CHiLi

Child and Adolescent Health Impacts of Learning Indoor Environments Under Net Zero

Professor Pia Hardelid

UCL Great Ormond Street Institute of Child Health

Professor Dejan Mumovic, UCL IEDE

UCL

Swansea University Prifysgol Abertawe

University of York

UK Health Security Agency

London School of Hygiene & Tropical Medicine

University of Leeds

Imperial

UKRI Medical Research Council

UKRI Engineering and Physical Sciences Research Council

UKRI Natural Environment Research Council

NIHR

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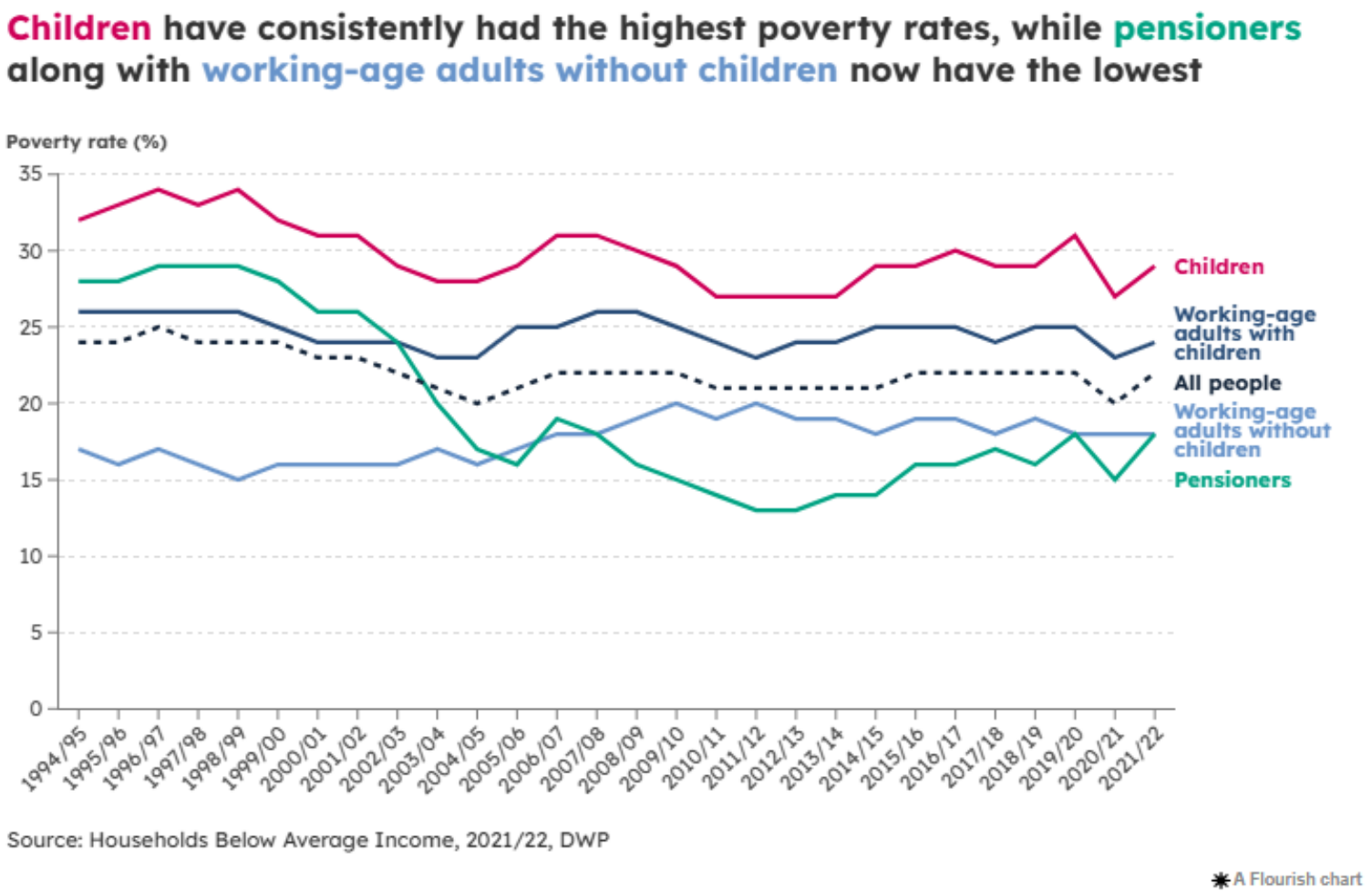
School maintenance backlog stands at £13.8bn, says watchdog

