ASSESSING AIR POLLUTION AND HEALTH BENEFITS FROM ACHIEVING CLIMATE CHANGE GOALS IN MONGOLIA

Davgador Damdinj, Chris Manley,
Dorjpurev Jargal, Tsolmon Namkhanyam

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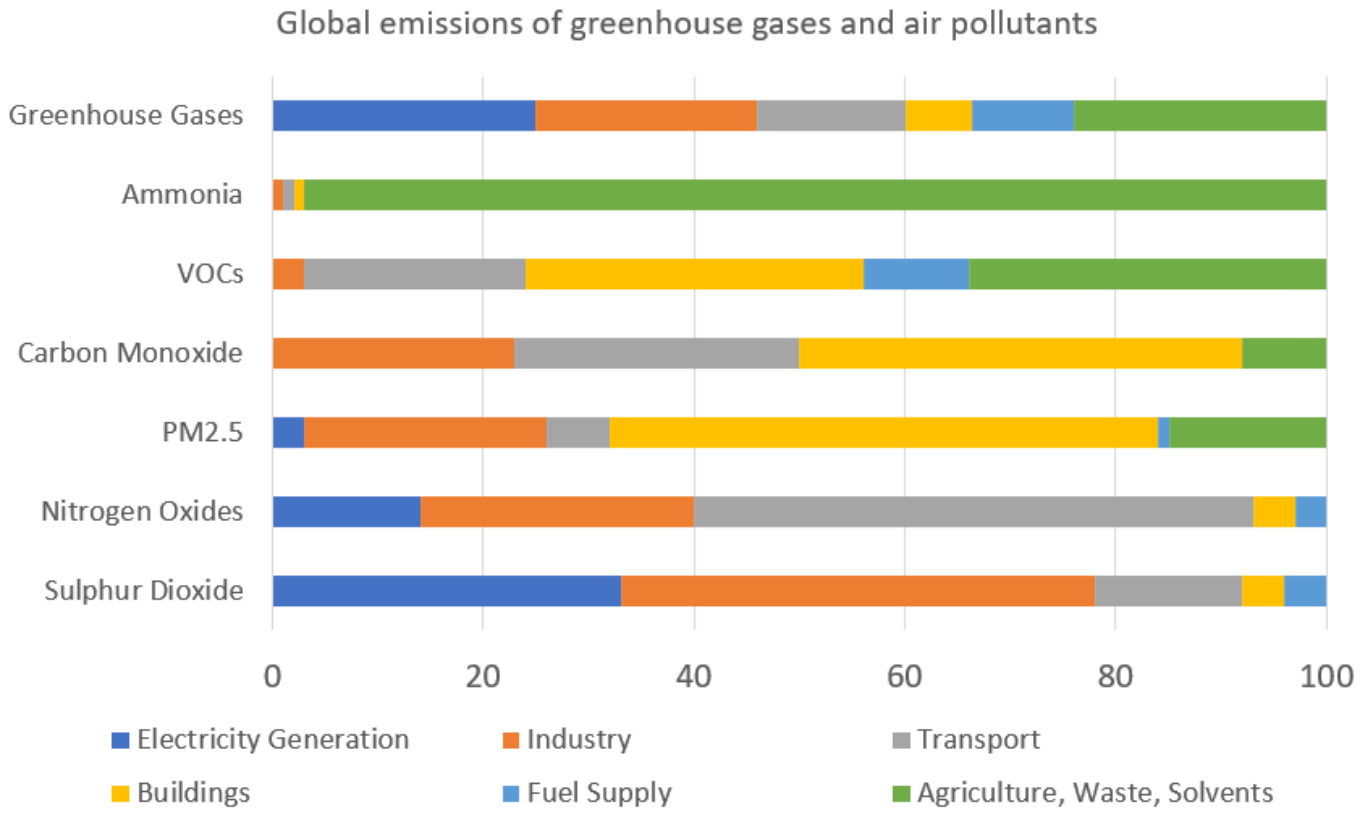
GLOBAL LINKS BETWEEN AIR POLLUTION AND CLIMATE CHANGE:

