

# The Air Quality Manager's Guide Charts

*Concepts and definitions for the management of  
local emissions and air quality*

**Version 1, 18<sup>th</sup> April 2016**

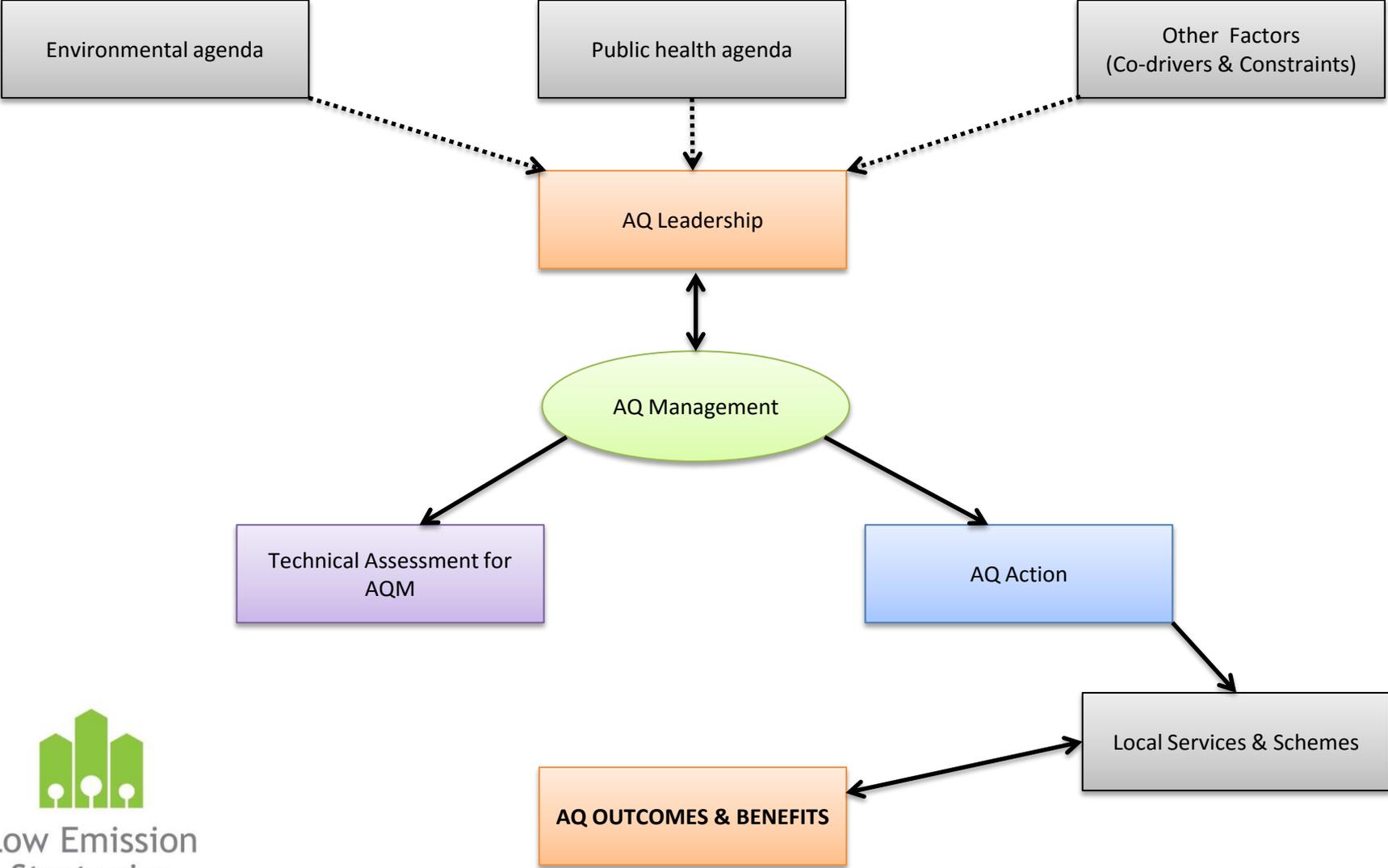
Please send comments, questions and other  
feedback to [Rob@green-sphere.co.uk](mailto:Rob@green-sphere.co.uk)



