OPENAIR

Best Practice Guide

BP111 | Identify

Identify your issues

Introduction

Identifying issues that impact stakeholders is imperative to designing a good air quality monitoring program. However, it is equally important to establish a clear focus within your air quality monitoring project to ensure resource optimisation and continued positive impact. Unfocused projects run a high risk of not just having poor impact, but may also result in wasted time, effort, and monetary resources for your organisation. The knowledge gained from your stakeholder engagement process should have already helped you identify several broad concerns affecting your community.

This Best Practice Guide chapter provides guidance on how to find focus within your air quality monitoring topic of concern. It also outlines how to take a general issue and consider the necessary details to make it measurable and monitorable to assist in building an impactful smart monitoring project.

Who is this resource for?

All local governments intending to develop a robust air quality monitoring program will need to identify their topic of concern and then ensure it is focused enough for a successful smart program to be built around. This chapter provides specific insight to local governments who are struggling to prioritise between multiple general issues.

How to use this resource

This chapter explains the importance of identifying a focus issue for your project and outlines a high-level approach to finding that focus through a process of prioritisation.

The first step in identifying your issues involves stakeholder engagement and an attempt to answer simple questions like "what matters to your organisation?", or "what does your community care about?". The Best Practice Guide chapter *Know your stakeholders* outlined the range of stakeholders that might be engaged as part of an air quality monitoring project, explored ways to engage those stakeholders, and emphasised the need to connect that engagement with broader policy and strategic priorities—working through this should have produced a list of focus issues. This chapter will now help you to assess and prioritise these issues.

This chapter also complements the *Identify template*—an OPENAIR supplementary resource—and outlines how to use the template to identify the focus of your specific area of concern and related issues.

Prioritising issues

You should have already identified your issues and have a short-list of potential focus topics (see Best Practice Guide chapter *Know your stakeholders*). This resource focuses on prioritising that short-list by reviewing options against your organisation's existing commitments and broader external policy environment. Following this, you can assess the feasibility of addressing potential high priority issues by considering each one in terms of how you would practically engage with it in terms of organisational resourcing capacity.

TIP: Each of your short-listed focus issues should be specific for the type of **air quality issue (e.g., heat, air pollution), location**, **timing**, and **people affected**.

Consider the case of air pollution in the vicinity of a school. You might start out with a rough idea that parents and teachers have concerns. Following some engagement, you might determine that the level of vehicle emissions is perceived to be too high around a school entrance during drop-off and pick-up times, creating concerns for the health and wellbeing of students, teachers, and parents.

This seemingly simple but added level of detail surrounding the issue provides a starting point for measurable and monitorable activities to be established. This connects the issue to something actionable, which can then be assessed against commitments and capacity, allowing prioritisation.

Your existing commitments

Internal commitments

To help you to focus on specific local air quality issues that align with your organisation's existing commitments, you should review internal policies, strategies and other formal commitments that might directly relate to air quality and/or smart air quality monitoring.

Search for key words that relate to the issues on your shortlist, such as 'air quality', 'smoke', 'traffic' or 'digital literacy'. You might also investigate specific technical considerations that you anticipate being part of your project, such as a specific position on data sharing.

By conducting an internal policy and strategy review you should gain critical information to assist with prioritising focus issues for your project. The following list provides a starting point for internal review:

- environmental sustainability policy
- climate change policy
- planning policy
- smart city policy, strategy or position statement
- technology or innovation policy
- economic development strategy
- community engagement and public program policy/strategy
- community strategic plan
- street tree policy
- placemaking strategies (including place-specific masterplans)
- data policy
- IT policy.

External commitments and broader considerations

As part of the review process, you should also consider the relevance of state, federal and international policy, strategy, legislation, and standards that intersect with the core themes of air quality, pollution, smart technology and innovation. The list of potentially relevant external commitments is extensive; however, here is a short list of key considerations to get you started:

- Current state government policy, guidelines and other published materials relating to ambient air quality (monitoring methodology; data management and interpretation; data applications; relevance and impact). In NSW, these materials reside with the Department of Planning and Environment who manages the state-wide regulatory ambient air quality monitoring network and the delivery of the actions in the NSW Clean Air Strategy. For more information see their webpage on data, research and reports on air quality and air pollution.

