Healthy Urban Atmospheres

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introduction
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Healthy Urban Atmospheres

Introduction to the programme

What?

Why?

How?
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Introduction to the programme

Healthy Urban Atmospheres: Towards Sustainable Air Quality Management

Funded by FRST contract number C01X0813

Eight years from 1st October 2008
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Healthy Urban Atmospheres: Towards Sustainable Air Quality Management

NIWA,
The University of Canterbury,
Landcare Research,
Environet Ltd.
Golder Associates
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Healthy Urban Atmospheres: Towards Sustainable Air Quality Management

Managing air quality in a sustainable development framework

“The overall approach is for air quality management to sit within a sustainable framework, with good air quality recognised as an indicator of sustainable development.”
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Programme is subdivided into three interdependent Objectives.

1 National Environmental Standards – toward 2013 and beyond
   Providing science to assist with the implementation of the NES and looking forward to the next generation air quality management

2 Understanding Exposure
   Quantifying; measuring, modelling and mapping
   Total exposure – indoors, outdoors, commuting…
   Managing exposure

3 Towards Sustainable Air Quality management
   Integration – AQ, energy, transport etc
   AQ as an indicator of sustainability
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Aims

Why?

To get ahead of the game

Provide the research that NZ will be using in 10 to 15 years time

Put NZ AQ research up with international front runners

Provide research input to development of international standards (e.g. WHO guidelines, EU exposure standards)

the programme should be “aiming to meet future needs of users rather than their current day-to-day, potentially short-term, requirements” Peter Brimblecome UEA, review of previous FRST research programme, 2001.
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Why?

Benefits to New Zealand

Managing New Zealand’s air quality in a sustainable development framework

– Joining up the dots – linking air quality to
  • health outcomes
  • energy policy
  • social and economic policy

– The next generation of air quality legislation
  • international
  • local

– The next generation of air quality researchers and managers
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How?

Objective 1: NES – beyond 2013

Characterisation of urban air quality

What’s out there?

- High resolution spatial and temporal measurements
- Physico-chemical characteristics

Understanding processes

What causes emissions in one place to lead to concentrations measured somewhere else?

- Better emissions estimates
- Small scale met
- Topography

Assessment tools

Turning understanding into models
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How?

Objective 2: Exposure & Effects
Characterise exposure distribution & determinants
How and why does my individual exposure differ from yours?
High resolution pollution mapping
Exposure gradients
Behaviour & lifestyle
Total exposure
Indoors (home, work)
Outdoors
Commuting

Assessment tools & Assessments
Classify exposures
Links to epidemiology
Health outcomes
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How?

Objective 3: AQ & Sustainability

Explore (policy and physical) drivers, impacts and linkages
- Current AQ policy – impacts on other policies?
- Energy and transport policy – impacts on AQ?

Outcomes, indicators, information, decision-support
- Decision tool(s) for planners (how not to make AQ worse)
- AQ impacts of non-AQ decisions
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This will enable others to;

How?

Objective 1: NES
Meet AQNES
Review existing and set new standards and related policies

Objective 2: Exposure & Effects
Improve understanding of links to health effects (through new epidemiology)
Improve & extend Health Risk Assessment
Demonstrate more efficient, effective and accountable air quality management

Objective 3: AQ & Sustainability
Better integrate management & planning
Fund and execute prioritised additional research
Consider new policy on the basis of improved NZ-based evidence