

Sustainable Urban Infrastructure

London edition –
a view to 2025

October 8, 2008

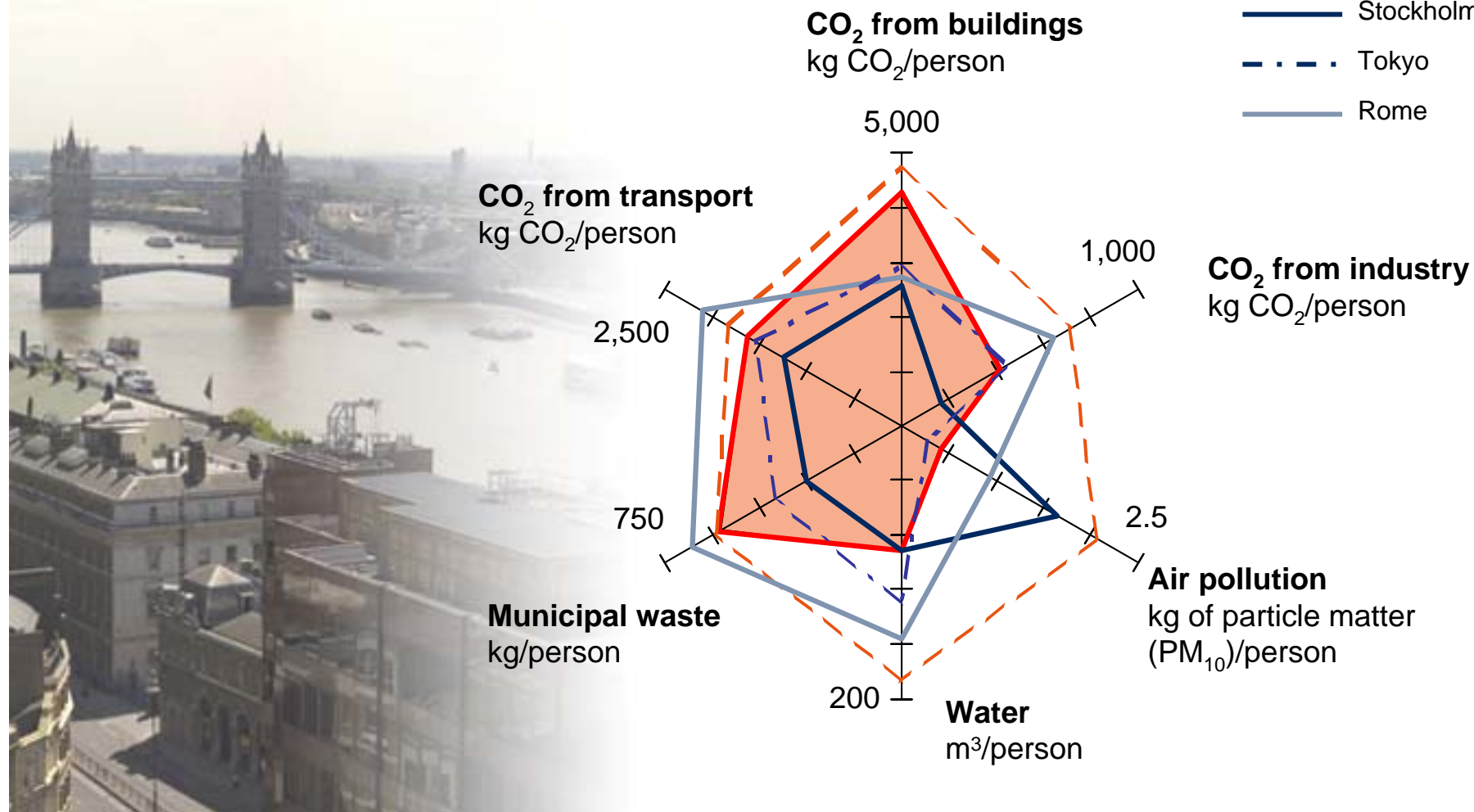


McKinsey&Company

There are substantial variations in cities' environmental footprints

Values per year (2005 or most recent available before)

