

A decorative graphic on the left side of the slide features a cluster of hexagons in various shades of blue and grey. A single, smaller teal hexagon is positioned above the main cluster. The hexagons are arranged in a honeycomb-like pattern, with some overlapping.

# UK Air Pollution Assessment Service (UK APAS)

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Ricardo Energy & Environment

DMUG | 25<sup>th</sup> April 2024

A decorative pattern of overlapping hexagons in various shades of blue and teal, located in the top-left corner of the slide.

# Overview

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Background & aims

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What is UK APAS?

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UK APAS Calculator

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Collaborators & contributors

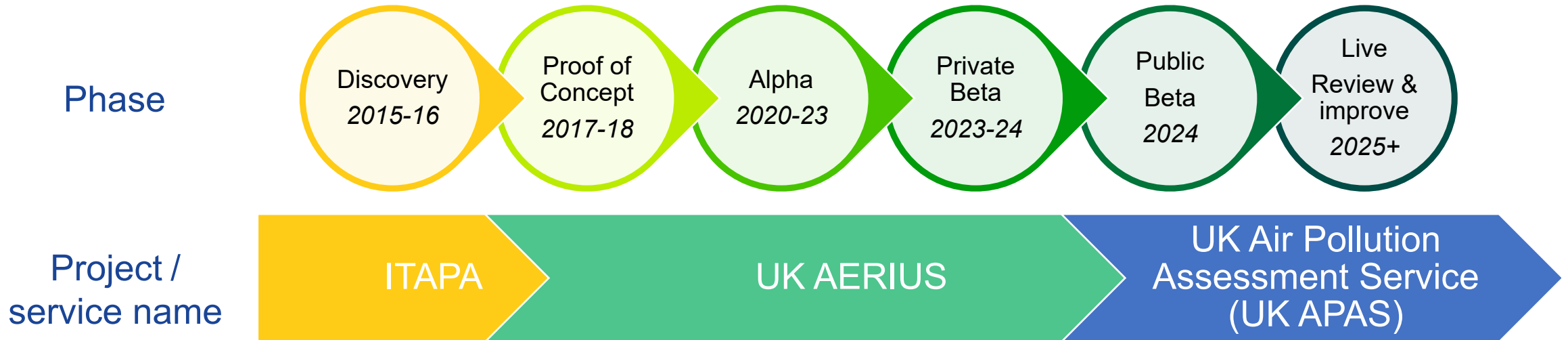
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Get involved!

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Live demonstration

# Background & Aims



# Background & Aims



Update the UK's planning and permitting system with a streamlined, online tool based on the Dutch AERIUS service ([www.aerius.nl](http://www.aerius.nl)).



Support consistent and quicker determination of applications with potential air pollution impacts on sensitive habitats.



Help provide greater understanding of the air pollution pressures on habitats and wildlife, and effects of individual emission reductions.



# What is UK APAS?

**GOV.UK** Get an air pollution assessment

Home | Input | Assessment points | Calculation jobs | Results | Export | Next steps

Scenarios Summary Results

Scenario: New housing - Project Result: Scenario contribution

Pollutant: Concentration NH<sub>3</sub> View: Nature Conservation Act


Assessment points (n): **5046** Highest PEL (µg/m<sup>3</sup>): **2.692**

Max. contribution (µg/m<sup>3</sup>): **0.328**

%CL Distribution Markers Habitat and species

Distribution per designated site

- Eastern Peak District Moors (SSSI\_ASSI)
- Peak District Moors (South Pennine Moors Phase 1) (SPA)
- South Pennine Moors (SAC)
- Peak District Moors (SAC)

  
**UK APAS  
 Calculator**

**GOV.UK** Get an air pollution assessment archive

Home | alex.spence

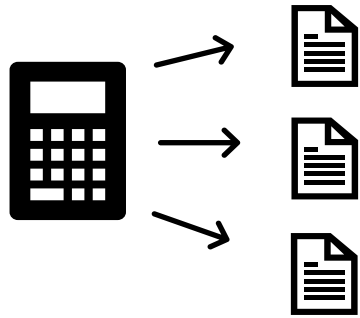
Archive

Projects Filters Download CSV Add project

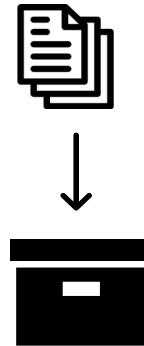
Upload date	Name	Regulatory body	Project type	In-combination distance	Part of background by	Use in IC assessments
Apr 9, 2024	testing	DAERA		5 km	2021	✓
Mar 25, 2024	Example Farm AL	SEPA		10 km	2040	✓
Mar 25, 2024	Example Farm AO	DAERA		10 km	2040	✓
Mar 25, 2024	Random farm	SEPA		10 km	2040	✓
Mar 25, 2024	Farm example TT	Environment Agency		10 km	2040	✓
Mar 25, 2024	Example Farm	Shared Environmental Services		10 km	2040	✓
Mar 25, 2024	Example Farm MMU	DAERA		10 km	2040	✓
Mar 25, 2024	Example Farm				2025	✓

