SESSION 3:

EQUITY, ACTIVE TRAVEL, AND HEALTH IMPACTS OF POLICIES

USING VALUATION STUDIES TO ESTIMATE THE ECONOMIC BENEFIT OF LOW(ER) CARBON TRANSPORT POLICIES

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Outline

- **OECD work on valuation of health benefits from improving environmental quality**
  - Chemicals-related health effects
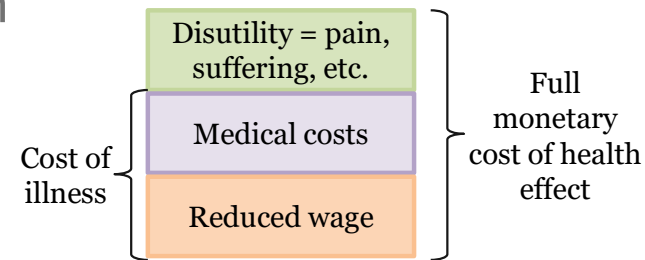 - Value of statistical life

- **How to use valuations to estimate the benefits of low carbon transport policies**

Measuring the benefits of reducing health risks due to chemicals exposure

- **Important gap**: Prior work on benefits of reducing health risk due to chemicals exposure was very limited

  - Full monetary benefits of reducing health risk not available

  - Existing data e.g. cost-of-illness do not capture disutility of disease

Disutility = pain, suffering, etc.	
Medical costs	Full monetary cost of health effect
Reduced wage	

Cost of illness = { Medical costs, Reduced wage }

- OECD "**SWACHE**" - **S**urveys of **w**illingness-to-pay to **a**void **c**hemicals-related **h**ealth **e**ffects – project

  - Improves foundation for cost-benefit analyses of chemicals-related policies, and of environmental policies more broadly

  - Provides economic basis for chemicals management programmes

COST-BENEFIT ANALYSIS

- **Two rounds of surveys** to ask respondents about their WTP to avoid 10 negative health impacts:

A project in 3 phases

1 | 1st round of 5 endpoints

Asthma

Serious kidney disease

IQ loss

Infertility

Very low birth weight

2023

2 | 2nd round of 5 endpoints

Underactive thyroid

Hypertension

Non-fatal cancer
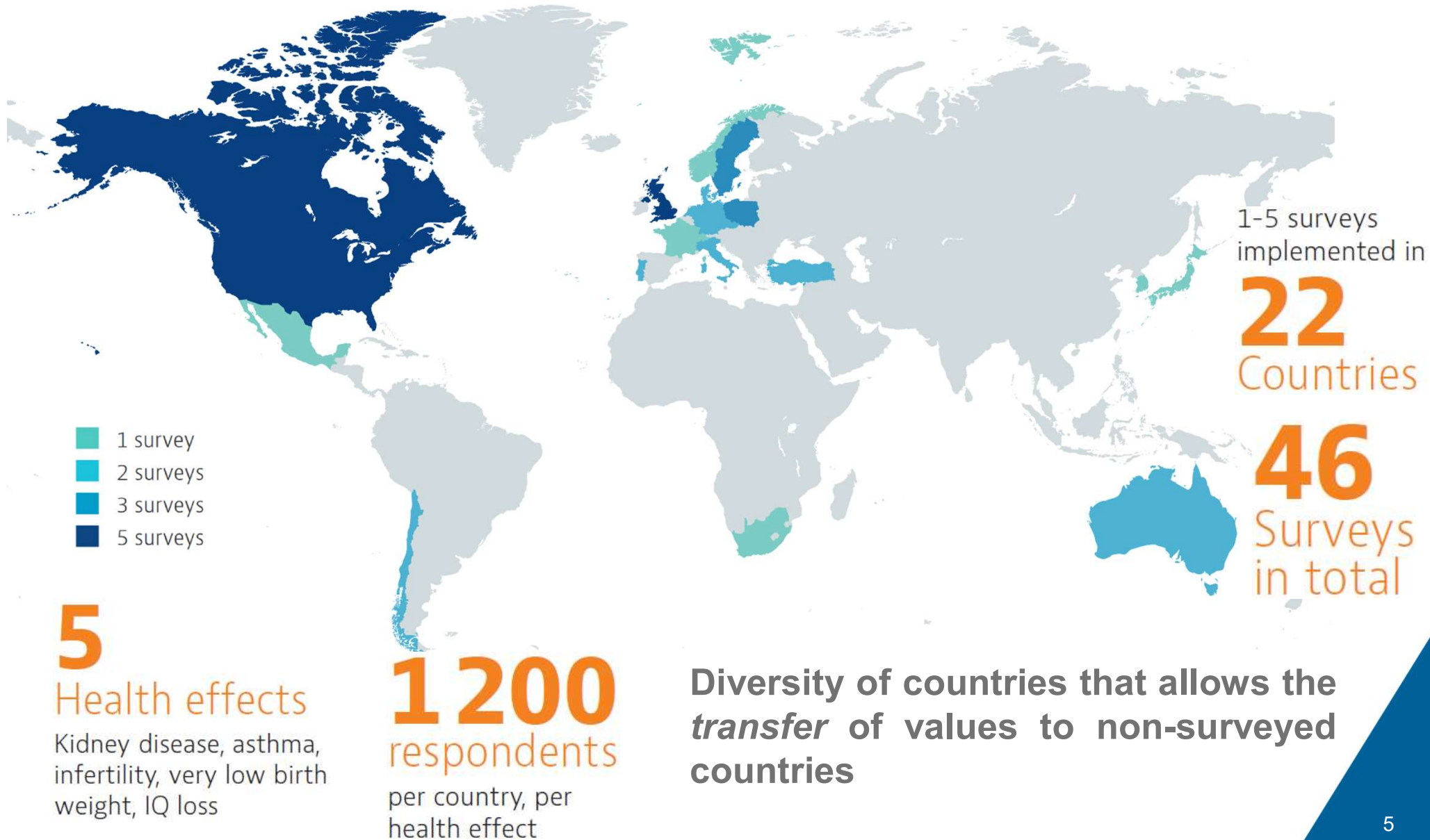
Skin sensitisation

Miscarriage

2024

3 | Paper summarising findings and providing guidance for using recommended WTP values in regulatory assessments
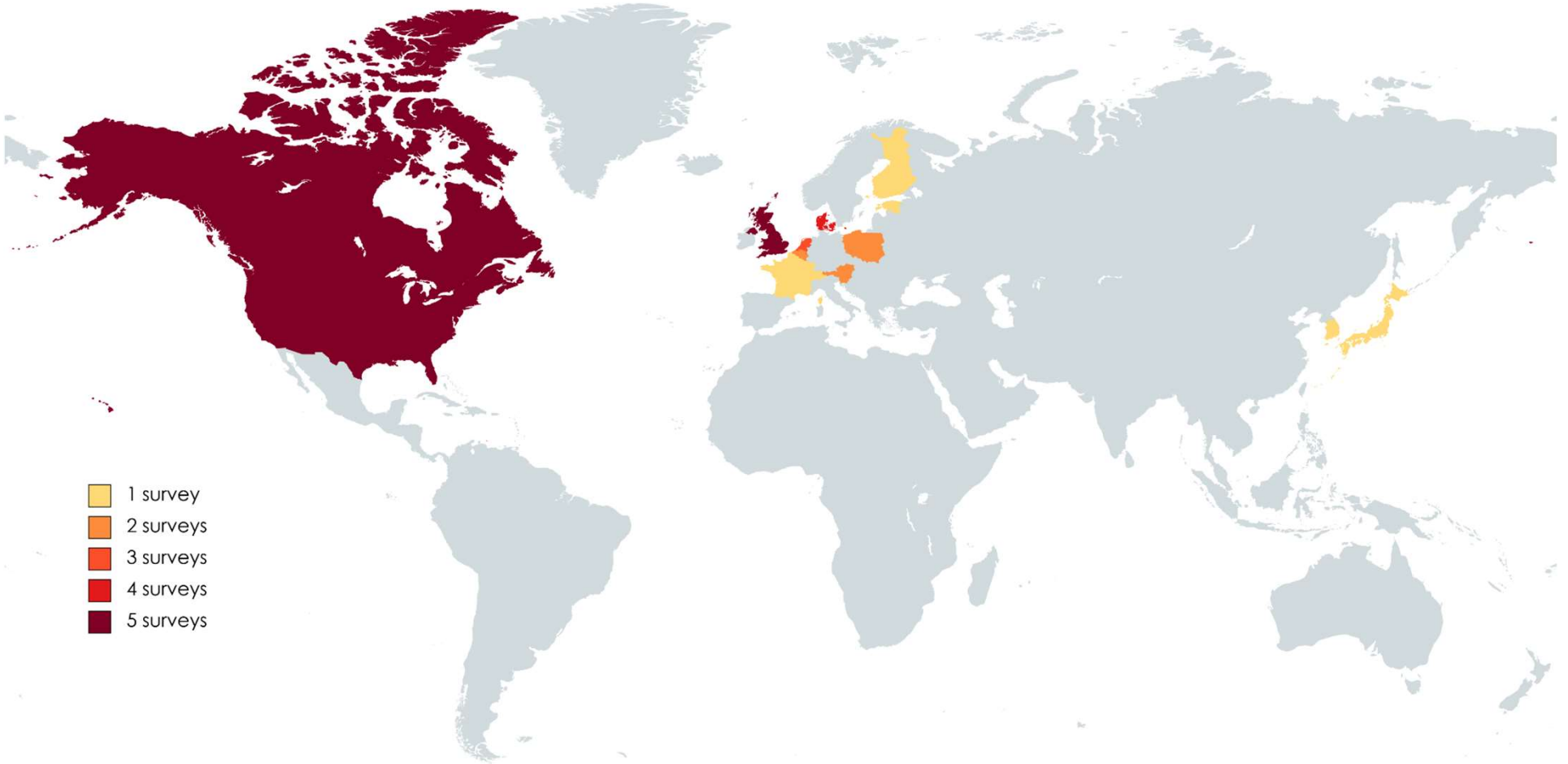
2024