- Carbon emission targets and emission reduction strategies. These strategies prioritise approaches that overlap with air pollution mitigation goals across key sectors such as transport and energy. In NSW, this includes the raft of new strategies connected with the Net Zero Plan Stage 1: 2020-2030, such as the Net Zero Cities Action Plan (2022).

- State and federal climate change adaptation and resilience strategies e.g., the NSW climate change adaptation strategy and the National Climate Resilience and Adaptation Strategy 2021-2025. This intersects with air quality concerns associated with most major sectors, including cities and buildings, transport, energy production, bushfires, mining, and agriculture.

- State planning policy for new developments and residential housing e.g., State Environmental Planning Policies (SEPP). This relates to air quality topics such as residential heating, green infrastructure, public amenity, and transport links.

- State transport policy for roads, rail, freight, public transport, and active transport, notably positions regarding emissions reduction, diesel fuel, fleet electrification, car use, major infrastructure planning, and metropolitan and regional connectivity; for example, the NSW Future Transport Strategy.

- State economic development policy, including policy positions on technology and innovation, knowledge economy and learning, industry and investment, and tourism. Wherever links are made between the maintenance of a high-quality environment and economic competitiveness, there is an argument for focusing on air quality.

- State policy on emergency and crisis response and preparedness. In NSW, this is the State Emergency Management Plan (2018), which has sub-plans for bushfire and heatwaves.

- Sustainable Development Goals (SDGs), notably SDG 11: Sustainable cities and communities.

- Voluntary international commitments such as local government signatories of the C40 Clean Air Declaration.

- National standards relating to ambient air quality. In Australia, this is the National Environment Protection Measure (NEPM) for Ambient Air Quality.

- The World Health Organization's Air quality guidelines (AQG).

Your resourcing capacity

You should now have a prioritised short list of potential focus topics. Take the top two or three of these and consider in rough practical terms what a project addressing them might entail. What activities would be required to engage with this issue in a targeted and strategic way that delivers clear measurable impact? Your resourcing capacity is your ability as an organisation to meet the requirements of a chosen activity. Reviewing your current resourcing capacity helps to assess the feasibility of addressing each of your high-priority focus issues. This should be the final filter that you use to decide which focus topic to adopt for your project.

The characterisation of resourcing capacity is also a useful framework for thinking about the practical requirements of a potential project. Use the information in Table 1 to guide your thinking.

Table 1. A guide to assessing your resourcing capacity for an air quality monitoring project

Resourcing capacity element	Key considerations
People	• Who is available to lead this project? • Who within your organisation cares about this issue and is likely to have the remit and capacity to engage with it? • Do you have people with the relevant knowledge and skills? • Can you ensure active senior management support and engagement? • What support roles are needed and are they available? (IT, administration, communications, outreach, asset management, governance, etc.) • Do staff have capacity within their workload to handle added complexity, delays, and overruns, should they occur? • Do you have redundancy in the event of staff attrition? • Are proposed activities safe and appropriate for staff to undertake?
Strategic partnerships	• Do you have existing partnerships, or access to potential new partnerships, that would directly support core project development and delivery? • Consider areas of knowledge and expertise that might be lacking within your organisation. • Consider ways of offsetting direct costs to your organisation through identification of mutual benefit. • Consider the possibility of joint applications to external funding sources as the basis of new partnerships.

Resourcing capacity element	Key considerations

Organisational knowledge and expertise	• Does your organisation have the knowledge and expertise required to engage with:
	   – the needed technologies? (sensors, IoT, etc.)
	   – the governance and administrative complexity?
	   – the data interpretation?
	   – the strategy for change and impact creation?
	   – stakeholder engagement?
	• Note: You may not need to accommodate all of this within your organisation if you are able to lean on external partners, contractors, or service providers.