  
**UK APAS  
 In-combination Archive**

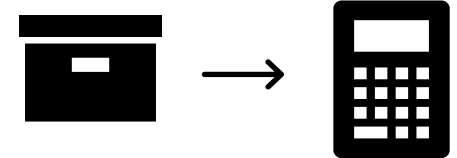
# What is UK APAS?



Complete assessments in  
**Calculator**



Regulators store  
assessments in the  
**In-combination Archive**



Automatically include results from  
the **In-combination Archive** in  
in-combination assessments in  
**Calculator**

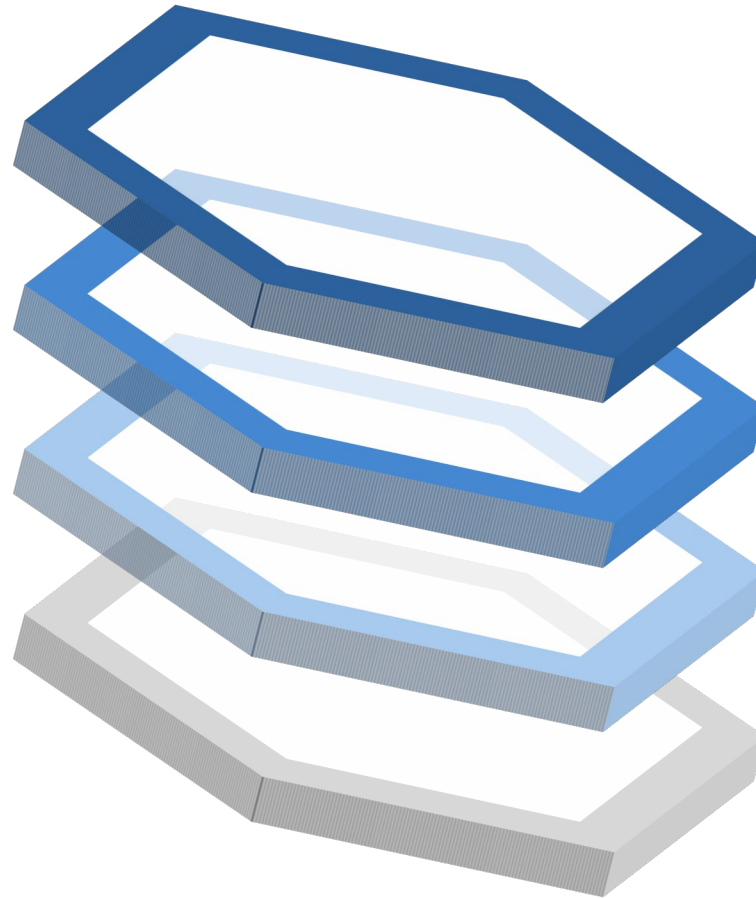
# UK APAS Calculator

**Results**

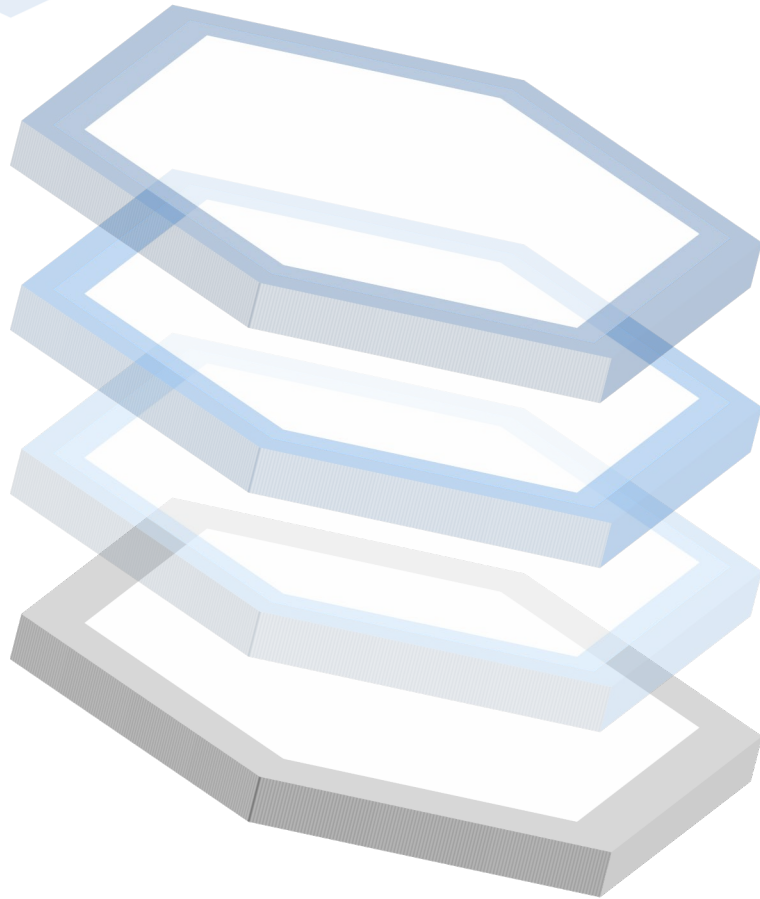
**Sources & inputs**

**Calculation settings**

**Datasets**



# UK APAS Calculator



## Datasets

BACKGROUND  
MAPS

PLUME

EMISSION  
FACTORS

DEPLETION

CRITICAL  
LOAD /  
LEVEL

Surface

Ecological  
sites

roughness

EFT

MAGIC

Complex terrain

SCAIL

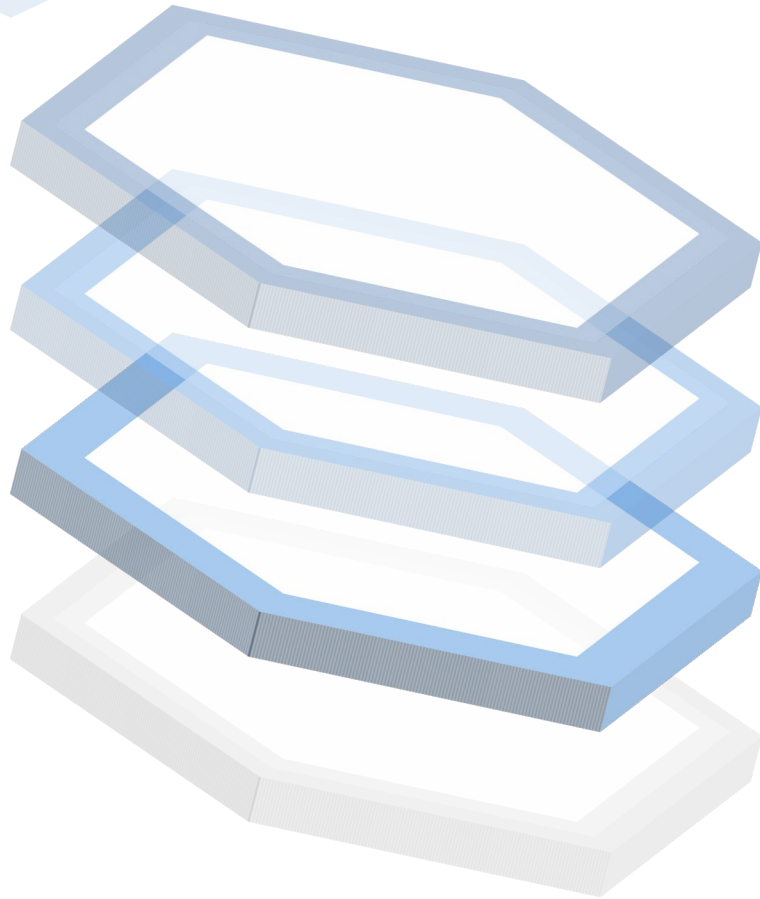
CREAM  
Surface  
characteristics

data

Meteorological



# UK APAS Calculator



## Sources & inputs

Emissions

**SOURCE  
SECTOR**

Time-  
varying  
profile

Source QGIS PLUGIN  
characteristics

Source location

**Buildings**  
Advanced  
street  
canyons  
source  
type