GHG and Air pollutants come from same sources

IPCC, 2013

IEA, 2016



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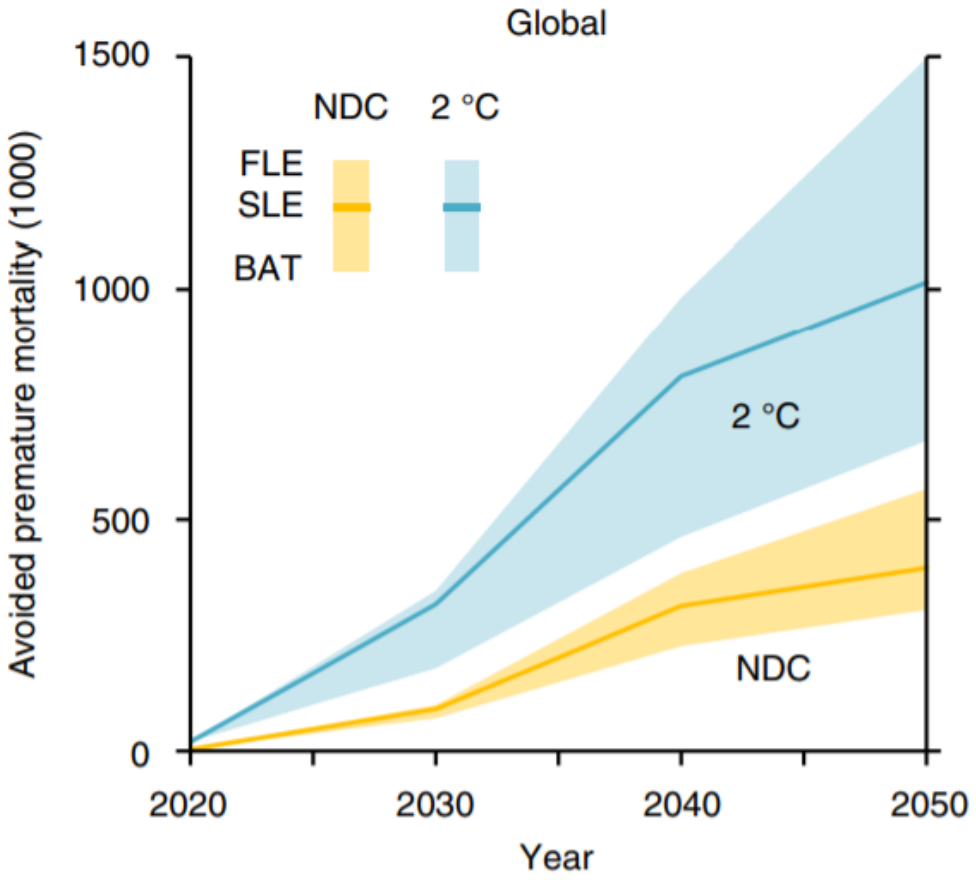
GLOBAL OPPORTUNITY TO IMPROVE HUMAN HEALTH BY MEETING CLIMATE CHANGE GOALS



Over 1 million premature deaths avoided from reduced air pollution exposure in 2050 if Paris target is achieved