- London
- - - New York City
- Stockholm
- . - . Tokyo
- Rome



Sustainable Urban Infrastructure – key findings for London 2025

Greenhouse gases

- 1 International targets for greenhouse gas reduction are achievable through technological levers without a significant change in lifestyle
- 2 The majority of technologies pay back the required upfront investment through energy savings
- 3 Around 75% of the abatement potential lies in the hands of individuals or businesses who make technological choices
- 4 The total investment required constitutes less than 1% of GVA

Water

- 5 Technologies for water demand reduction could achieve 20% savings by 2025

Waste

- 6 Given the high and rising landfill tax, alternative (and more sustainable) technologies become economically attractive

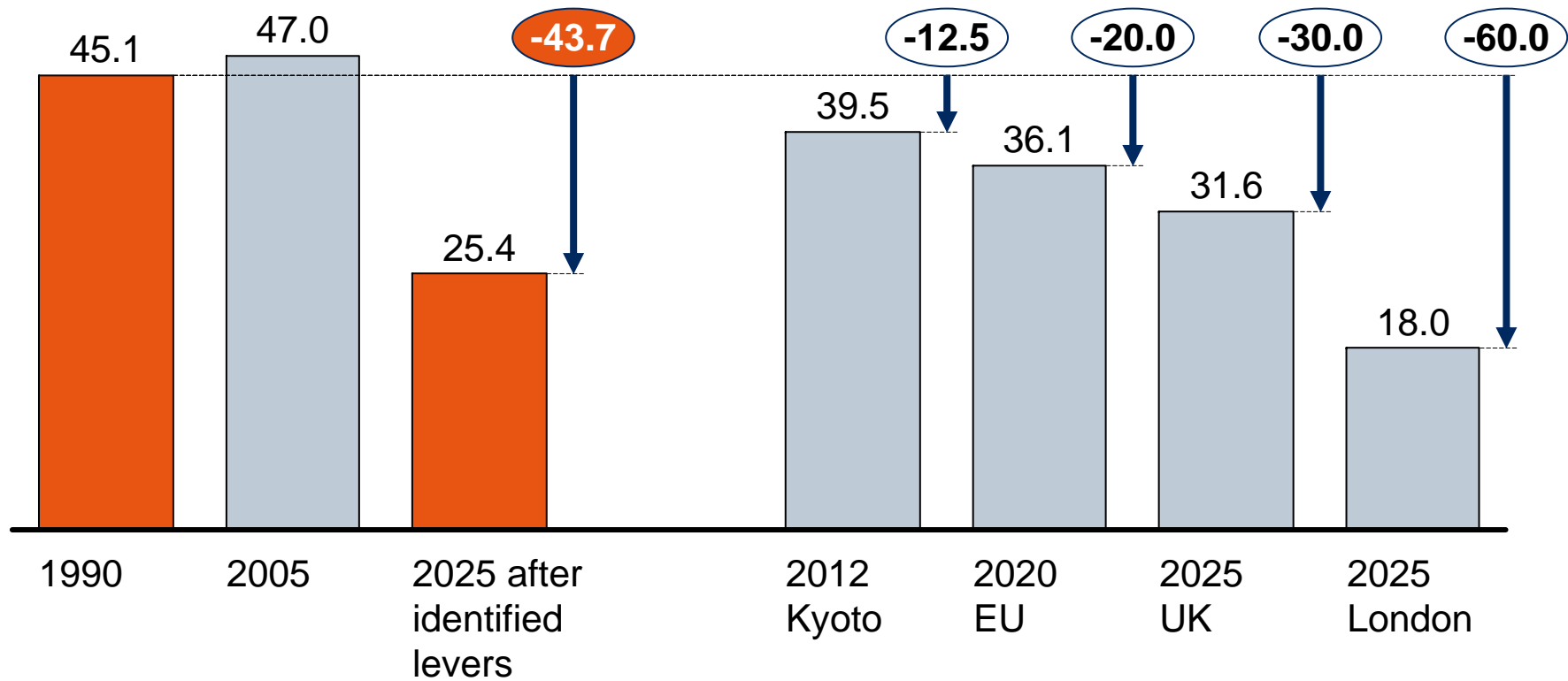
In London, international targets for greenhouse gas reduction are achievable through technological levers

