Public Health England

Health and Low Carbon Behaviours Public Health Perspective

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Sustainability for Public health Benefits

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Background to PHE

Mission

"To protect and improve the nation's health and to address inequalities, working with national and local government, the NHS, industry, academia, the public and the voluntary and community sector."

Sustainability for Public Health Benefits

Purpose:

The programme will enable PHE to develop a clear approach to sustainability as an underpinning principle to deliver all of its work, linking it, with strategic priorities:

- chronic non-communicable diseases,

- environmental protection, and

- asset based community development.

Public health – National to Local

PHE 'Local' Presence

4 Regions – 8 Centres plus London

8 Knowledge and Intelligence teams

10 Microbiology Labs

8 Field Epidemiology Teams

PHE National

National Infection Service (NIS)

Health and Wellbeing, Strategy and Chief Knowledge Officer

Centre for Radiation, Chemicals and the Environment (CRCE)

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Local Government

152 Unitary or Upper Tier LAs

8 'Regions' plus London

NHS, commissioners and providers

4 Regional Teams (some sub-regional teams)

209 clinical commissioning groups

155 acute trusts (including 101 foundation trusts)

56 mental health trusts (including 43 foundation trusts)

34 community providers (15 NHS trusts, 3 foundation trusts and 16 social enterprises)

10 ambulance trusts (including 5 foundation trusts)

c.8,000 GP practices

PHE Work on Climate Change and Sustainability potentially linked to Wider Public Health

Climate change and extreme events (heat, cold and floods)

Sustainable Development Management Plan

Healthy people, healthy places (housing, transport, green space…)

Pollution, air quality, waste disposal/incineration

Blue-green algae, water supply

Obesity, nutrition, physical activity

Health inequalities, best start for children

Social networks, dementia, limiting long term conditions

# Direct and indirect health effects, including

Climate change
UK health impacts

Temperature effects - Heat related deaths in the UK are expected to rise steeply during the 21st century with older people most vulnerable (this could be amplified by an ageing population)

Aeroallergens and air pollution - climate change may expose us to allergens like pollen for longer periods of the year and increase levels of ground level ozone
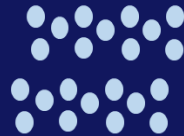
Flooding - more rainfall in winter and higher sea levels will lead to more flooding. Health impacts range from short term (drowning) to long term (mental health impact for people affected)

Disease carried by vectors (insects & arachnids) - during the 21st century it's likely that tick & mosquito numbers will increase with the possible introduction of species carrying new diseases

- Impact on health services – demand, business continuity, supply chains

- Impact on infrastructure (utilities)

- Economic impacts

- Community resilience/cohesion

Plans

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Health and

Public Health
England

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UCL Institute of Health Equity

Obesity
regulat

Local action on health inequalities:
Improving access to
green spaces

Health equity briefing 8: September 2014

PHE – Selected Priorities

- tackling childhood obesity

- reducing dementia risk

- ensuring every child has the best start in life

- support individual and societal behavioural change

- tackle antimicrobial resistance

- contribute to improved global health security

- ensure the public health system is able to tackle today's challenges and is prepared for those emerging in future

Source: PHE Annual Plan 2015/16
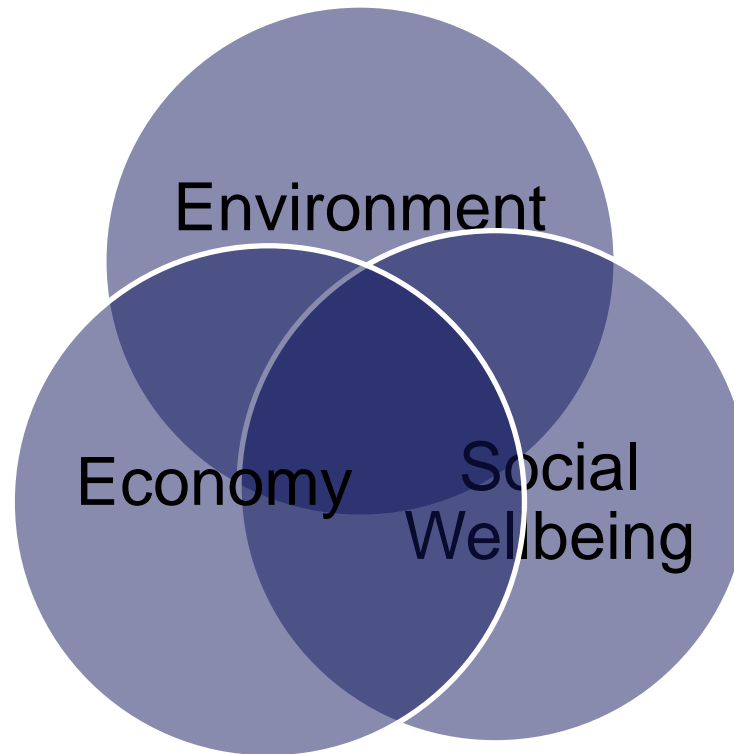
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The Triple Bottom Line