Source: Vandyck et al. 2018

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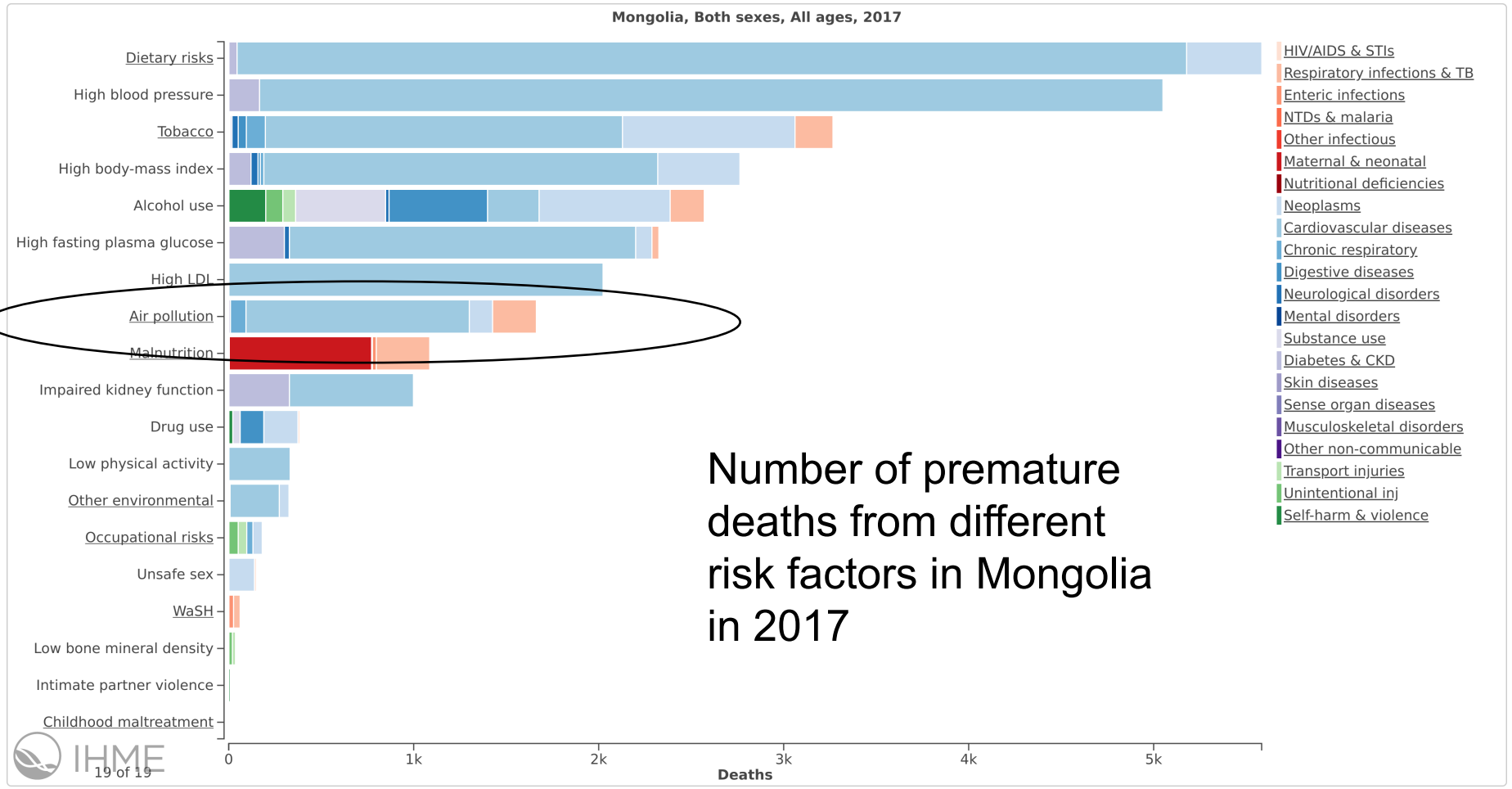
AIR POLLUTION IS 8TH LARGEST RISK FACTOR FOR HUMAN HEALTH IN MONGOLIA



