
	Energy from micro-generation	532 GWh	3,206 GWh	5,856 GWh (major contribution from photovoltaics)
	Energy from small-scale DE <5MWe	272 GWh	668 GWh	1,102 GWh (primarily gas CHP)
	Energy from medium-scale DE <40MWe	979 GWh	2,033 GWh	3,148 GWh (primarily energy-from-waste gasification)
	Energy from large-scale DE >40MWe	641 GWh	5,102 GWh	13,375 GWh (primarily CCGT CHP)
Government action required to meet targets	Grid carbon intensity under 'extended ambition scenario' (including loss factor)	437g CO ₂ /kwh	323g CO ₂ /kwh	152g CO ₂ /kwh

Homes sector CO₂ emissions reduction roadmap

		2015	2020	2025
Projected CO ₂ emissions under Business as Usual (MtCO ₂ per year)		14.89	14.49	14.55
Projected CO ₂ emissions reductions from committed government action (MtCO ₂ per year)		1.32 0.64 - energy efficiency 0.68 - energy supply	2.56 1.24 - energy efficiency 1.32 - energy supply	2.92 1.38 - energy efficiency 1.54 - energy supply
Projected CO ₂ emissions reductions from committed Mayoral action (MtCO ₂ per year)		0.71 0.63 - energy efficiency 0.08 - energy supply	2.01 1.51 - energy efficiency 0.50 - energy supply	2.91 1.82 - energy efficiency 1.09 - energy supply
Projected CO ₂ emissions reductions from further government action (MtCO ₂ per year)		0.30	0.55	1.33
Projected CO ₂ emissions from homes (MtCO ₂ per year)		12.56	9.37	7.39
Assumptions on activity to meet Mayoral targets	Homes reached through RE:NEW	1.2 million homes retrofitted	2.4 million homes retrofitted	2.9 million homes retrofitted
	Measures installed through RE:NEW targets	9 million easy measures installed 1.7 million installations of loft and cavity wall insulation 60,000 installations of solid wall insulation	11.4 million easy measures installed 1.7 million installations of loft and cavity wall insulation 586,000 installations of solid wall insulation	15.7 million easy measures installed 1.7 million installations of loft and cavity wall insulation 731,000 installations of solid wall insulation

<p>Actions by government and other stakeholders required to meet targets</p>	<ul style="list-style-type: none">• Green Deal in place by 2012 and rolled out in London to pay for more expensive measures• Government adopts Mayor's proposals for the Green Deal• Requirements for private landlords, local authorities and registered social landlords to improve the energy efficiency of their properties• Regional target for the Energy Company Obligation• Planning conditions allow for visible energy efficiency measures to be installed on homes, whilst preserving historical buildings• Improved public awareness and perception of solid wall insulation	<ul style="list-style-type: none">• PAYS model actively marketed by 2015 to households to pay for more expensive measures	<ul style="list-style-type: none">• PAYS model continues
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Workplaces sector CO₂ emissions reduction roadmap

		2015	2020	2025
Projected CO ₂ emissions under Business as Usual (MtCO ₂ per year)		17.96	17.88	17.60
Projected CO ₂ emissions reductions from committed government action (MtCO ₂ per year)		1.92 0.75 - energy efficiency 1.17 - energy supply	4.28 2.02 - energy efficiency 2.26 - energy supply	4.76 2.11 - energy efficiency 2.65 - energy supply
Projected CO ₂ emissions reductions from committed Mayoral action (MtCO ₂ per year)		0.36 0.22 - energy efficiency 0.13 - energy supply	1.25 0.40 - energy efficiency 0.86 - energy supply	2.44 0.57 - energy efficiency 1.87 - energy supply
Projected CO ₂ emissions reductions from further Mayoral action (MtCO ₂ per year)		0.00	1.44	2.44
Projected CO ₂ emissions reductions from further government action (MtCO ₂ per year)		0.51	0.95	2.29
Projected CO ₂ emissions from workplaces (MtCO ₂ per year)		15.17	9.95	5.67
Assumptions on Mayoral activity to meet targets	SME support		25,000 SMEs supported	50,000 SMEs supported
	RE:FIT	1.6 million m ² of public sector floorspace retrofitted	<ul style="list-style-type: none"> • 6.3 million m² of public sector floorspace retrofitted • Establishment of private sector RE:FIT programme - 27 million m² of private sector floorspace retrofitted 	<ul style="list-style-type: none"> • 11 million m² of public sector floorspace retrofitted • 44 million m² of private sector floorspace retrofitted

Government action required to meet targets	<ul style="list-style-type: none">• National RE:FIT programme office established• More up-front financial assistance made available to support businesses, including through the Green Deal	All government departments in London have retrofitted their estates using RE:FIT	
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Transport sector CO₂ emissions reduction roadmap

		2015	2020	2025
Projected CO ₂ emissions under Business as Usual (MtCO ₂ per year)		9.11	8.61	8.02
Projected CO ₂ emissions reductions from committed government action (MtCO ₂ per year)		0.40 0.27 - energy efficiency 0.14 - energy supply	0.77 0.49 - energy efficiency 0.28 - energy supply	0.80 0.48 - energy efficiency 0.33 - energy supply
Projected CO ₂ emissions reductions from committed Mayoral action (MtCO ₂ per year)		0.17 0.16 - energy efficiency 0.02 - energy supply	0.38 0.27 - energy efficiency 0.11 - energy supply	0.49 0.26 - energy efficiency 0.23 - energy supply
Projected CO ₂ emissions reductions from further Mayoral action (MtCO ₂ per year)		0.00	0.00	1.07
Projected CO ₂ emissions reductions from further government action (MtCO ₂ per year)		0.27	0.47	0.71
Projected CO ₂ emissions from transport (MtCO ₂ per year)		8.27	7.00	4.95
Assumptions on Mayoral activity to meet targets	Mode shift	<ul style="list-style-type: none"> • Deliver further Cycle Superhighways 	<ul style="list-style-type: none"> • Completion of Crossrail in 2017 • Ongoing delivery of public transport improvements including London Underground upgrades 	<ul style="list-style-type: none"> • Ongoing delivery of public transport improvements including Underground upgrades
	Operational efficiency	<ul style="list-style-type: none"> • Continued rollout and promotion of eco-driving programmes 	<ul style="list-style-type: none"> • 50 per cent of HGVs and vans serving London to be members of FORS by 2016 	

	Low carbon vehicles, technologies and fuels	<ul style="list-style-type: none"> • Introduce electric vehicles into the GLA group fleet • Deliver electric vehicle charge points 		<ul style="list-style-type: none"> • Reach the milestone of 100,000 electric vehicles on London's roads as soon as possible
Government action required to meet targets		<ul style="list-style-type: none"> • Average emissions of new cars to be no more than 130g CO₂/km by 2015 	<ul style="list-style-type: none"> • Average emissions of new cars to be no more than 95g CO₂/km by 2020 • Renewable Energy and Fuel Quality directives: Ten per cent of transport's energy requirement to come from a renewable source by 2020 	<ul style="list-style-type: none"> • Continued rollout of electric vehicle charging infrastructure