# UK APAS Calculator



## Calculation settings



single scenario

**IN-COMBINATION**

FORMAL Export calculation  
ASSESSMENT Custom

**Process** assessment  
**contribution** Quick  
run

CALCULATION DISTANCE

Cloud  
comp-  
uting  
Scenario  
Calculation  
job

# UK APAS Calculator

## Scenario types

Reference

Project

In-combination reference

In-combination project

In-combination archive

## Calculation types

Single Scenario

Any User Scenario

Process Contribution

Reference

Project

In-combination  
Process Contribution

Reference

Project

In-combination reference

In-combination project

In-combination archive

## Result types

Single Scenario

Scenario contribution

Process Contribution

Scenario contribution

Process contribution

In-combination  
Process Contribution

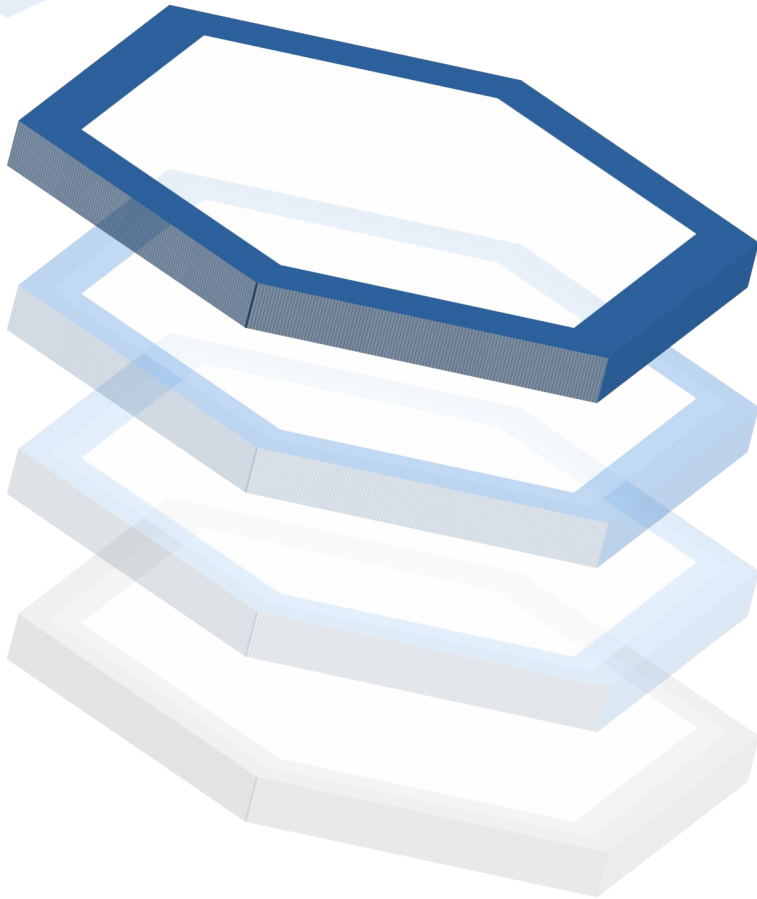
Scenario contribution

Process contribution

Archive contribution

In-combination process  
contribution

# UK APAS Calculator



**Results**

**CONCENTRATIONS**

**Automated Hexagon**

**receptor RECEPTORS**

**identificaton** Max. contribution

**Sub-receptors**

**ARCHIVE** **NOX TO NO2 CALCULATOR**

**Process contribution**

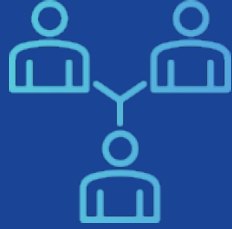
**Scenario contribution**

**GML**

**In-combination**

**process**

**contribution**



## Collaborators & Contributors

- Software developed as a collaboration between Dutch & UK Governments.
- Development guided by several UK Government departments and organisations.
- Online service being delivered by a collaborative consortium.



# Find out more & get involved

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Questions, demonstrations, or to get involved in technical testing: [itapa@jncc.gov.uk](mailto:itapa@jncc.gov.uk)

More information on UK APAS and the Dutch AERIUS project: [jncc.gov.uk/our-work/uk-air-pollution-assessment-service/](https://jncc.gov.uk/our-work/uk-air-pollution-assessment-service/)

FAQs: [jncc.gov.uk/our-work/uk-air-pollution-assessment-service-uk-apas-qa/](https://jncc.gov.uk/our-work/uk-air-pollution-assessment-service-uk-apas-qa/)





# Live Demo

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