Number of premature deaths from different risk factors in Mongolia in 2017

Source: Data from Global Burden of Disease 2018

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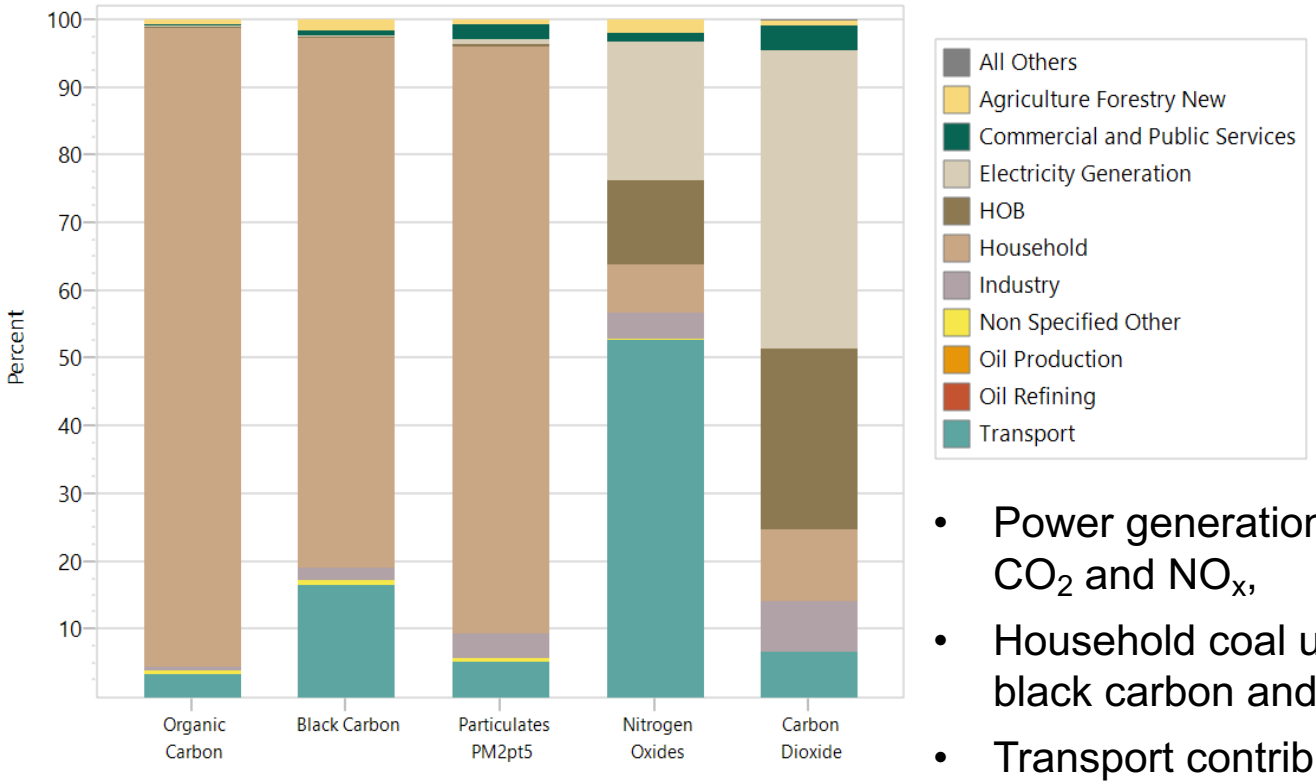
CLIMATE AND CLEAN AIR COALITION SNAP INITIATIVE PROJECT IN MONGOLIA

- **SNAP (Supporting National Action and Planning on SLCPs):** Support CCAC State partners to take action on prioritized measures to mitigate SLCPs through development of national planning processes
- **Aim:** To assess what actions can be taken to mitigate air pollution and contribute to achieving Mongolia's climate change mitigation commitment.
- **Method:** Use LEAP-IBC scenario analysis tool to:
  - Develop integrated emission inventory of GHGs, SLCPs and air pollutant in Mongolia
  - Project emissions into the future for a business as usual scenario
  - Model implementation of mitigation measures included in revised NDC to quantify GHG, SLCP and air pollution emission reductions
  - Quantify air pollution health benefits from implementing NDC mitigation measures

PRELIMINARY RESULTS: GHGS AND AIR POLLUTANTS IN MONGOLIA SHARE THE SAME SOURCES

Emissions of air pollutants and carbon dioxide from the energy sectors in 2018.



- Power generation is major source of CO_2 and NO_x,
- Household coal use is major source of black carbon and particulates (PM).
- Transport contributes to all pollutants.