But the National Audit Office reveals the true cost of repairs and replacements in the school estate could be 'substantially higher'

22nd January 2025, 11:06am



https://www.jrf.org.uk/uk-poverty-2024-the-essential-guide-to-understanding-poverty-in-the-uk

THE LANCET
Planetary Health

'The prevailing inequalities, between and within countries, largely determine how climate change impacts children. ***Disadvantaged children suffer from a disproportionately high and truly unjust health burden from climate change'***

Climate change and child health: a scoping review and an expanded conceptual framework

Daniel Helldén, Camilla Andersson, Maria Nilsson, Kristie L Ebi, Peter Friberg, Tobias Alfvén

Climate change can have detrimental effects on child health and wellbeing. Despite the imperative for a fuller understanding of how climate change affects child health and wellbeing, a systematic approach and focus solely on children (aged <18 years) has been lacking. In this Scoping Review, we did a literature search on the impacts of climate change on child health from January, 2000, to June, 2019. The included studies explicitly linked an alteration of an exposure to a risk factor for child health to climate change or climate variability. In total, 2970 original articles, reviews, and other documents were identified, of which 371 were analysed. Employing an expanded framework, our analysis showed that the effects of climate change on child health act through direct and indirect pathways, with implications for determinants of child health as well as morbidity and mortality from a range of diseases. This understanding can be further enhanced by using a broader range of research methods, studying overlooked populations and geographical regions, investigating the costs and benefits of mitigation and adaptation for child health, and considering the position of climate change and child health within the UN Sustainable Development Goals. Present and future generations of children bear and will continue to bear an unacceptably high disease burden from climate change.

Lancet Planet Health 2021; 5: e164–75

Department of Global Public Health, Karolinska Institutet, Stockholm, Sweden (D Helldén MD, T Alfvén PhD); Department of Epidemiology and Global Health, Umeå University, Umeå, Sweden (C Andersson MSc, Prof M Nilsson PhD); Department of Global Health, School of Public Health, University of Washington, Seattle, WA, USA (Prof K L Ebi PhD); Swedish Institute for Global Health