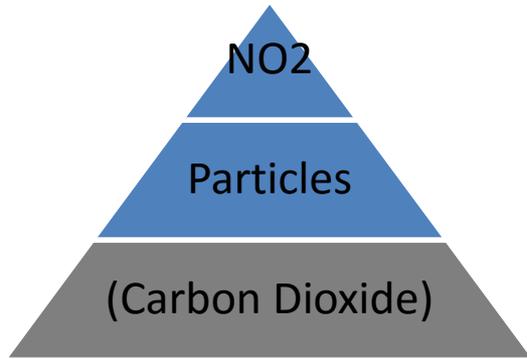
**Low Emission  
Strategies**

Building on Good Practice

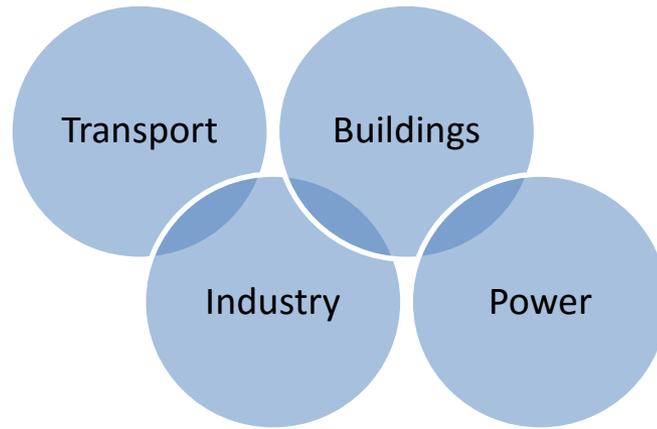
# (1) System View



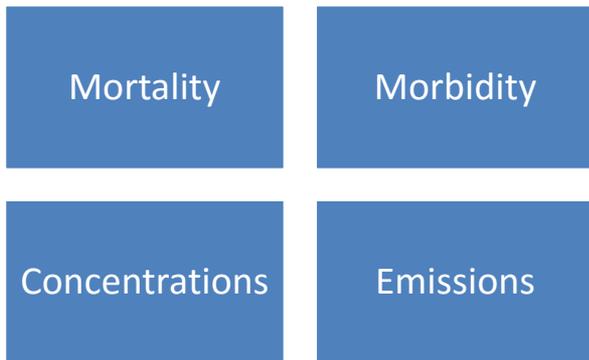
# (2) Scope of Concern



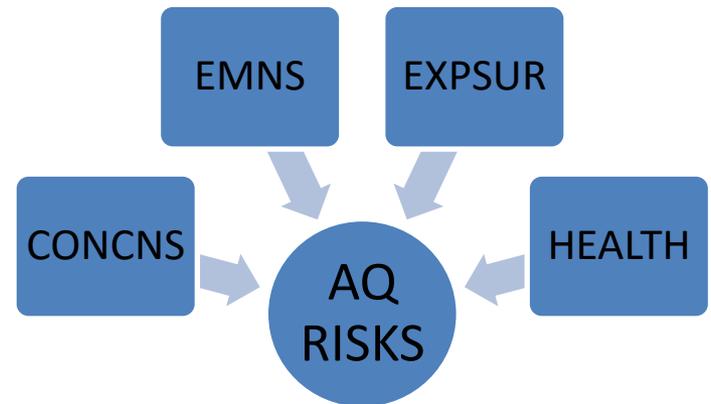
**Pollutants**



**Sources**

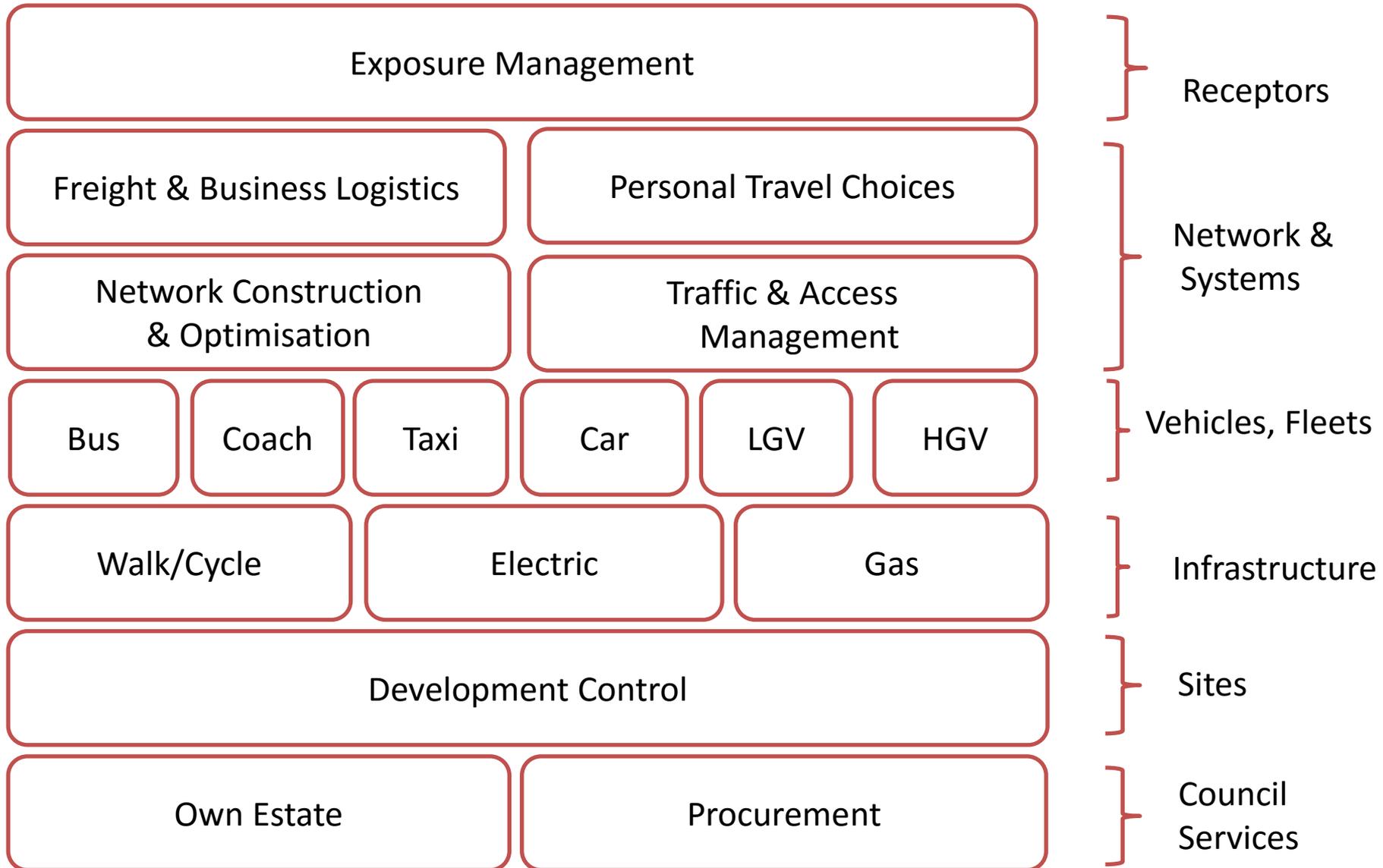


**Impact Modes**



**Indices**

# (3) Scope of Possible Action



# (4) The Local Air Quality Manager's Role

## **Aims**

The purpose of local emissions and air quality management is to improve and protect public health by identifying, designing, justifying, and implementing local measures which:

- Improve Local Air Quality (including contributing to compliance with Air Quality Objectives)
- Reduce harmful emissions
- Reduce public exposure to air pollution
- Can be delivered with acceptable financial and social costs
- And, where possible, with wider environmental and socio-economic benefit

## **Integration**

The best interventions are likely to recognise, work with and build on related work and broader service delivery and drivers.