Mt CO₂

○ Reduction*
Percent

London emissions

Targets



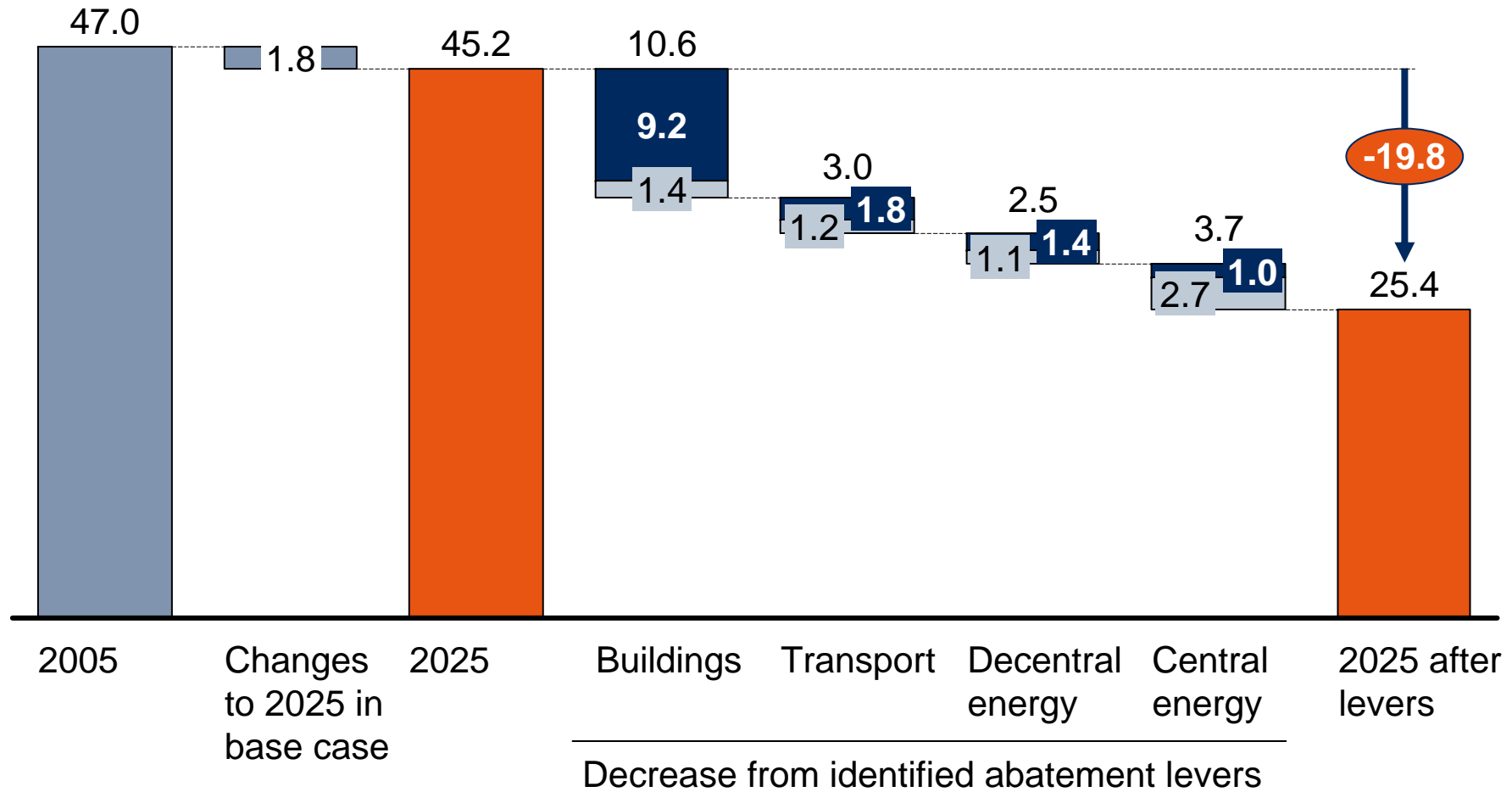
* Compared to 1990 emissions

Source: McKinsey & Company