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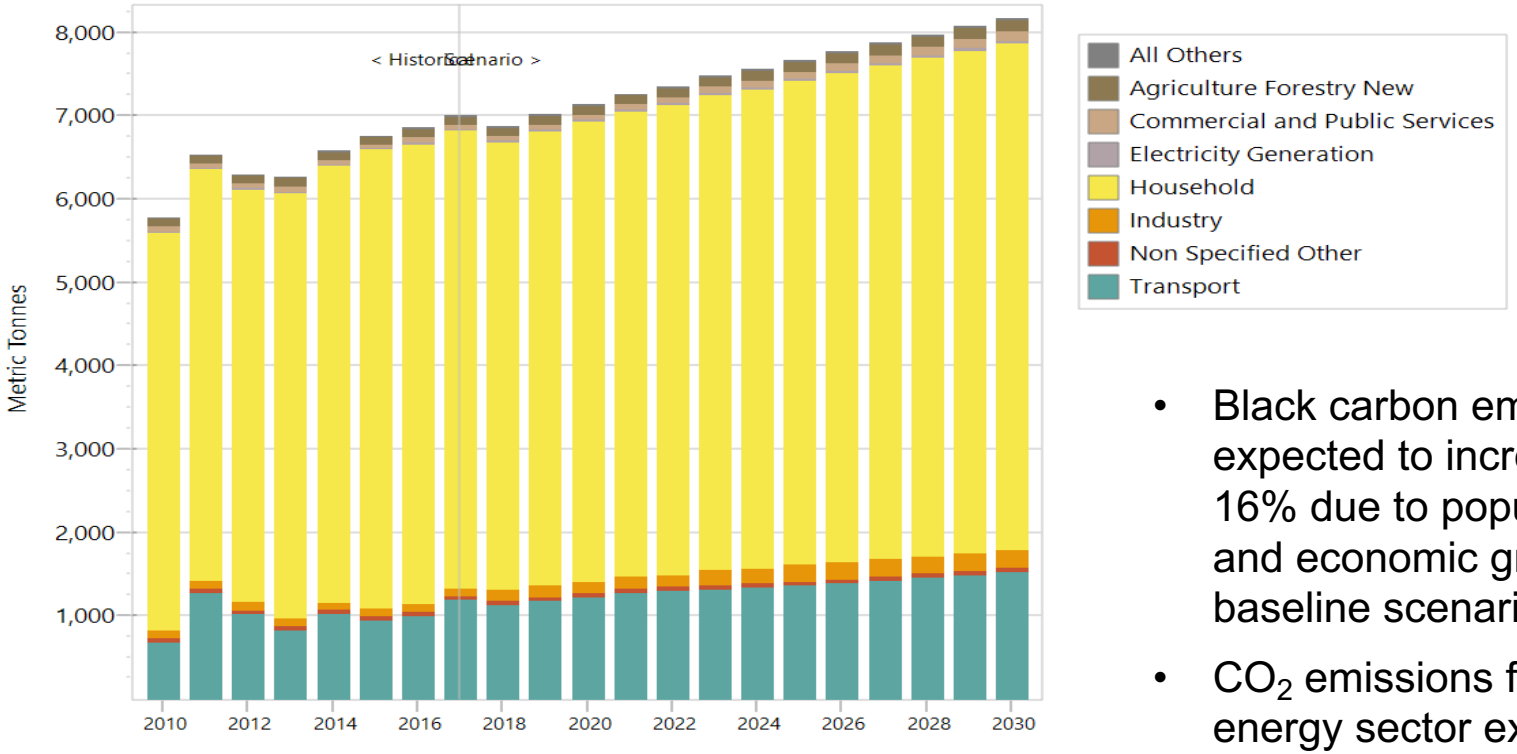
PRELIMINARY RESULTS: EMISSION PROJECTED TO INCREASE TO 2030 WITHOUT INTERVENTIONS

Black carbon emission projections from energy sectors between 2010 and 2030 for baseline scenario



- Black carbon emissions expected to increase 16% due to population and economic growth in baseline scenario.
- CO_2 emissions from energy sector expected to increase 75% by 2030