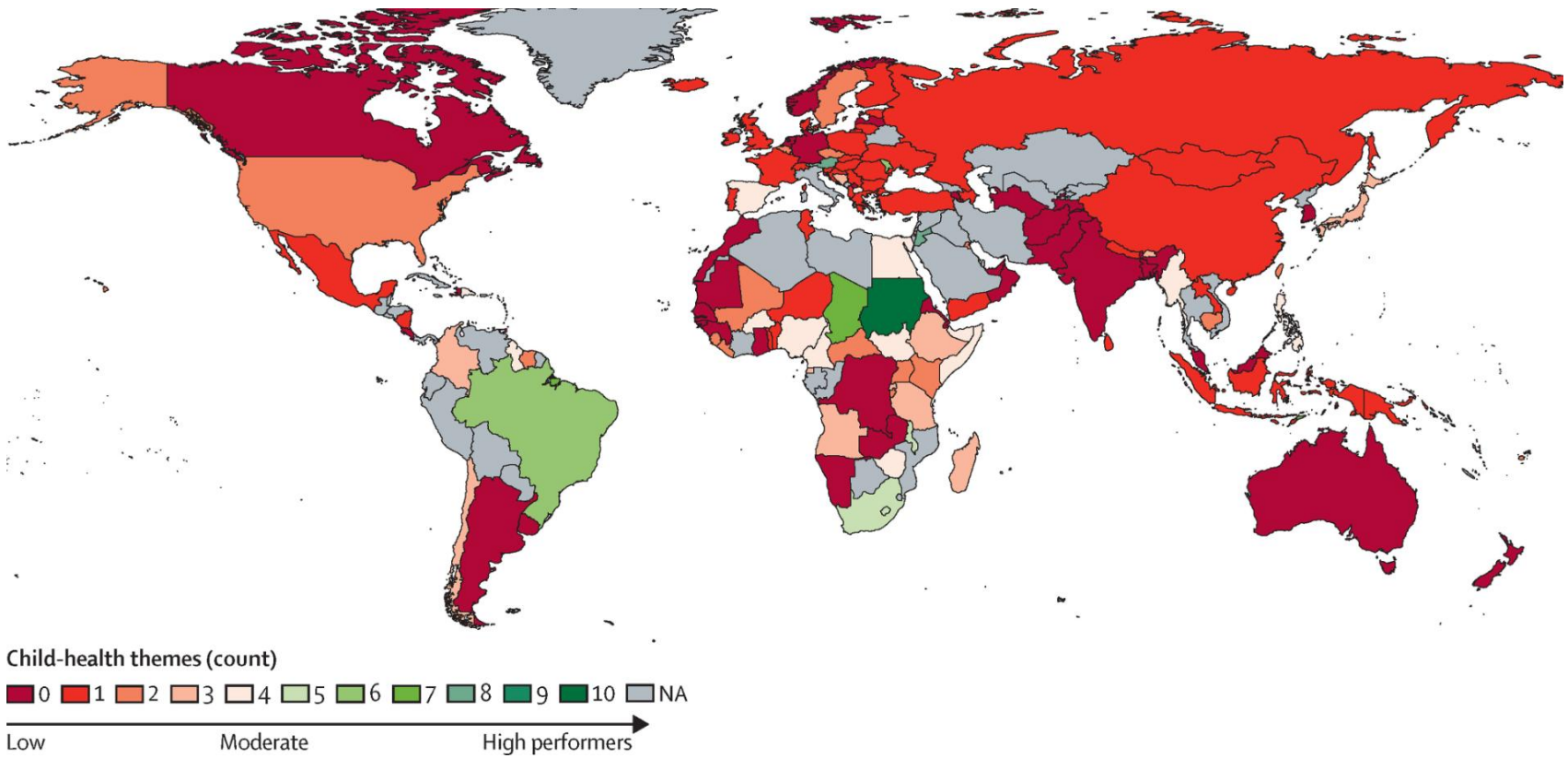
'… the large number of articles found masks a ***striking lack of focus on climate change and child health;*** *many studies only include children as a subpopulation of analysis.'*

'there is a clear lack of /…/ ***longitudinal studies****, restricting a fuller understanding of how climate change affects child health and wellbeing'*

THE LANCET
Child & Adolescent Health

Child health prioritisation in national adaptation policies on climate change: a policy document analysis across 160 countries

Kathrin E Zangerl, Katarina Hoernke*, Marike Andreas*, Sarah L Dalglish, Ilan Kelman, Maria Nilsson, Joacim Rockloev, Till Bärnighausen, Shannon A McMahon



Our vision

CHILI will maximise opportunities for health improvement for all children and young people as educational settings transition to net zero

Our team

UCL

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Swansea University Prifysgol Abertawe

UNIVERSITY OF LEEDS

UK Health Security Agency

IMPERIAL

UNIVERSITY of York

We build on data infrastructure investments

ADR UK | UKRI Economic and Social Research Council

HDR UK
Health Data Research UK

Kids' Environment & Health Cohort

Connected Bradford

echild

SAMHE
SCHOOLS' AIR QUALITY MONITORING FOR HEALTH AND EDUCATION

SAIL DATABANK

Y RHWYDWAITH YMCHWIL IECHYD MEWN YSGOLION
SCHOOL HEALTH RESEARCH NETWORK

The CHILI Hub will:

Map indoor air quality and temperature nationally (WP1)

Understand how school indoor environments impact children and young people's health using total population datasets (WP2)