Environment

Economy

Social Wellbeing

The Triple Bottom Line

Environment, Economy and Wellbeing

Mitigation co-benefits
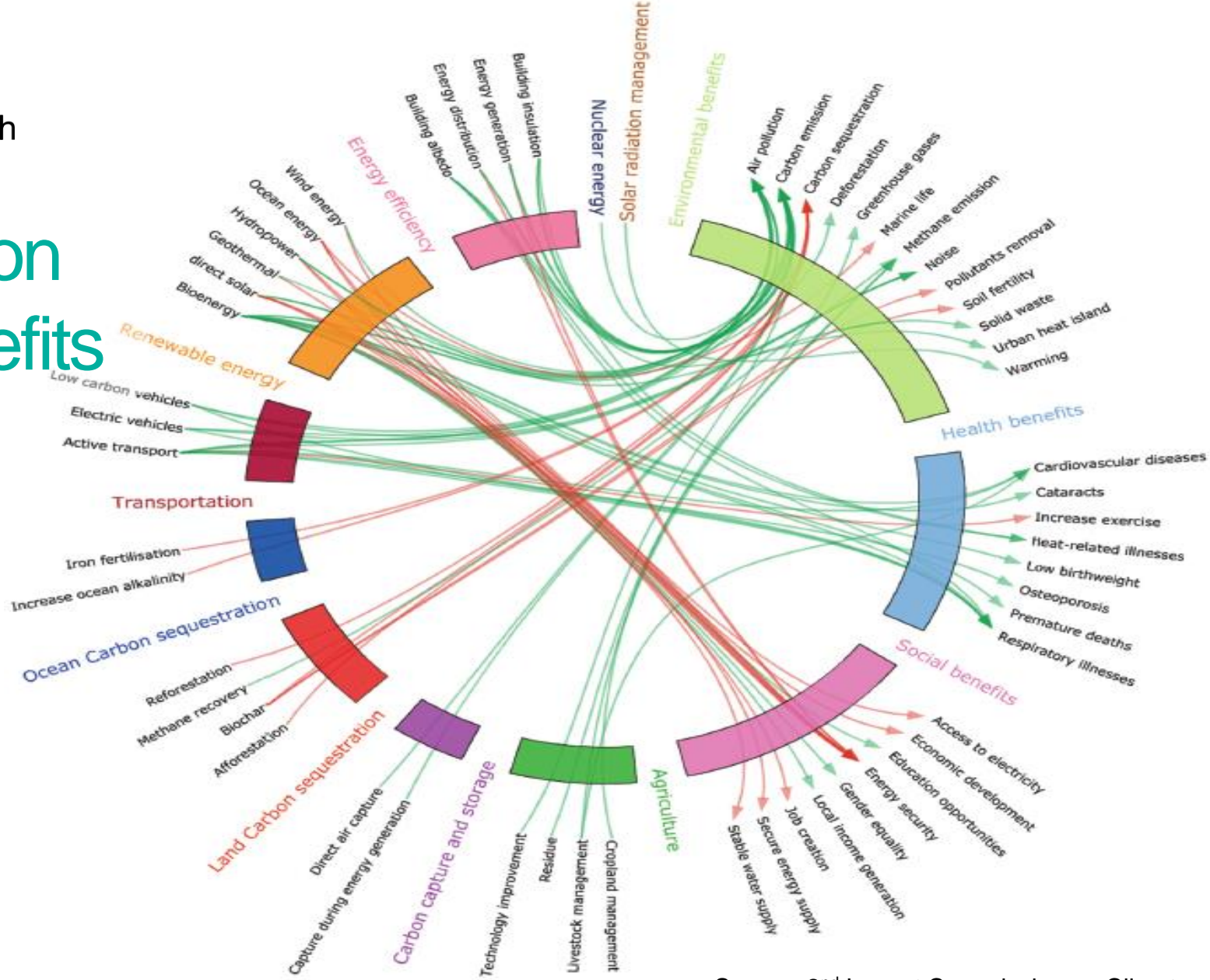
Source: 2nd Lancet Commission on Climate Change and Health (Watts et al., 2015)