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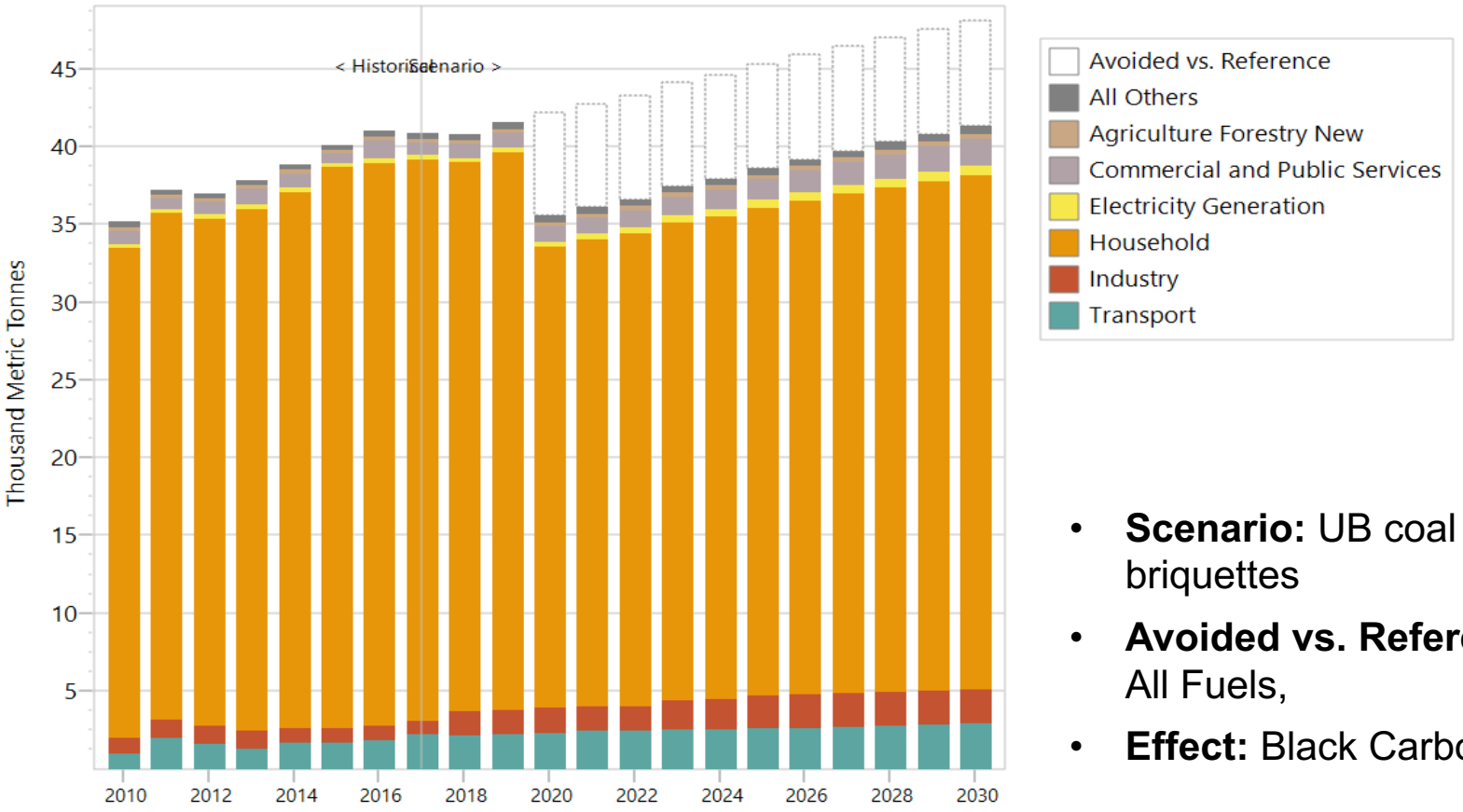
FINE PARTICULATES (PM2.5) CONCENTRATION PROJECTED TO INCREASE TO 2030



- **Scenario:** UB coal briquettes
- **Avoided vs. Reference**, All Fuels,
- **Effect:** Black Carbon

