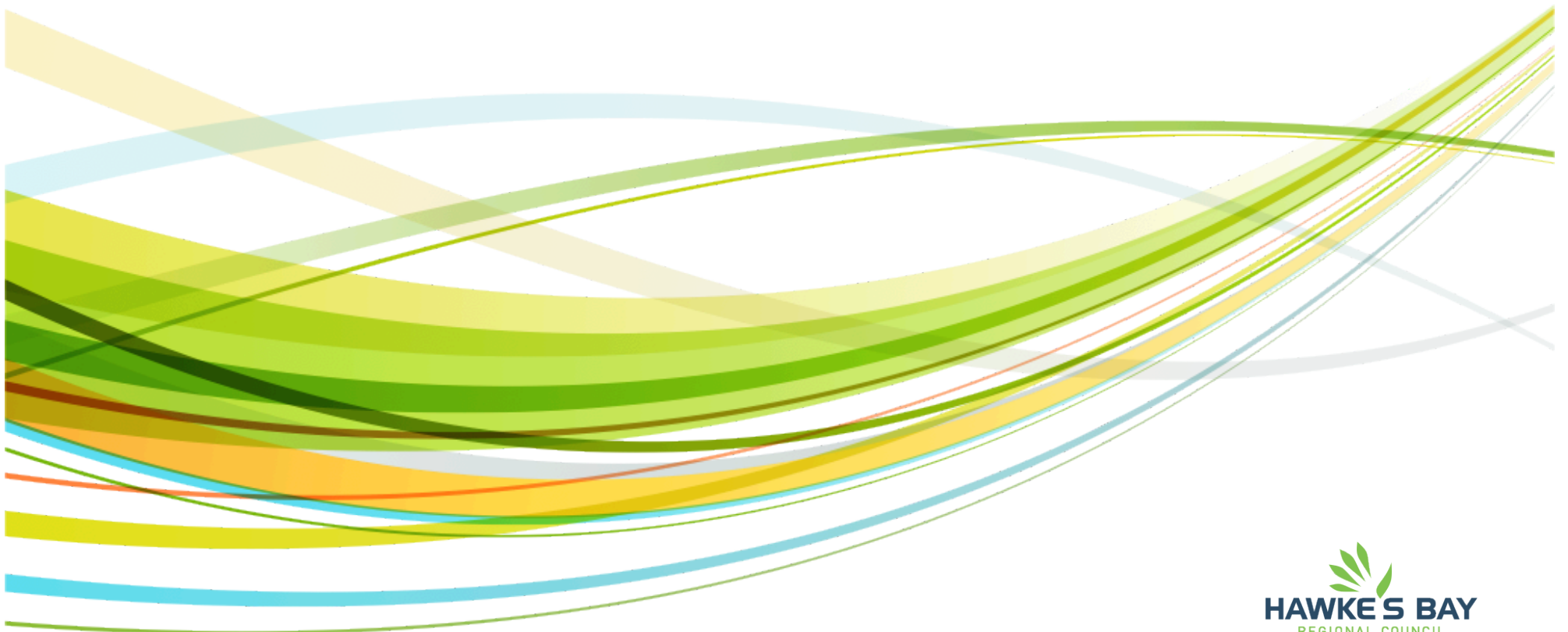


National Air Quality Working Group

Research Priorities

Presentation to SIG Workshop March 2015



Priority Research Areas

**Relationships
between
emission
sources and
air quality**

**Describing
and
measuring air
quality**

**Air quality
and health
impacts**

**Effective air
quality
management**

Priority Research Needs

Relationships between emission sources and air quality

Understanding anthropogenic contributions

- Review the cost-effectiveness and reliability of emission inventories and modelling as evaluation methods.
- Identify whether better methods of linking emissions to concentrations exist.

Emission factors and uncertainty

- Quantify uncertainties associated with emission factors used in emission inventories.
- Assess whether low emission burners deliver predicted reductions in PM₁₀ (lab versus real life).

Natural sources

- Quantify contributions from natural sources.
- Establish what constitutes exceptional events involving natural sources.

Priority Research Needs

Describing and measuring air quality

NEMS

- Establish standard air quality monitoring and QA procedures to achieve national consistency in measurements.

