



**UPTAKE D1.3**  
*Scenario Explorer I*



***Deliverable D1.3***  
*28 February 2025*



Deliverable Title	Scenario Explorer I
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### 1. Executive Summary

Mock interactive website for UPTAKE Scenario Explorer as a public, transparent repository of CDR scenarios and analysis that enables user-friendly exploration of the scientific outcomes and findings.

### 2. Project-internal Scenario Explorer

As a first step for this task, we have set up a project-internal Scenario Explorer which is available at: <https://uptake-internal.apps.ece.iiasa.ac.at/>.

This database will be used to collect scenarios from the UPTAKE project and share them within the consortium for analysis and vetting.





UPTAKE | Project-internal Scenario Explorer

Welcome the the UPTAKE | Project-internal Scenario Explorer

UPTAKE aims to develop resilient CDR strategies based on strengthened scientific evidence on the social, technological, economic, and environmental characteristics of CDR technologies and their interplay

UPTAKE Project

**About this Scenario Explorer**  
This Scenario Explorer is used to develop and share scenarios within the consortium prior to public release. A separate public Scenario Explorer will be launched later to make scenario results easily accessible to a wider audience. This Scenario Explorer is hosted by the [Scenario Services team](#) of the IIASA Energy, Climate and Environment program.

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101081521. Views and opinions expressed are, however, those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible.

## 2.1 Access to the project-internal UPTAKE Scenario Explorer

Since this is a preview of the Scenario Explorer where results will be published, its access is restricted for now.

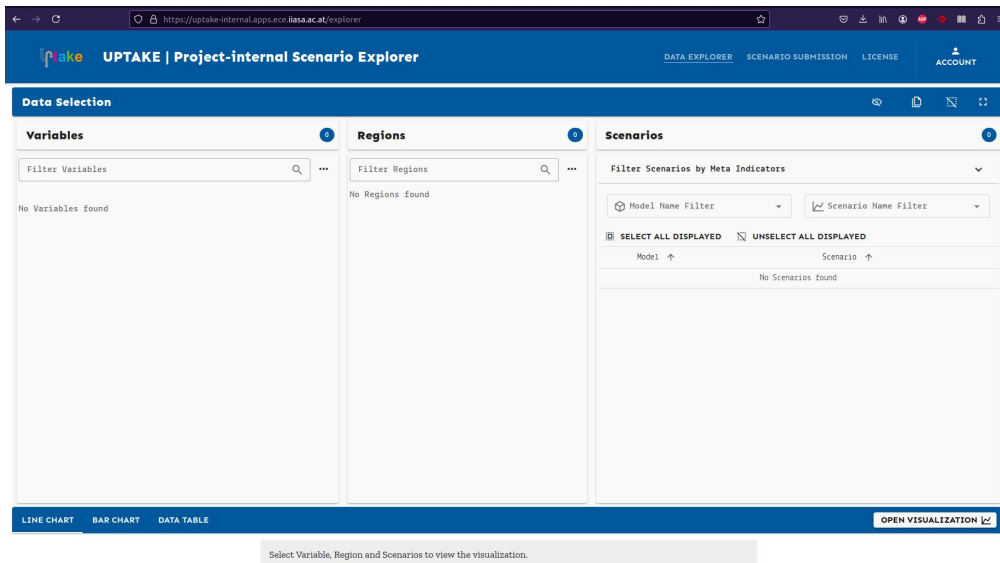
Any member of the UPTAKE consortium can register to gain access by:

1. Creating an account under: <https://manager.ece.iiasa.ac.at/>
2. Sending the username to [hackstock@iiasa.ac.at](mailto:hackstock@iiasa.ac.at)

## 2.2 Interactive Data Explorer Interface

Users can use the *Data Explorer* to plot the various time series data that have been generated as part of the UPTAKE project. A user can start at any of the dimensions (variable, region, model, scenario) and the data selection interface will automatically filter down all the remaining dimensions making for a fast and intuitive way to select data. The data explorer can be found here: <https://uptake-internal.apps.ece.iiasa.ac.at/explorer>.

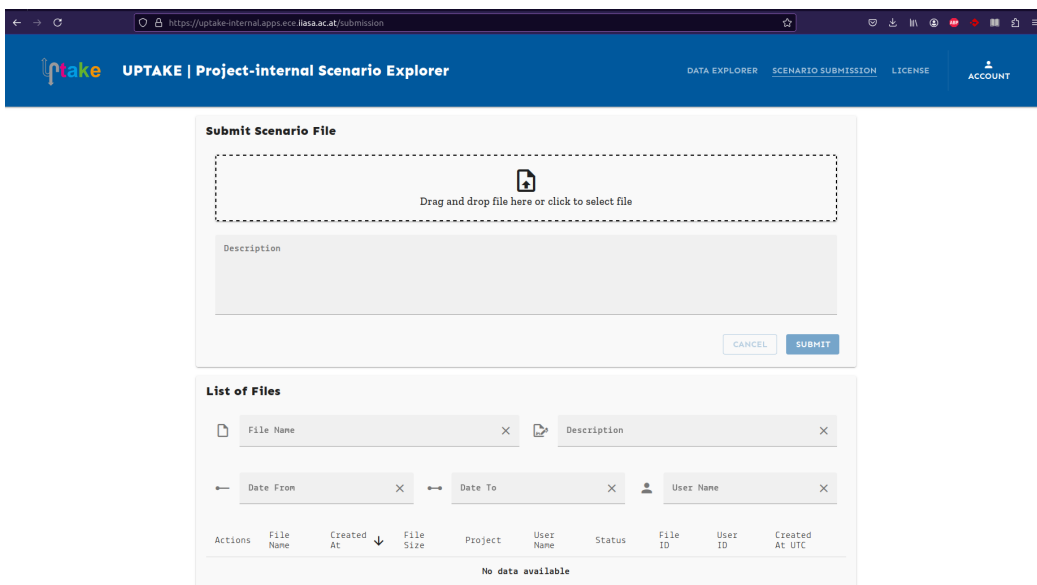




## 2.3 Submission of results

UPTAKE modelers can upload their results in the *Scenario Submission* page: <https://uptake-internal.apps.ece.iiasa.ac.at/submission>.

Depending on the needs of the researchers, a number of different processing steps can be chosen, such as region aggregation, climate processing and validation of submitted scenario results against reference data to ensure consistency.





## 2.4 Application programming interface (API)

The new IIASA Scenario Explorer uses the ixmp4 database backend, an open-source Python data management package. The ixmp4 package can be used to query scenario data directly from the UPTAKE-internal Scenario Explorer. An ixmp4-ts typescript package also allows querying scenario data when building new web user interfaces.





### 3. Next steps

Once scenarios developed in the UPTAKE project are finalized and related manuscripts are published, IIASA will set up a second, public Scenario Explorer to make the scenario datasets easily accessible via a user-friendly interface (D1.6, M36).

The public UPTAKE Scenario Explorer will have new options to explore and visualize time series data from the scenarios, for example a choropleth-map feature [see a screenshot from the PRISMA-internal Scenario Explorer which is used to test a prototype implementation].

The new visualization features will be implemented and adapted over the course of the UPTAKE project to ensure that the user interfaces meet the needs of the UPTAKE consortium and specific policy context of CDR scenarios.