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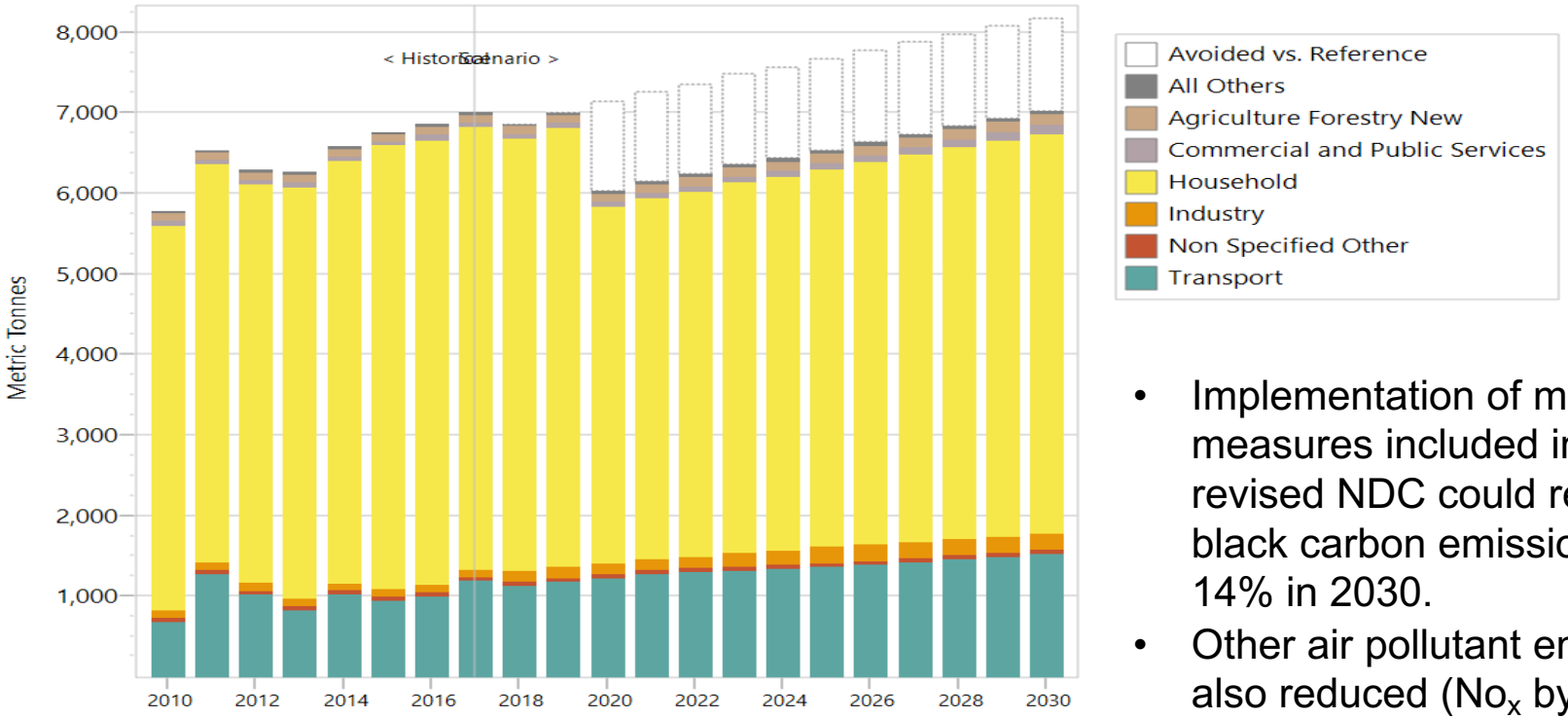
MITIGATION MEASURES INCLUDED IN REVISED NDC COULD REDUCE EMISSIONS OF AIR POLLUTANTS AS WELL AS GHG

Black carbon emission projections from energy sectors between 2010 and 2030 for implementation of all energy sector mitigation measures included in NDC



- Implementation of mitigation measures included in revised NDC could reduce black carbon emissions by 14% in 2030.
- Other air pollutant emissions also reduced (No_x by 15%, $PM_{2.5}$ by 15%)

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CONCLUDING REMARKS

- Air pollution, human health and climate change are closely linked due to the same sources emitting GHGs and air pollutants, and because some pollutants (short-lived climate pollutants like black carbon) directly contribute to both impacts.
- Mongolia's climate change commitment and actions (NDC) is currently being revised.
- Actions included in the NDC will not just reduce GHGs, but will also be effective in reducing emissions of air pollutants, and contribute to improving human health.
- Achieving Mongolia's climate change commitment can therefore achieve local benefits in Mongolia through improved air quality.
- Measures to reduce air pollution and mitigate GHG emissions should be interlinked.
- Integrated quantitative assessments of emissions of GHGs and air pollutants and socio-economic benefit analyses should be expanded and mainstreamed into policy and planning documents.

THANK YOU !

damdin.davgadorj@ccd-academy.com;