The biggest contribution to London's abatement potential comes from buildings

Mt CO₂

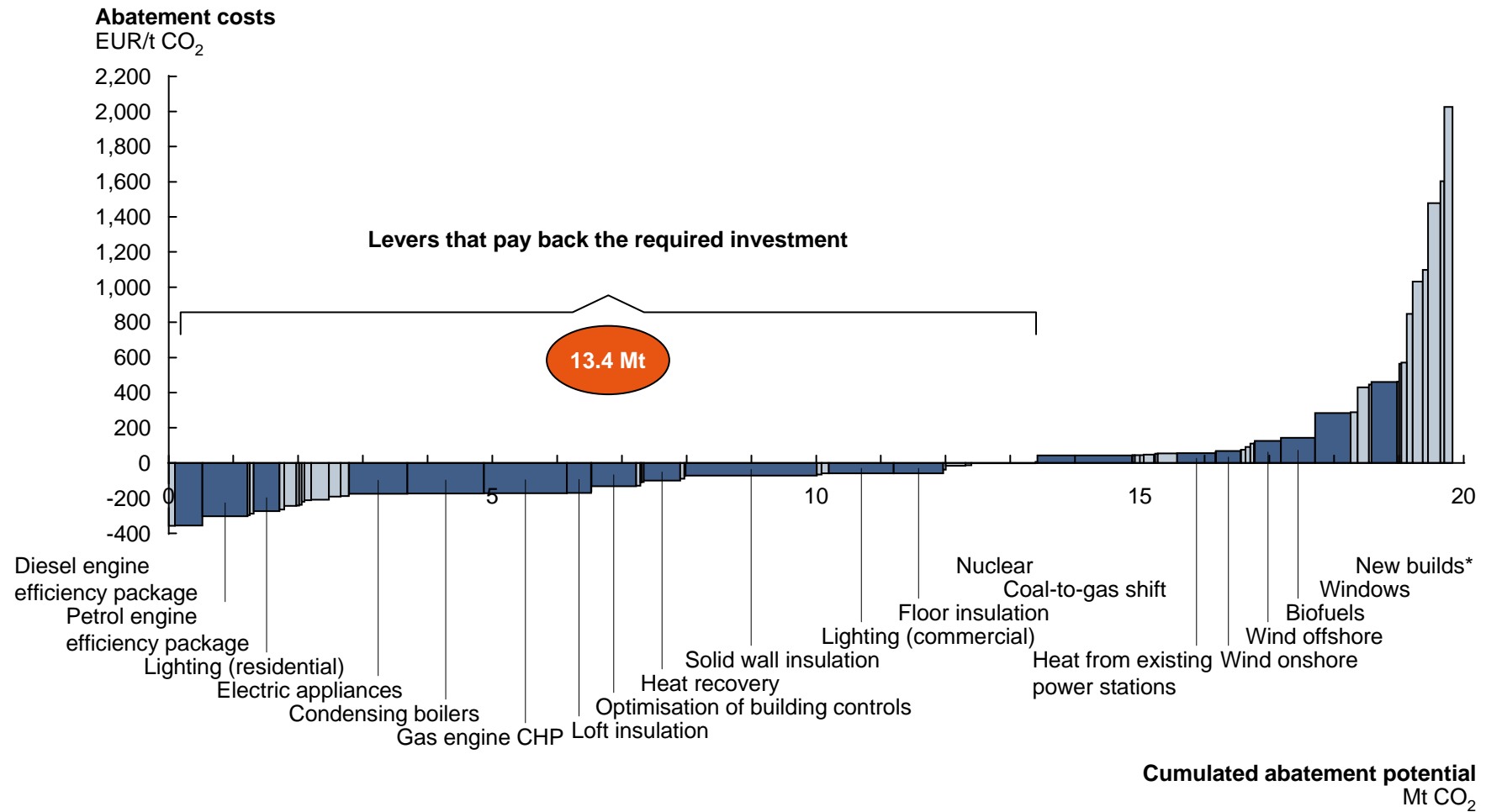
■ Cost < 0 EUR/t CO₂*
 ■ Cost > 0 EUR/t CO₂*