## **Decisions**

Based upon best available evidence, finding a balance between the time, cost and complexity of appraisal, implications for the robustness and confidence in decision making and the associated uncertainties and risk

## **Transparency**

Reporting should be simple, concise, timely and accessible. Providing both a clear evidence base and accessible narrative to explain and justify plans and action and to demonstrate progress and outcomes.

## **Practice**

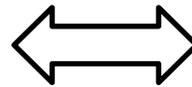
Professional standards and conduct, including that good management practice is applied in an efficient structured manner, and is informed by the selection and use of appropriate methods for technical assessment

# (5) Role Boundaries

It is important to distinguish between the role of Local Air Quality Manager and associated ones relating to leadership, technical assessment and action delivery. Effective working across the three interfaces is a vital part of the AQ manager's job (LHS). However, it is far preferable to avoid requiring a single individual to take responsibility for both sides of a given interface (RHS).

## AQM's Leadership Interface

- Objectively describe the situation
- Highlight opportunities and threats
- Explain options and implications
- Make the case for action

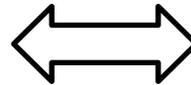


## AQM taking on a Leadership Role

- Campaign or lobby for commitment
- Campaign or lobby for resources
- Accept an impossible or incoherent mandate
- Tolerate ambiguous scope or aims
- Compromise professional responsibilities

## AQM's Technical Interface

- Specify monitoring and assessment
- Receive and interpret technical reports
- Make day to day decisions
- Advise on strategic direction
- Manage technical staff & contracts

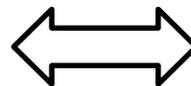


## AQM taking on a Technical Role

- Run monitoring programmes
- Undertake complex assessments
- Compile detailed technical reports

## AQM's Delivery Interface

- Select options and design action plans
- Develop business case
- Develop Implementation plans
- Oversee implementation



## AQM taking on a Delivery Role

- Undertake practical implementation
- Detailed technical design of measures
- Operational monitoring
- Enforcement activities

# (6) Corporate Commitment

In the context of multiple and competing policy drivers and constraints, the starting point for effective local action on air quality is a clear and unambiguous corporate commitment. Crucially, this needs to be a commitment to something - something specific, realistic and testable.

To be testable, there needs to be a clear definition of success. This definition needs to be ambitious enough to meet public and political scrutiny, while at the same time realistic in the context of the authority's competencies, capacity and willingness to act.

For some situations, it will be as important to define what the commitment doesn't include as it is to define what it does (for example, if a significant proportion of the local AQ health burden is effectively excluded from the scope of commitment and concern then, for transparency, this needs to be made explicit).

While the corporate commitment is developed and owned by senior management, it is vital that the AQ manager be fully involved. Firstly because of their specialist knowledge and experience of air quality and secondly because they are best placed to advise as to whether the aims and ambition are realistically aligned with the competencies and capacity available to deliver them.

The substance, format and level of detail included within an authority's commitment may vary according to the type of authority, its corporate approach and the personnel involved. However, the boxes below illustrate in simple terms how the formulation of success can be more or less specific and testable:

Comply with LAQM processes  
Work towards AQO compliance  
Talk to public health colleagues about PM2.5

Reduce monetised AQ impacts by £10m per year  
Reduce city centre NOx emission by 20%, in 2016  
Achieve 80% AQ mitigation on new developments

# (7) Professional Mandate

While the corporate commitment establishes accountability for local air quality work, the professional mandate delegates qualified responsibility to the Air Quality Manager. In principle the mandate derives from the corporate commitment, however in practice the two are likely to be developed in parallel.

The mandate is negotiated with the corporate leadership. It is a contract, through which the Air Quality Manager applies professional expertise and practice in pursuit of agreed goals.