Best Buys for Sustainability and Public Health Benefits

Active Travel

> Air quality, greenhouse gases, childhood obesity, social networks…
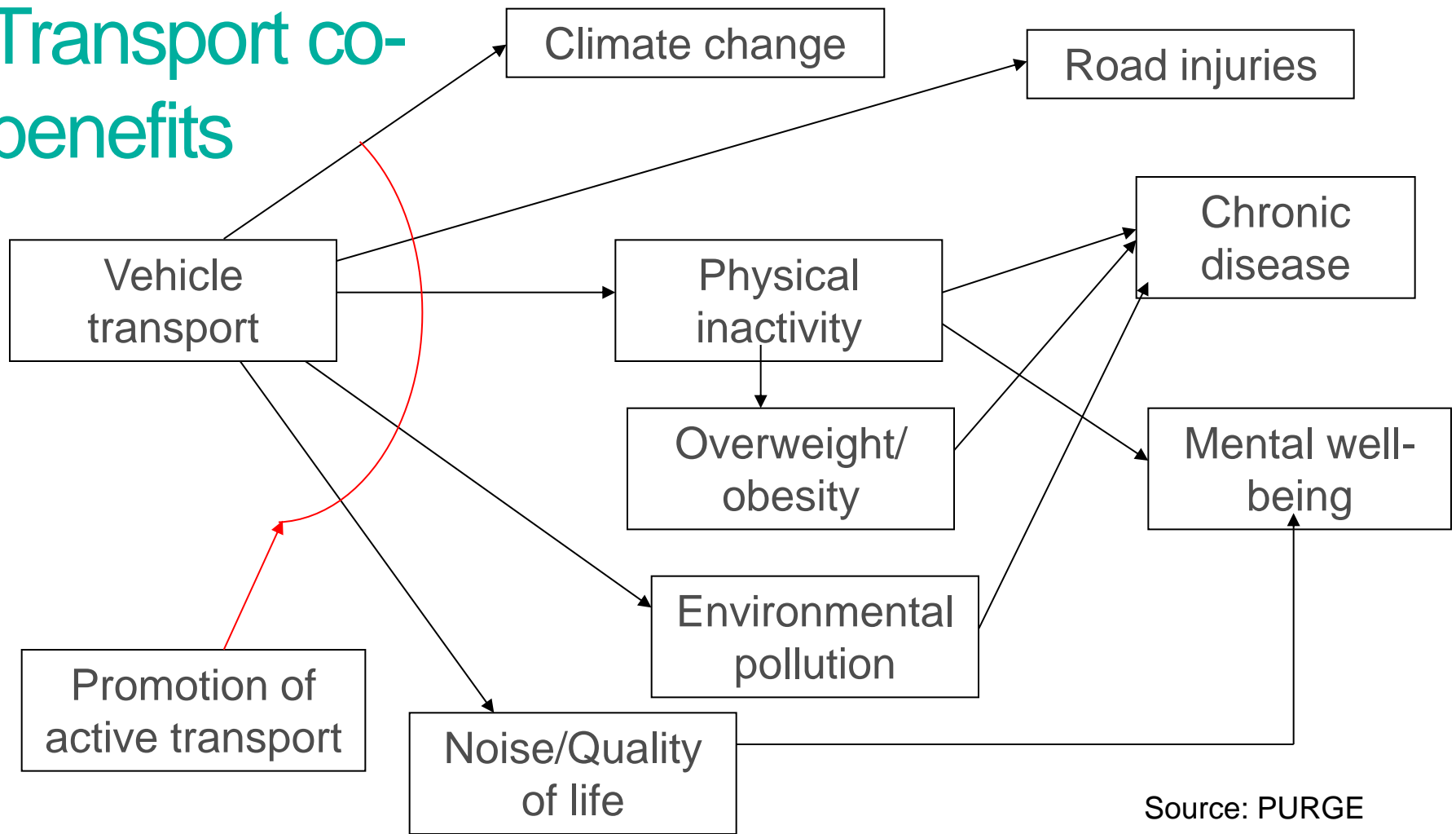
Urban Green Space

> Heat islands, mental health, children and nature, aging well…

Energy Efficient Homes

> Excess winter morbidity, greenhouse gases, fuel poverty, heat-wave resilience….