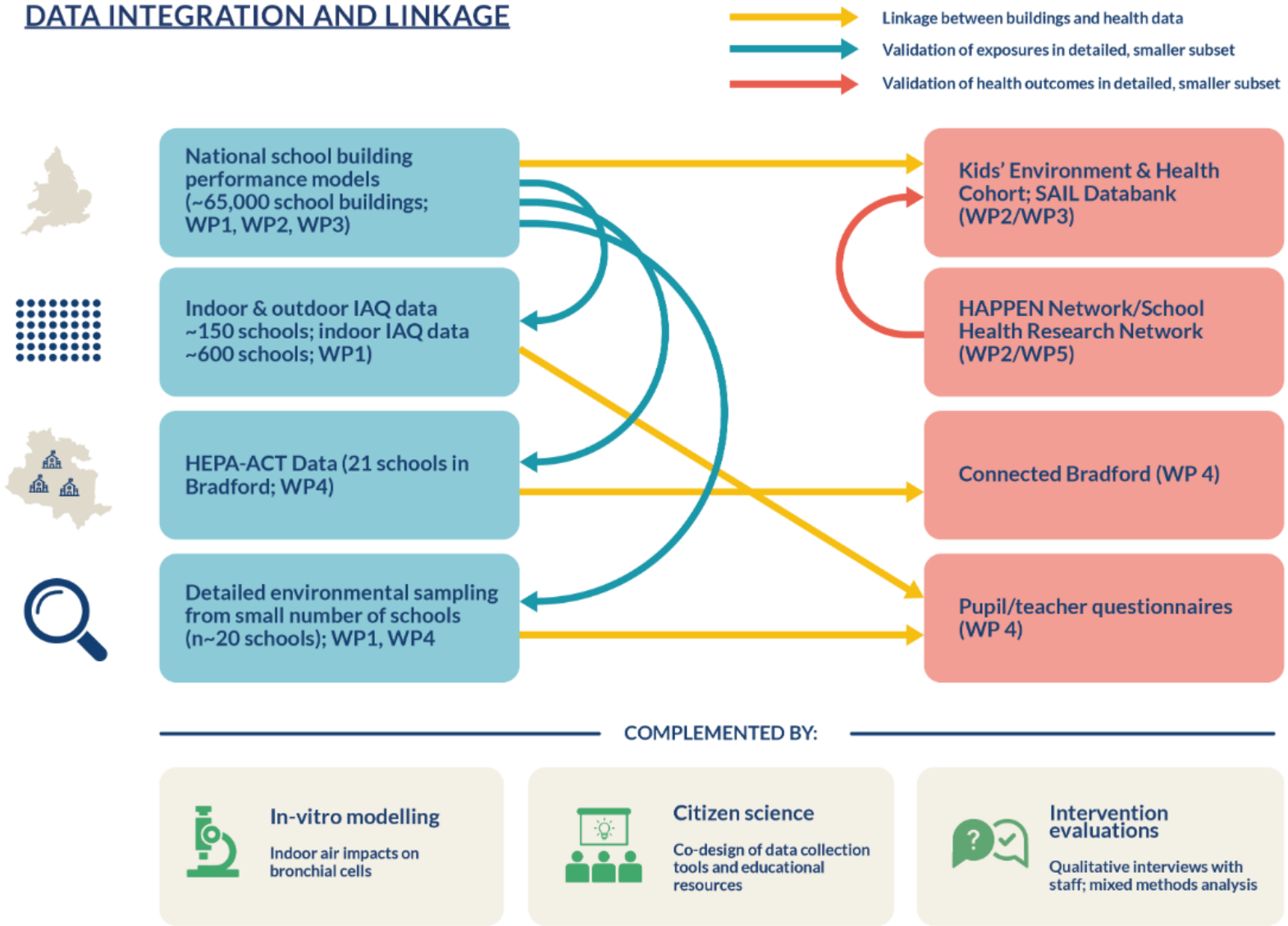
Model health and economic impacts of mitigation and adaptation pathways for schools to reach net zero (WP3)

Evaluate and test impact of new and existing interventions in schools (WP4)

Involve CYP and their school communities, empowering them to make positive changes to their indoor environments (WP5)

Engage with multiple stakeholders to co-create impact and innovative, scaled-up solutions (WP6)

DATA INTEGRATION AND LINKAGE



Our partners

Department for Education

LocatED

Southwark Council southwark.gov.uk

Hertfordshire

Llywodraeth Cymru Welsh Government

UK Health Security Agency

GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

CIBSE

national education union

RCPCH Royal College of Paediatrics and Child Health
Leading the way in Children's Health