The form and content is flexible, and needs to be responsive to progress and events

It is likely to include:

- Scope and Aims of Work
- Definition of Success
- Team Composition and Resources
- Investment and Finance principles
- Oversight Provision and Protocols

And will ensure:

- Clear and concrete terms of reference
- Freedom and authority to act within them
- Appropriate checks, balances and support features

# (8) The AQ Manager's Mind-Set

action focus - with supporting information flows

work flows - around the AQ manager in a pivotal role

Selection   Design   Justification   Finance   Implementation   Benefits



## Action & Change

Effective Decisions

Efficient Practice

Best Knowledge

Transparent Activity

*Primary work flow emphasises action, while assessment and reporting provide complementary information flows*



*The Manager plays a pivotal role, blending parallel processes. Gaining synergy and efficiency over a more traditional linear conceptualisation...*

*... while at the same time maintaining structured knowledge capture and reporting transparency, which can be lost if action is pursued without reference to a strategic knowledge frame.*



## Information In

Knowledge Based

Decision Driven

Reporting Need

## Information Out

Snapshots in time

Multiple Audiences

(informing & justifying)

# (9) Packaging and Delivery of Measures

Successful and sustained local action requires a platform of linking provision, policies and practice.

Some councils have taken the step of pursuing an 'Authority Wide Low Emission Strategy,' while others are using existing frameworks and processes to similar effect. The detailed apparatus and terminology is less important than that the necessary coordination be achieved.

The following nested structure provides a comprehensive framework and can be applied at local, regional or supra-regional level:

- Strategy Provides the framework for joined up work on AQ and low emissions
- Area Action Plan(s) Area-wide air quality and emissions intervention plan.
- Hot Spot Plan(s) Supplementary work to address specific hot-spots (i.e. beyond the area action plan)
- Exposure Plan Protecting the health of individuals in face of residual air pollution

Development and implementation of these structures requires dedicated expertise, adequate resources and realistic timescales. It requires clarity on roles and responsibilities of different stake holders. And is likely to be best delivered under a formal project/programme management environment.

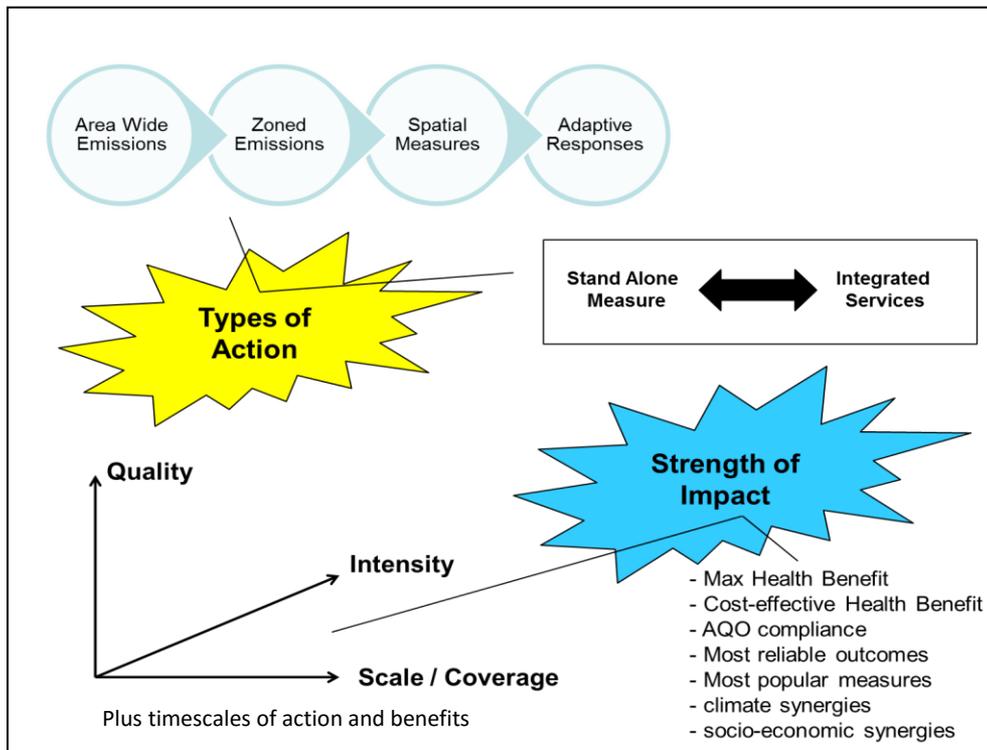
Within these structures, the Air Quality Manager operates as a PRINCE2 style project manager, supported by a senior level project/programme Board.