* Decision maker perspective
 Source: McKinsey & Company

The majority of technologies pay back the required upfront investment through energy savings

Greenhouse gas abatement cost curve for London 2025 (decision maker perspective)



* With 30% higher energy efficiency than efficient buildings today

Source: McKinsey & Company

Around 75% of the abatement potential lies in the hands of individuals or businesses who make technological choices

Percent

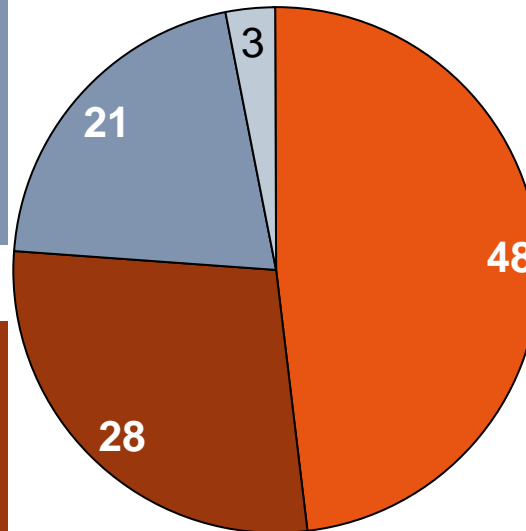
National level

Examples:

- Biofuels
- Central electricity supply (grid mix)



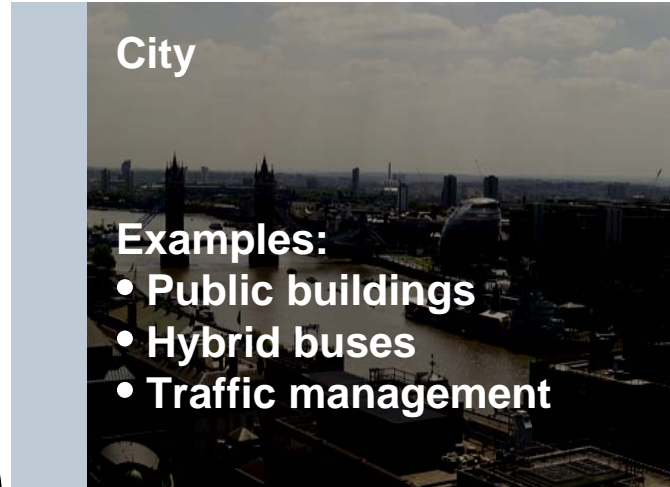
Total: 19.8 Mt CO₂



City

Examples:

- Public buildings
- Hybrid buses
- Traffic management



Businesses

Examples:

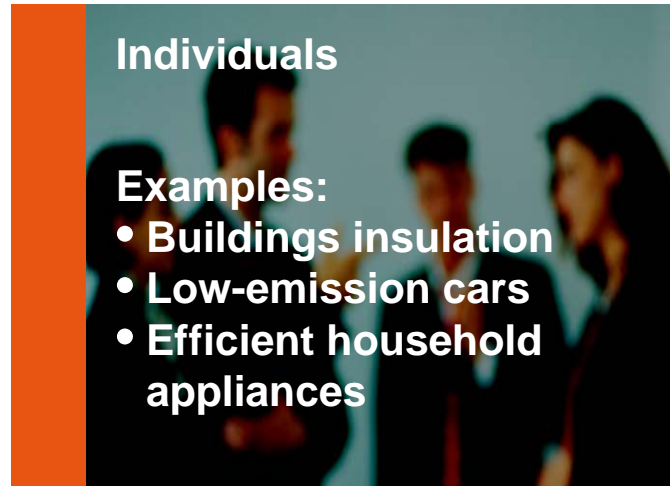
- Lighting in commercial buildings
- Cooling displays
- Decentral energy (CHP)