100 YEARS 1923 - 2023 Early Education
The British Association for Early Childhood Education

ASTHMA+ LUNG UK

coram better chances for children since 1739

ADHD Foundation The Neurodiversity Charity

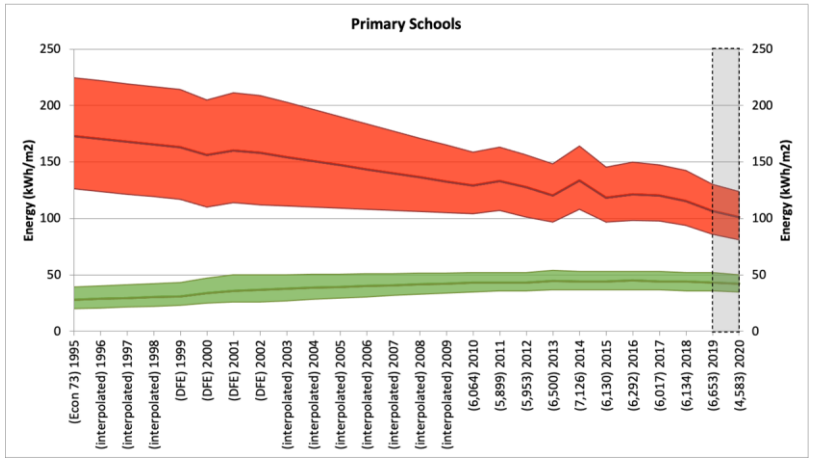
Cystic Fibrosis Trust

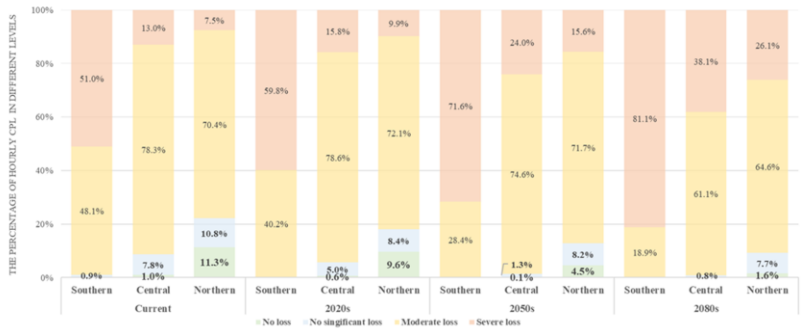
Progress to date

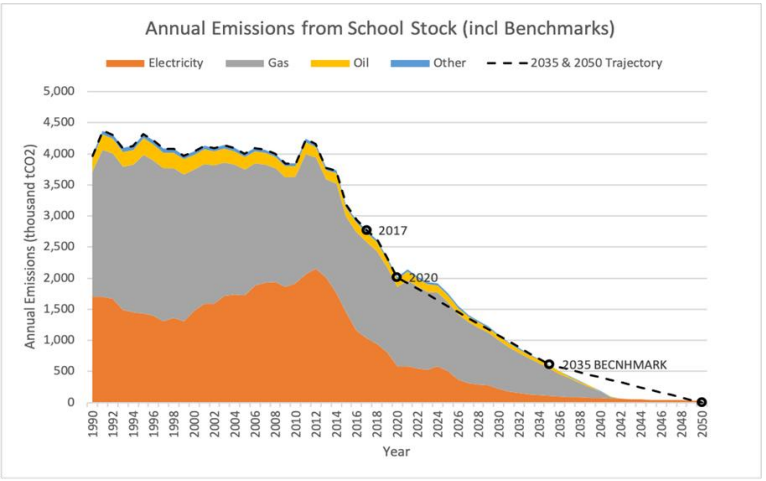
1. Progress on linking UCL Integrated school buildings database (MPS) with ECHILD to examine clustering of school building and pupil characteristics
2. Co-design of CHILI logo and identity with pupils
3. Deployment of low cost indoor-outdoor monitors in 7 schools (after successful ethical approval)
4. Development of protocol/ethics approval for ‘deep-dive’ monitoring
5. Engagement with early years providers and staff to develop list of priority research questions & cleaning of Early Years Census dataset in ECHILD
6. Stakeholder Advisory Group meeting held in June

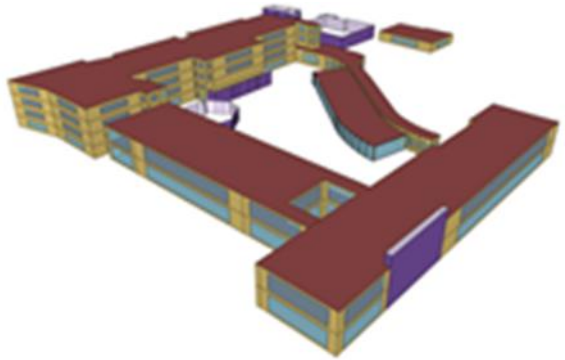
Current work with DfE Energy Team: moving forward through CHILI