Key figures from the first round

1-5 surveys implemented in

22 Countries

46 Surveys in total

Legend:
- 1 survey
- 2 surveys
- 3 surveys
- 5 surveys

5 Health effects
Kidney disease, asthma, infertility, very low birth weight, IQ loss

1200 respondents
per country, per health effect

Diversity of countries that allows the *transfer* of values to non-surveyed countries

2ⁿᵈ Round of Surveys will cover (at least) 14 Countries

1 survey
2 surveys
3 surveys
4 surveys
5 surveys

Completion in 2024
Targeting joint OECD Publication Covering all 10 health effects

Updating the Value of a Statistical Life (VSL)

- VSL is a key part of many Cost-Benefit Analyses

- VSL does not measure the value of life – rather, it provides an economic valuation of changing the risk of a fatality

- OECD's VSL estimates are widely used but old

- New study will improve guidance for transfer of values across countries and over time

- Supported by international group of VSL experts

Mortality Risk Valuation in Environment, Health and Transport Policies

The Cost of Air Pollution
HEALTH IMPACTS OF ROAD TRANSPORT

...Benefit Analysis ...e Environment
...EVELOPMENTS AND POLICY USE
...n, Nils Axel Braathen, Ben Groom
...Mourato

OECD

How should VSL be measured?

- Updated study will feature two approaches:
  - <u>Revealed preferences (RP)</u> – valuations based on actual choices, e.g. wage premium for taking a risky job
  - <u>Stated preferences (SP)</u> – surveys of willingness to pay for safer alternatives or willingness to accept higher risk

- Meta-analysis based on all existing published studies on VSL

- First time to combine SP and RP at this scale

- Revealed preference studies typically suggest higher values

How to estimate health benefits of low carbon transport policies in cities?

- New policy could reduce air pollution and reduce traffic fatalities (among other things)

- Health improvements could include (among other things) a reduction in asthma, in low birth weight, in non-fatal cancer and provide an improvement in IQ among children

- Reduced deaths in traffic and from air pollution

- Valuation: Change in the number of statistical cases
  (change in probability * people impacted)

  X   Value of statistical case

  Mortality   or   Morbidity
  (VSL)   (e.g. Low birth weight)

- Net present benefits of the policy change over a determined time horizon

THANK YOU