Development and documentation need not be laborious, and indeed detailed contextual material is better held elsewhere. The various action documents should be precise, concise and easily maintainable over time. Good use could also be made of prior examples and standard templates, as/when these become available.

# (10) Selection and Optimisation of Measures

Different intentions, weightings and priorities at the point of action planning can have a strong influence over the form and nature of ensuing action.

For example, emphasis on short term compliance with NO<sub>2</sub> limit values can drive a different response to that which sets out to maximise health benefits by 2025. Since different approaches are possible, it is important to document an explicit selection and optimisation logic.



In establishing the selection and optimisation approach, it is important to:

- work with the nature of all possible action rather than with a conceptualisation which itself distorts and pre-ordains selection.
- recognise that the relative strength of an action is rarely intrinsic to its type. It is also likely to depend on the scale, intensity and quality by which it is implemented.
- select optimisation parameters which flow from and align with the corporate commitment and so avoid allowing them to dictate terms to it (i.e. tail wagging the dog)

# (11) Technical Assessment

## Strategic Area Assessment

Provides an area wide and longer term perspective, tracking trends in health and environmental outcomes over time. It draws on traditional review and assessment, but also incorporates other metrics and methodologies, which broaden the view. The assessment essentially ground tests the terms and assumptions of the corporate commitment and monitors progress against them over time. It is concerned with three distinct, albeit interdependent, questions:

- (1): What is the level and nature of change that is required for success? And over what timescale? [Change]
- (2) Are there plausible interventions that can meet these aims at acceptable cost? What do they look like? [Intervention]
- (3) What co-benefits are possible, what tensions exist? How significant are these? [Co-Factors]

## Air Quality Impacts and Mitigation Appraisal (AQIMA)

Applies to individual interventions and measures, supporting their selection, design, justification and implementation. The strategic view above, provides reference points and context to simplify assessment and aid interpretation of results. No single metric or type of assessment necessarily dominates. Requirements are specified according to needs, audience and application and may emphasise emissions, concentrations, health, exposure, activity and/or cost assessments. From the perspective of air quality outcomes, three universal independent tests provide the core of a consistent basis for decisions.

Emissions Test: Considers whether appropriate levels of emissions mitigation have been established, defined as *'a balanced and proportionate level compared to the harm that would otherwise be caused'*

Concentration Test: Complements emissions assessment, by providing a safe-guard to avoid *'unacceptable localised impacts to ambient concentrations of air pollutants.'*

Exposure Test: Considers the location and movement of receptors in relation to new or existing pollutant levels. Again it provides a safe guard, this time to avoid *'unacceptable public exposure to air pollution.'*