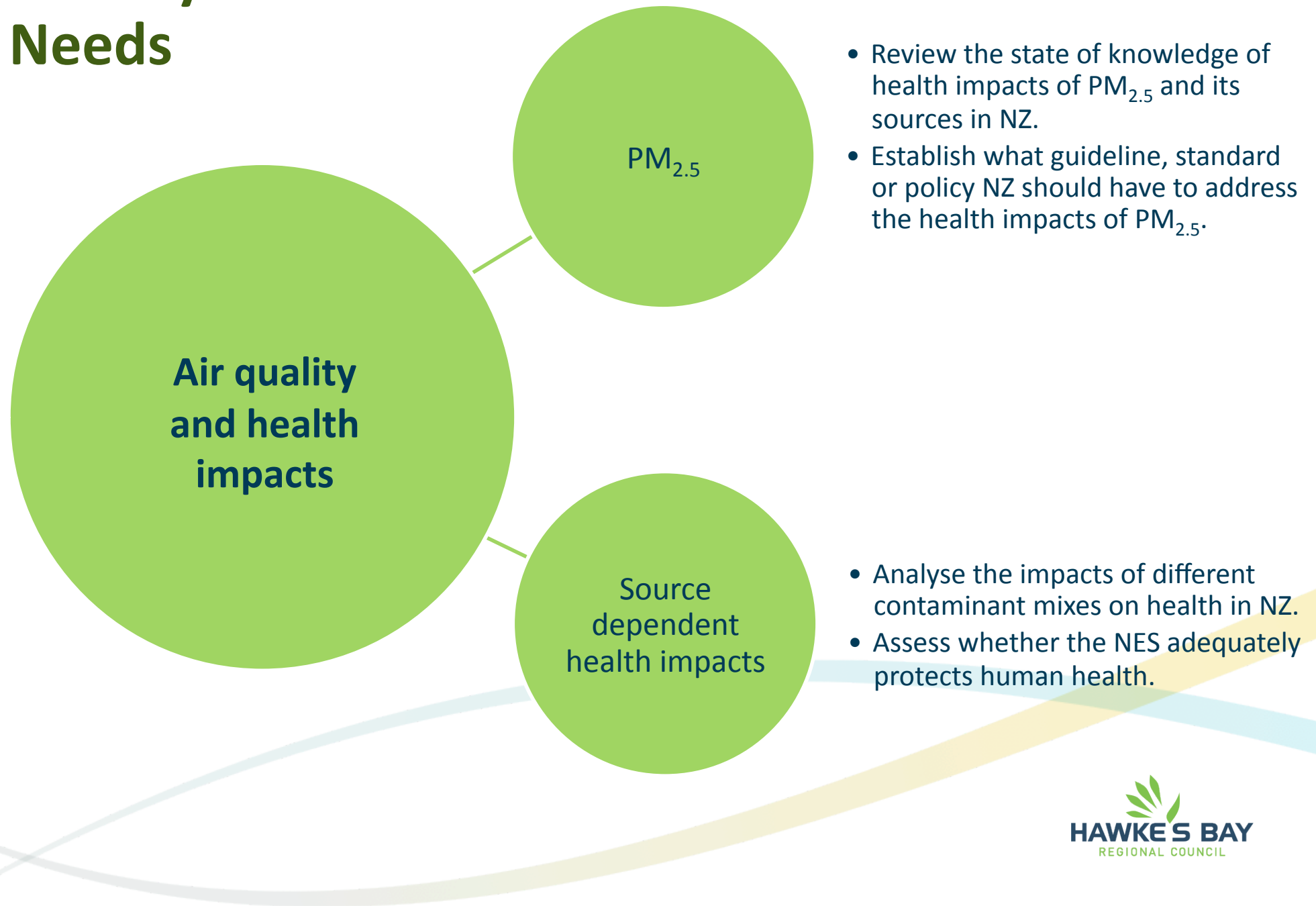
Affordable monitoring methods

- Identify/produce affordable, reliable alternatives to standard methods for measuring hazardous air pollutants.
- Develop networks of low-cost sensors for measuring spatial variability.

PM_{2.5} information gaps

- Review PM_{2.5} monitoring in NZ and what it tells us.
- Determine the relationship between PM_{2.5} and PM₁₀, how it changes with location, season, sources.

Priority Research Needs



Priority Research Needs

Effective air quality management

Influencing behaviour/
barriers to change

- Determine how to best influence perceptions and the behaviour of householders to improve air quality.
- Identify barriers (poor insulation, fuel poverty) to adopting clean heat and how they can be overcome.

Technological solutions to improve air quality

- Develop improved emissions control for home burners.
- Investigate broader infrastructure/energy/ climate change solutions to manage contaminants.

Understanding and quantifying management responses

- Develop tools to accurately track progress towards our goals in a nationally consistent manner.