Data access	• Do you have nearby regulatory monitoring stations for ambient air quality that can support your specific project? Would this be required? • Will you require historic air quality data for the area, and do you have access to it? • Will you require other types of data to help you to plan an effect project (e.g., transport data)? Is this something you have access to?
Existing infrastructure	• What existing hardware do you have that might directly support your project (e.g., sensing devices, communications gateways, street poles for mounting devices, etc.)? • What existing platforms and services do you have that might directly support your project (e.g., communications networks, smart city or IoT platforms, enterprise data management systems, data bases, data sharing portals, asset management registers, GIS)?
Funding	• What would it take to secure the allocation of internal funding to some or all of this project? • Is there any existing capital expenditure already allocated that might directly support your project (e.g., public space upgrades may have a provision to install 'smart' infrastructure components)? • Can you justify the allocation of staff hours to this project? • Are there grants or other external funding initiatives that might provide support? • Can you fund ongoing operations as well as the cost of setup? • What about longer-term financial sustainability of the initiative?
Risk	• How risky is this project and what is your organisation's capacity for shouldering it? • Bear in mind that risk is often inherent to innovation, meaning that the more experimental and 'cutting-edge' the activity, the greater the risk of overruns or failure to achieve stated aims.

A data use action statement

Once you decide on a single focus issue you should write a data use action statement to capture your approach to it. A data use action statement defines how new data will enable specific people to address a focused problem through specific activities. The approach (outlined in Table 2) has been developed as part of the OPENAIR *Impact Planning Cycle* framework and can assist in designing a project that leads to measurable outcomes and impacts.

Table 2. A Data Use Action Statement

Format	Example
There is a problem with […………]	There is a **problem** with the level of vehicle emissions around a school entrance during drop-off and pick-up.
This matters to [impacted stakeholder] **because** [……]	**This matters to** parents of school children **because** they are worried about the impacts on their children's health.
It matters to local government because [……]	**It matters to local government because** of the goal in our Community Resilience Plan to create a healthy and liveable community.
[Data user] **is able to address this problem**.	The local government's Strategic Planning Team **is able to address this problem**. To do this, they need **new data** about $PM_{2.5}$ associated with road traffic and exhaust gases (O_2, CO, CO_2) **collected from** the school entrance **during** drop-off (8:00–9:30 am) and pick up (2:30–4:00 pm) on weekdays (Mon–Fri).
To do this, they need **new data** about [parameter]	
collected from [location]	
during [time period].	
They will use this new data to support [specified activity/intervention].	**They will use this new data to support** the introduction of a no-idling zone near the school entrance, and subsequently to evaluate the impact of the intervention on air quality.
This **activity/intervention** is intended to result in [outcome].	**This activity/intervention is intended to result in** an outcome of 90% reduction in the number of idling cars, causing a measurable drop in localised pollution during drop-off and pick-up.
The main **impact** will be [primary impact].	The main **impact** will be a reduction in the hours of exposure of school children to above-recommended pollution levels to 0 hours per week.
Secondary impacts will be [secondary impact 1, 2, etc.].	Secondary impacts will be the support of improved health outcomes.
The impact of the project **can be measured** by [method].	The impact of the project **can be measured** by referring to ongoing air quality data from the location. We may also use pneumatic vehicle counters to track a drop in idling vehicles.

Next steps

Your completed data use action statement/s will have clearly defined how new air quality sensing data will enable specific people to address your focused problem through specific activities.

These data use action statements can be used to communicate the strategy behind your initiative. They form part of your business case and will also be used to maintain a clear focus when planning further details of your air quality monitoring program in the Develop and ongoing stages of the Impact Planning Cycle.

Associated OPENAIR resources

Factsheets

The Impact Planning Cycle at a glance

This factsheet presents an overview of the OPENAIR Impact Planning Cycle, a simple, practical framework designed to assist local governments with impact planning for a smart air quality monitoring project. It is recommended that you familiarise yourself with the framework before you start planning.

Best Practice Guide

Know your stakeholders

This chapter introduces stakeholder mapping and engagement as a critical early step in designing a high-impact project. It helps you to start thinking about who the project's stakeholders might be, and how you will engage with them.

Supplementary resources

Identify template

This accompanies this Best Practice Guide chapter, is a more detailed working tool designed to take you through all the steps of issue prioritisation discussed in this chapter, culminating in the creation of a data use action statement.

Further information

For more information about this project please contact:

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