# (12) Broad Topics

**Project Management**



Do stuff  
Change Things  
Accrue Benefit



Do the right stuff  
Justify investment  
Demonstrate benefits

**Technical Management**

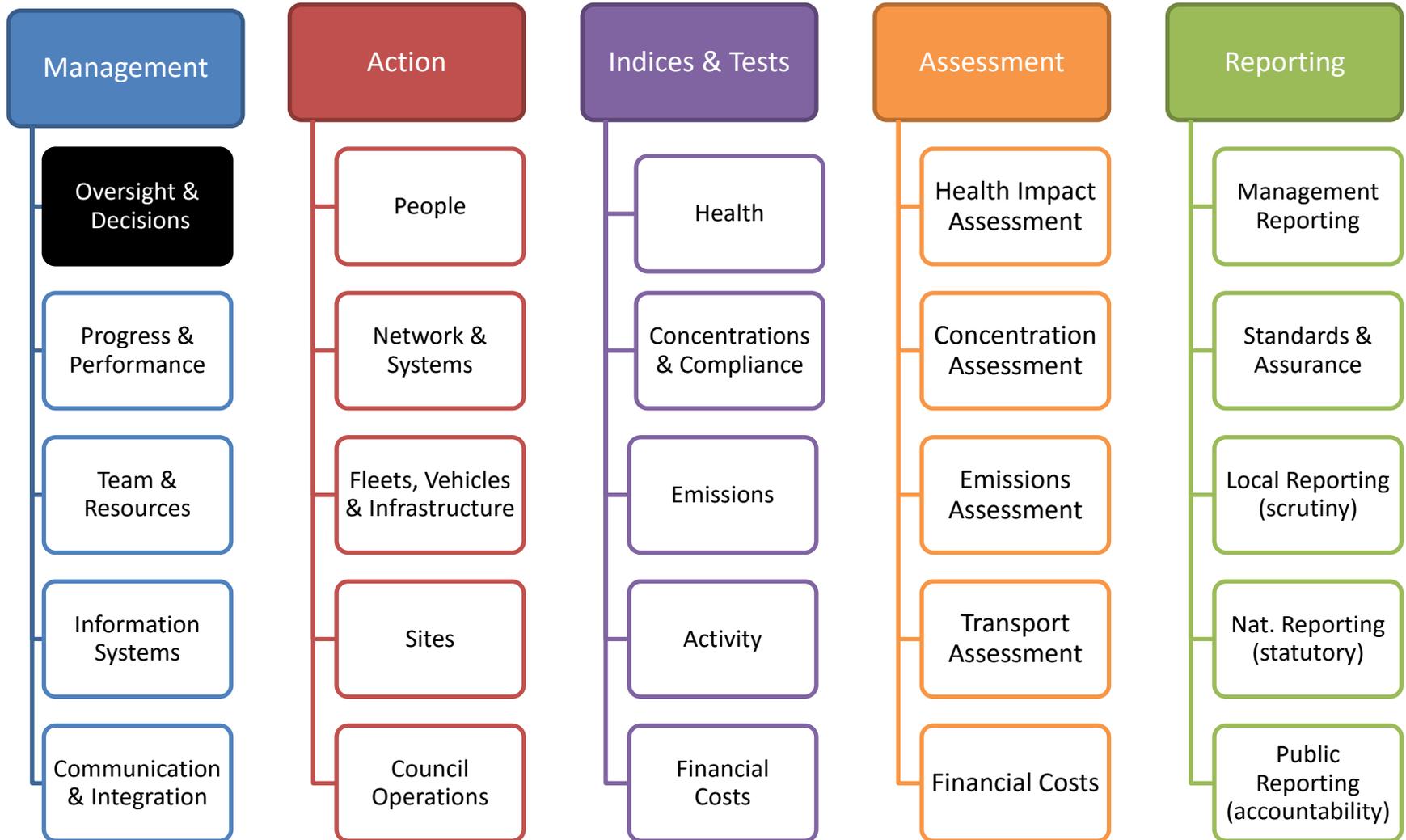


**General Management**



Do it effectively  
Do it efficiently

# (13) Detailed Topics



# Management

*The design and implementation of standard management processes and protocols for efficient and effective working*

Oversight & Decisions

Control activities and resources, including interpretation and use of relevant indices, assessments and reports

Progress & Performance

Establish and maintain a clear set of aims, definition of success and the means of monitoring progress against them