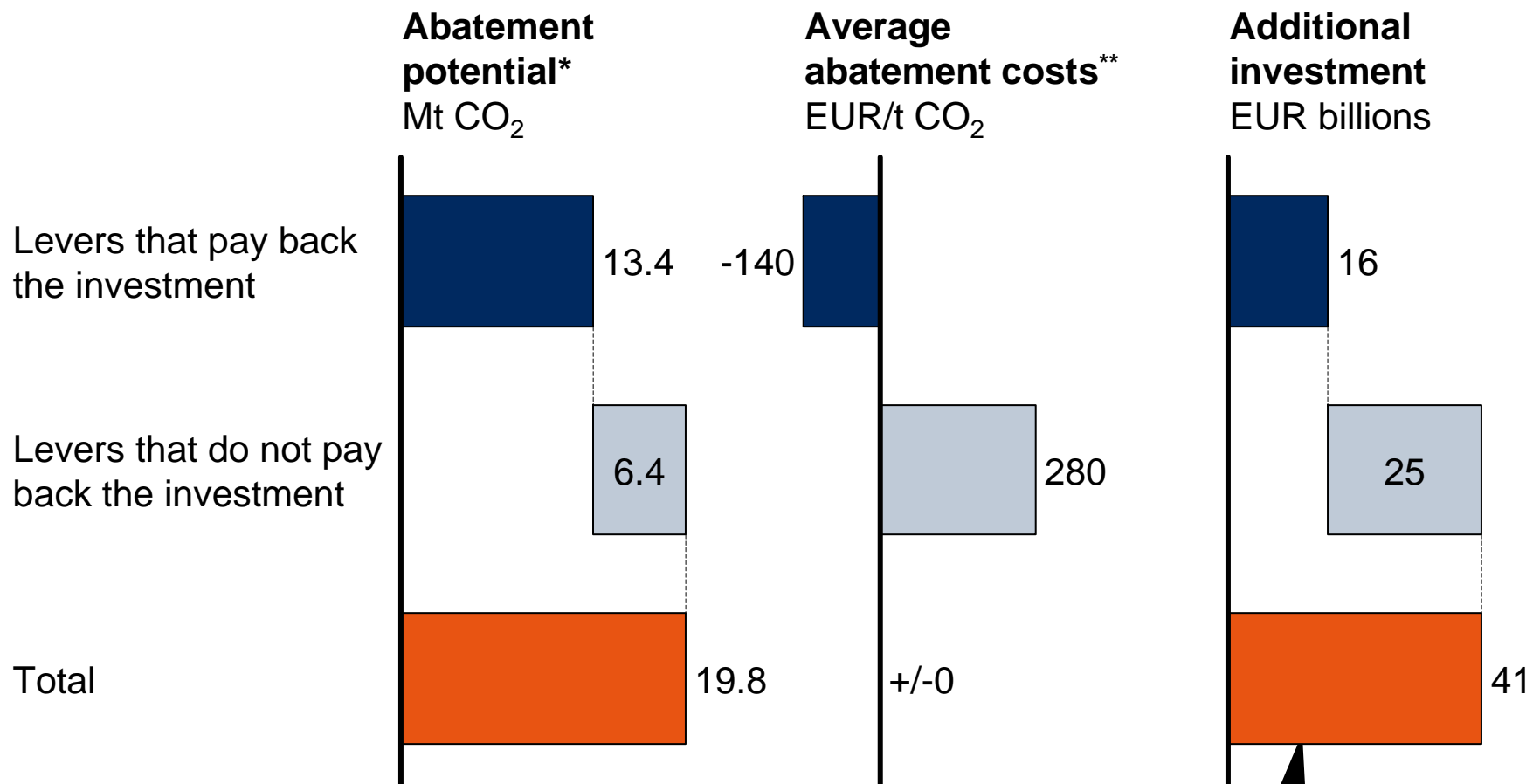
Individuals

Examples:

- Buildings insulation
- Low-emission cars
- Efficient household appliances



The total investment required constitutes less than 1% of London's GVA



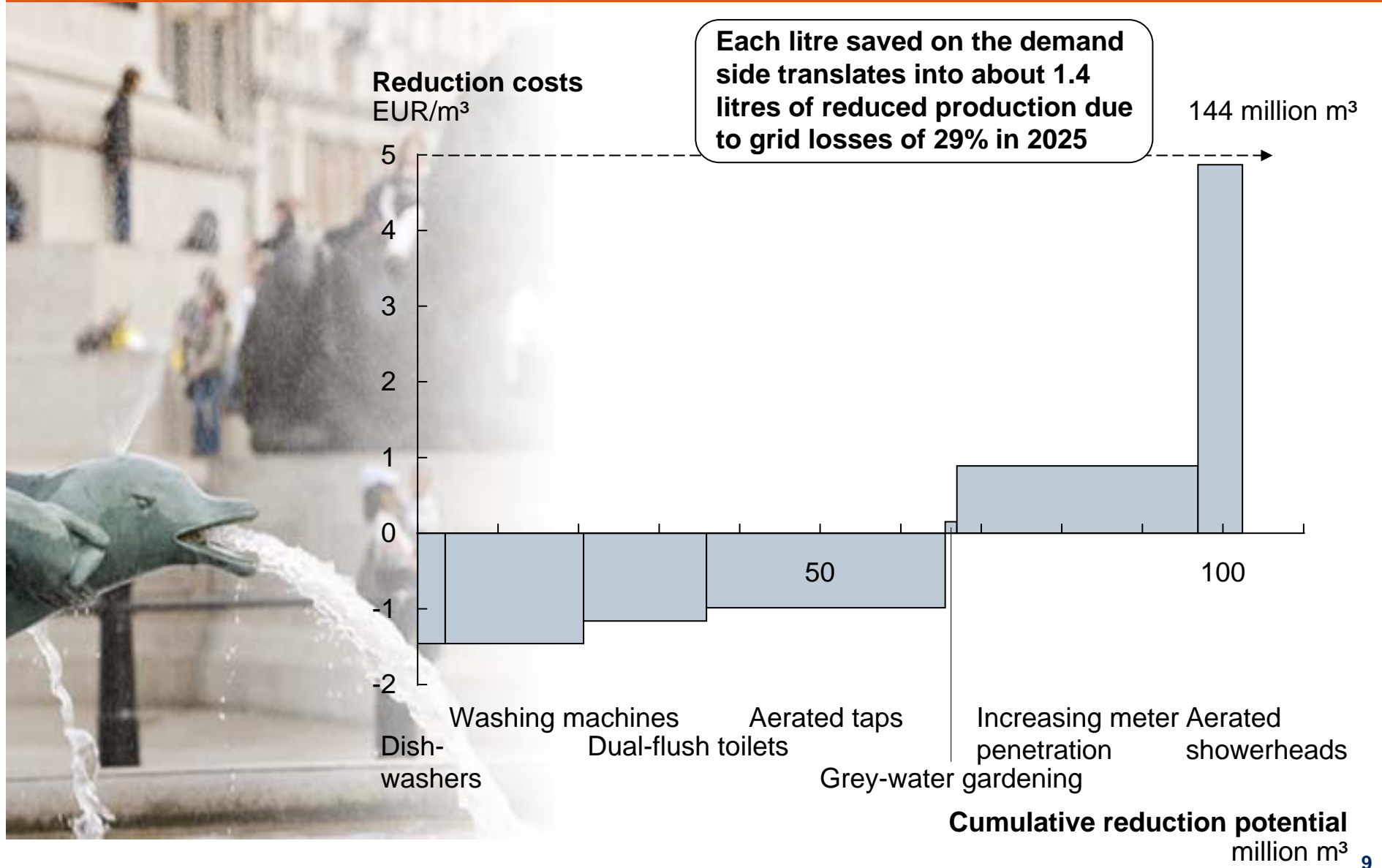
Equivalent to

- Less than 1% of GVA over 20 years
- Around EUR 300 per person and year

* Annual abatement by 2025
 ** Decision maker perspective

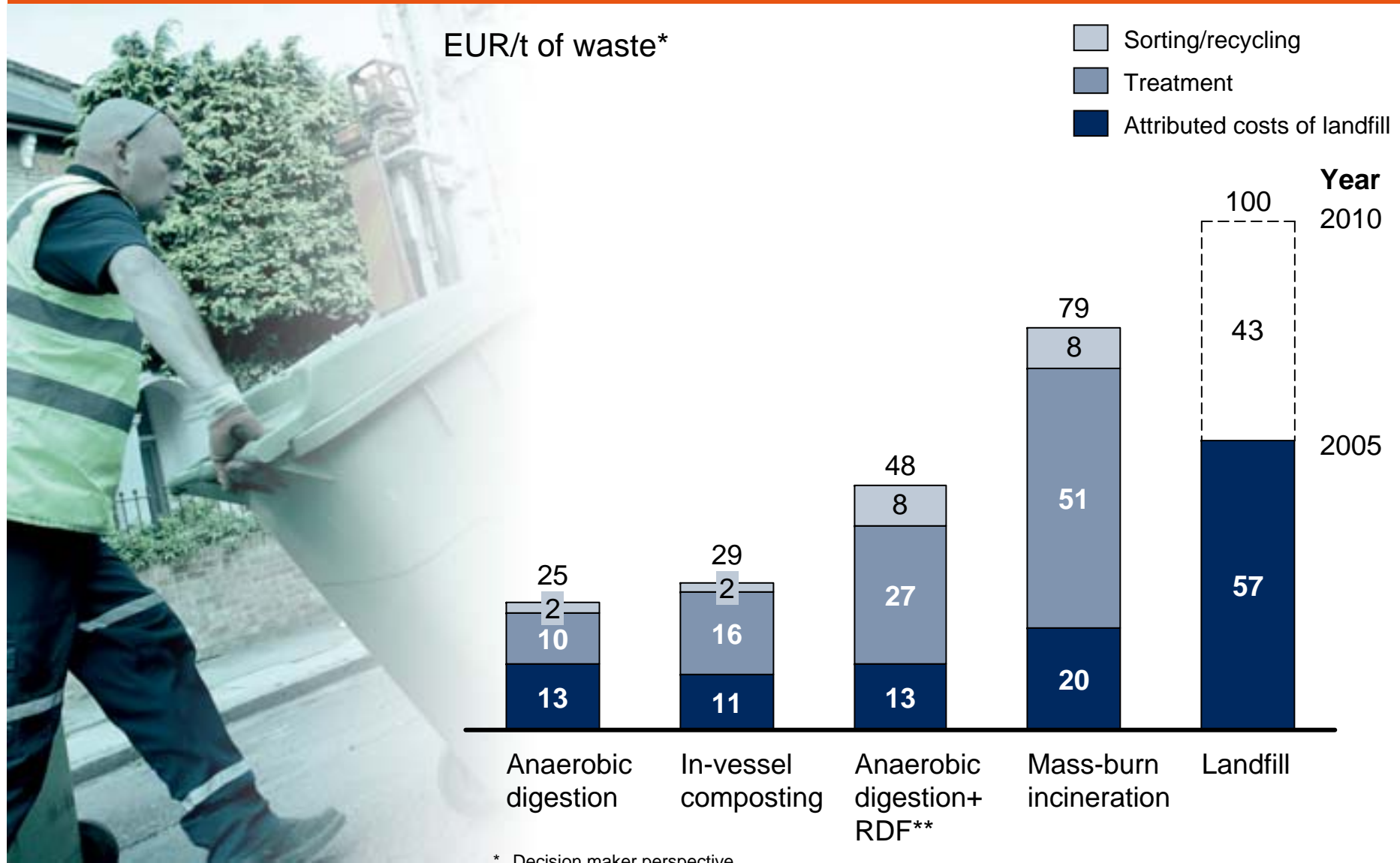
Source: McKinsey & Company

Technologies for water demand reduction could achieve 20% savings by 2025



Source: McKinsey & Company

Given the high and rising landfill tax, alternative (and more sustainable) technologies become economically attractive



* Decision maker perspective

** Refuse-derived fuel

Source: McKinsey & Company

Despite their economic attractiveness, many levers are often not implemented

Arguments often brought up against implementation



Financing issues

*"Where do I get the upfront investment?
Budget constraints are already hitting on me!"*



Excessive expectations

*"And who guarantees for the savings?
Pay-back times are far too long!"*



Principal-agent problems

*"Why should I bother?
Benefits of an investment will accrue to somebody else."*



Risk avoidance

*"What if the new technology fails?
I better stick to the proven concept."*



Lack of awareness/inertia

*"How should I find the time to identify alternatives?
I am too absorbed by my daily business."*