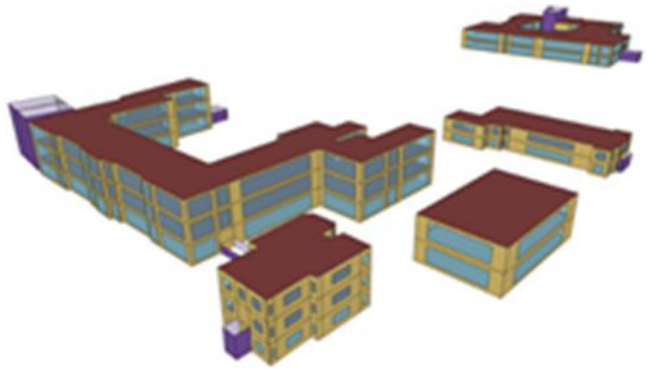
Deloitte. Met Office MOTT MACDONALD

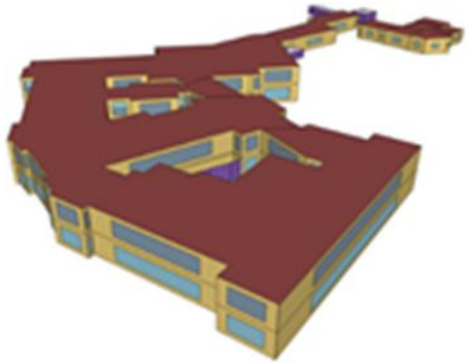


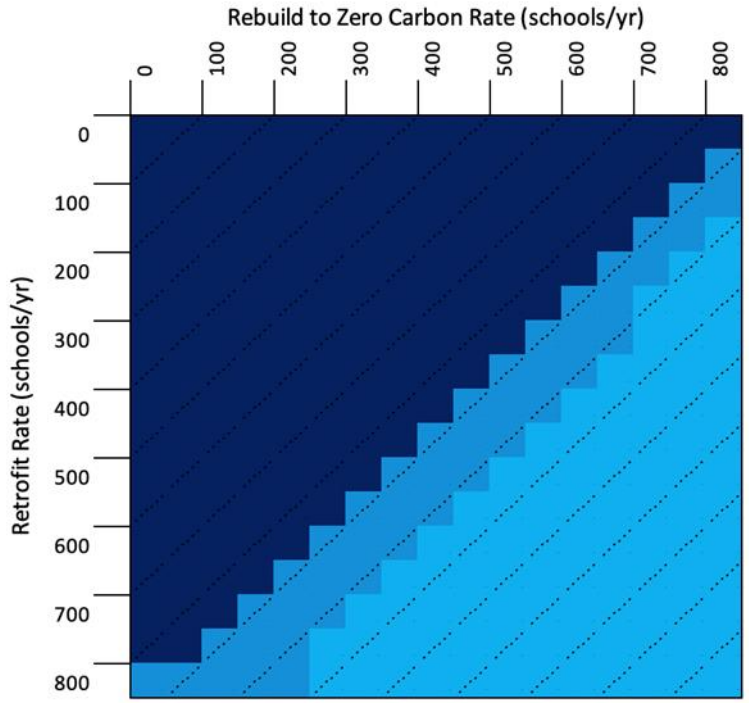








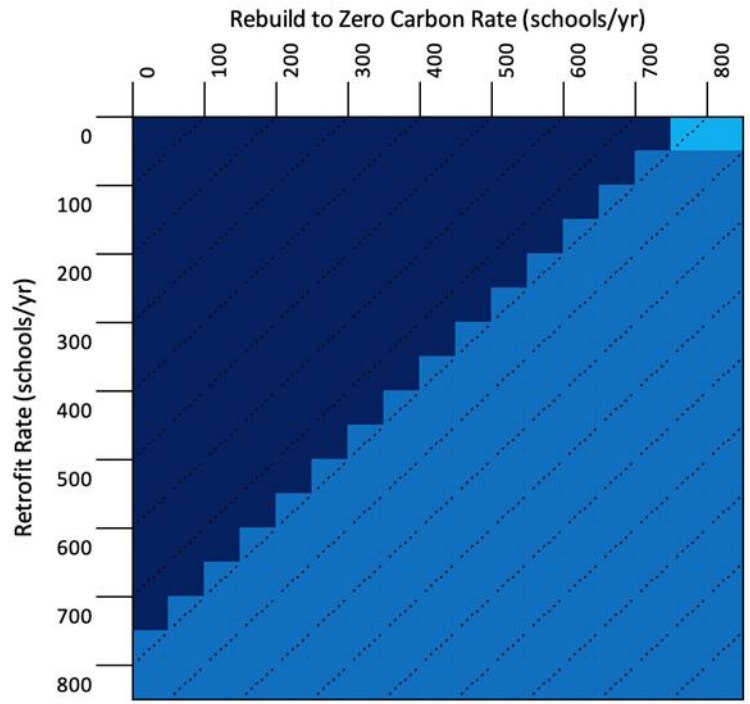




Cannot meeting 2035 target

Can meet 2035 target
with additional rooftop PV

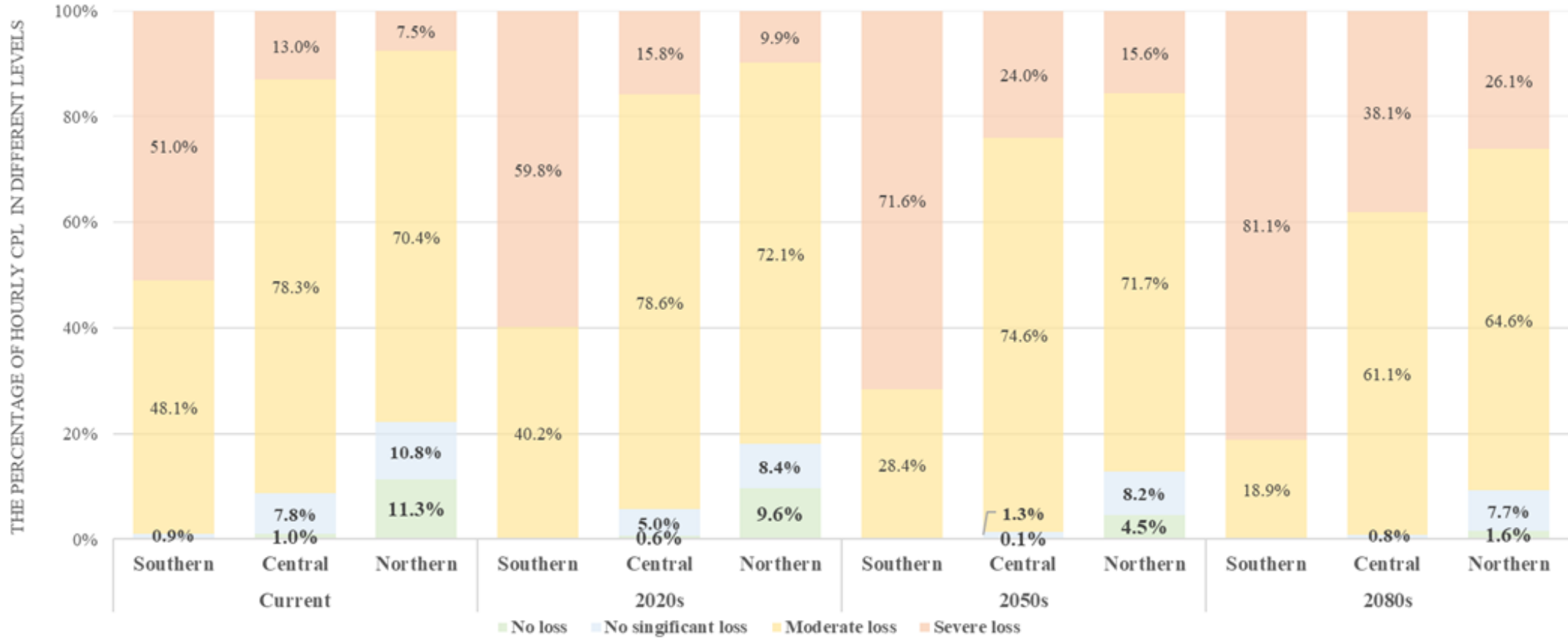
Can meet 2035 target



Cannot meeting 2050 target