Team & Resources

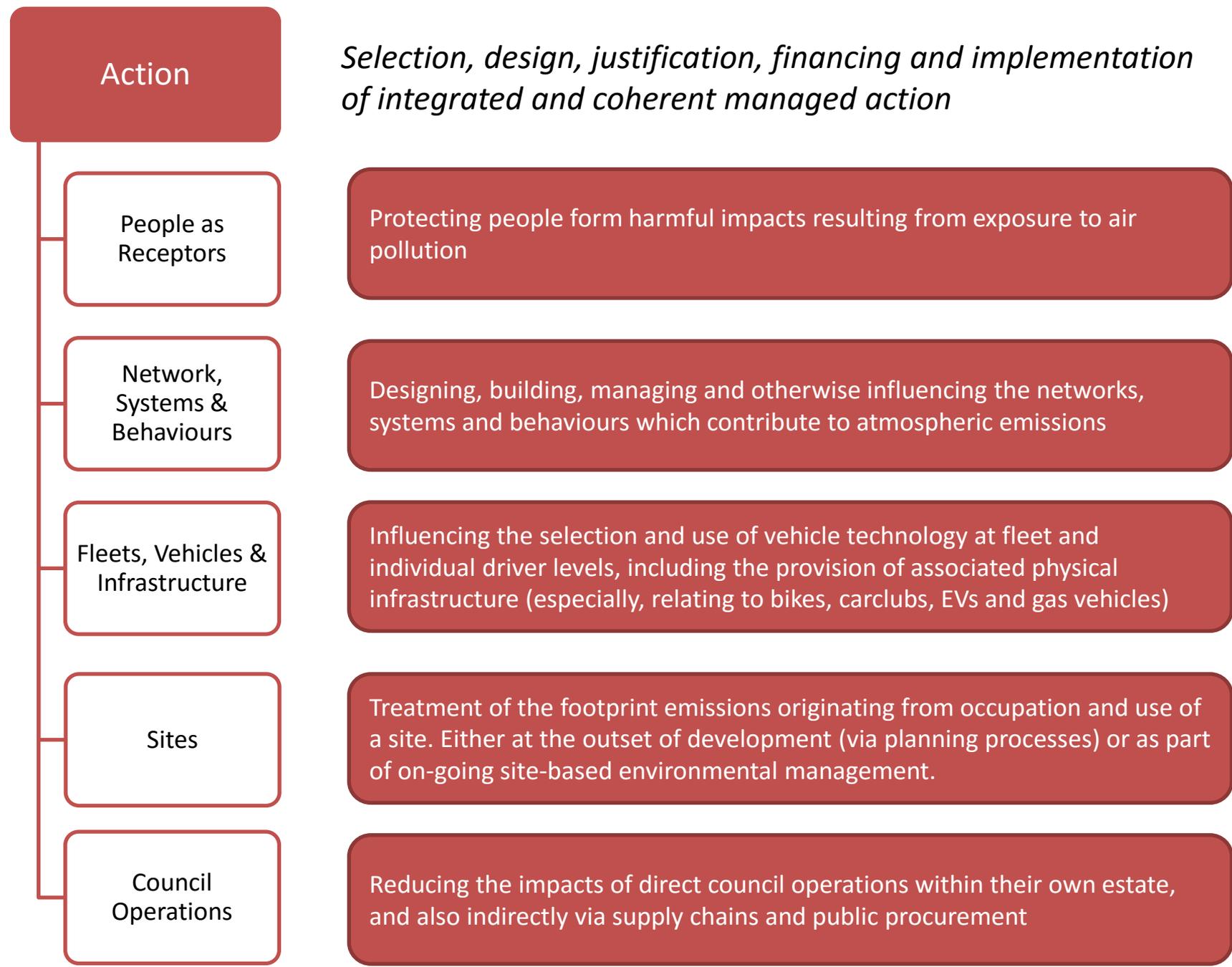
Establish a balanced and realistic delivery team and level of resources  
Manage and deploy these to best effect

Information Systems

Establish and maintain appropriate information capture and knowledge management systems

Communication & Integration

Identify relevant policies, processes, initiatives and stakeholders. Engage intelligently both working towards common aims and actively managing inherent tensions.



*Selection, design, justification, financing and implementation of integrated and coherent managed action*

Indices & Tests

Selection, specification and guidance relating to use of qualitative and quantitative indices and tests

Health

Health indices

Concentrations & Compliance

Concentrations and compliance indices

Emissions Damage

Emissions and Emissions Damage indices

Activity

Transport and travel indices

Financial Costs

Financial indices

Assessment

Assessment which supports the design, justification and implementation of policies, plans and measures

Health Impact Assessment

Assessment of health end points

Concentration Assessment

Assessment of pollutant concentrations and compliance (levels, changes and trends)

Emissions Assessment

Assessment of polluting emissions and associated damage (levels, changes and trends)

Transport Assessment

Assessment of transport and traffic (levels, changes and trends)

Financial Costs

Assessment of associated financial costs (nature, scale, distribution and timescales)