Transport co-benefits

Source: PURGE

Reduction in climate pollutants could save five million lives a year, WHO report says

The report said that exposure to outdoor air pollution is estimated to cause around 3.7 million premature deaths a year, and 4.3 million deaths a year are attributed to household air pollution from burning solid fuel. Diseases caused by exposure to these pollutants include: ischaemic heart disease, which is responsible for more than 2.6 million deaths a year; stroke (2.97 million deaths); chronic obstructive pulmonary disease (966 900); and lung cancer (499 000).

The report also urged the implementation of "active transport" policies, such as walking and cycling, as well as improved public transport. Associated benefits would include increased physical activity, reduced air and noise pollution, and prevention of road traffic injuries.

WHO urged policy makers to encourage a shift from a meat based diet to one rich in fruit, vegetables, nuts, and seeds, as agriculture is the biggest source of anthropogenic methane emissions globally, livestock production being the primary contributor. Eating less red meat would also bring associated health benefits, WHO said.

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Protect against heat

Credit: Graniers (creative commons v2.0)

- Shading
- Painting
- Public cool areas
- Water bodies
- Urban greening

Source: Adapted from ARUP (2014a)

The health case for Energy Efficient Homes

The vast majority of the evidence on health relates to the impact of living at low temperatures and in poorly insulated dwellings. There is compelling evidence that the drivers of fuel poverty are strongly linked to living in low temperatures.

The Marmot Review Team provided a comprehensive overview of the evidence linking fuel poverty related factors to poor physical and mental health as well as the effect of interventions to mitigate them.

The Hills Review also provided a comprehensive summary of the literature.
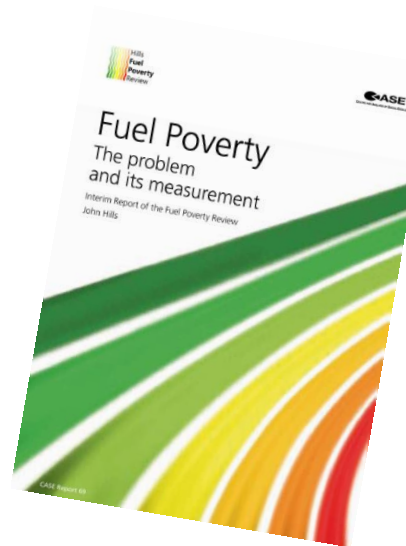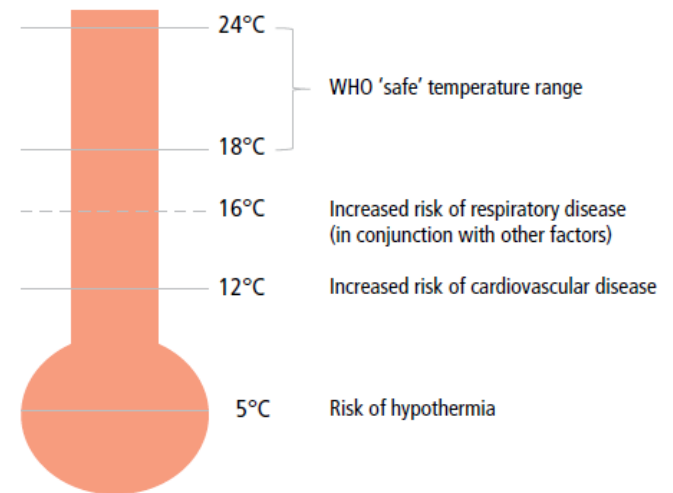
The health case: morbidity

Cold-related morbidity
Complex interactions, but persuasive evidence linking low temperatures with a range of health impacts from minor infections to serious respiratory and cardiovascular conditions in particular that can prove fatal.

Who is vulnerable to cold-related morbidity?
Three main groups:

-   Elderly people
-   Very young children
-   People with a long-term sickness or disability

24°C — WHO 'safe' temperature range
18°C
16°C — Increased risk of respiratory disease (in conjunction with other factors)
12°C — Increased risk of cardiovascular disease
5°C — Risk of hypothermia

Fuel poverty and cold indoor temperatures
The drivers of fuel poverty – notably low incomes – are a significant determinant of indoor temperatures. There is therefore a plausible chain of causation from drivers of fuel poverty to negative health outcomes.