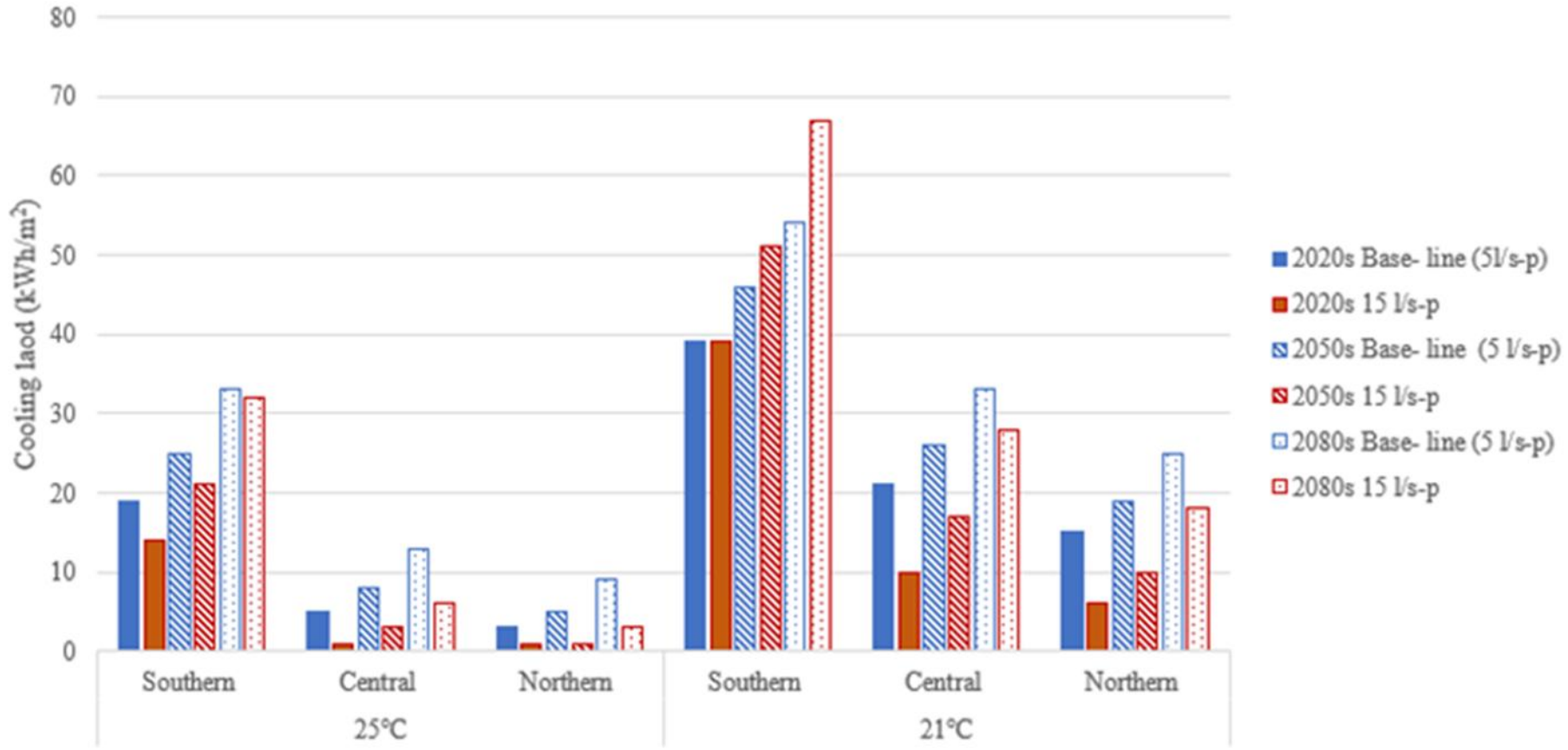
Can meet 2050 target
with additional rooftop PV

Can meet 2050 target



The cognitive performance loss of all hours of the five types of schools in each region

Mitigation & Adaptation in the context of Climate Change and Cognitive Performance



Take home messages (so far)

- Transdisciplinary Approach to Building Stock Modelling
- (what is the purpose of school buildings)
- Schools & Climate Resilience
- (energy, overheating, health, and cognitive performance interconnected)
- Diabetes analogy: Achieving & Maintaining Carbon Emission Levels
- Safe place for local communities
- Regional Risks of Reduced Cognitive Performance
- Adaptation (Human and Infrastructure)

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