

OS-Climate Overview

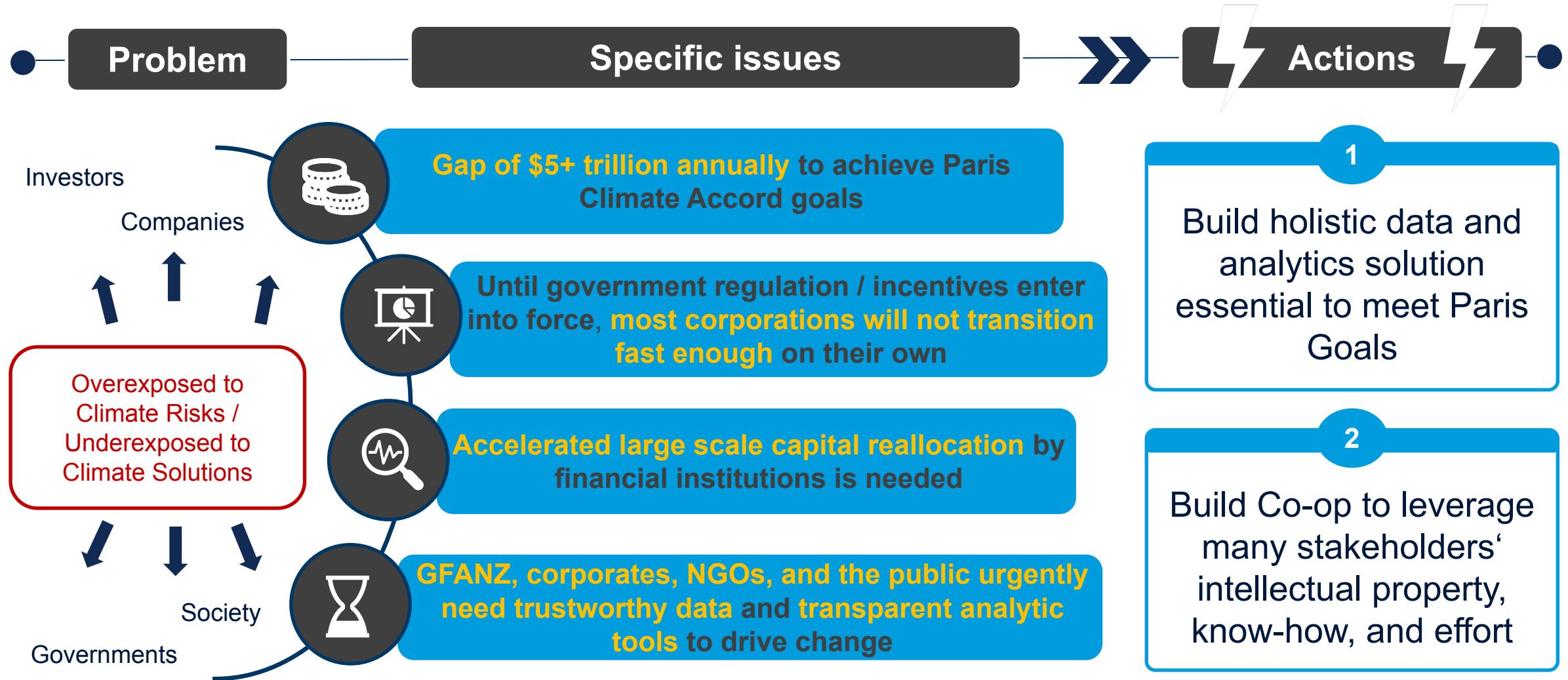
Matt Sandoe: Chief of Staff and Physical Risk & Resilience Lead
(seconded from BNP Paribas)

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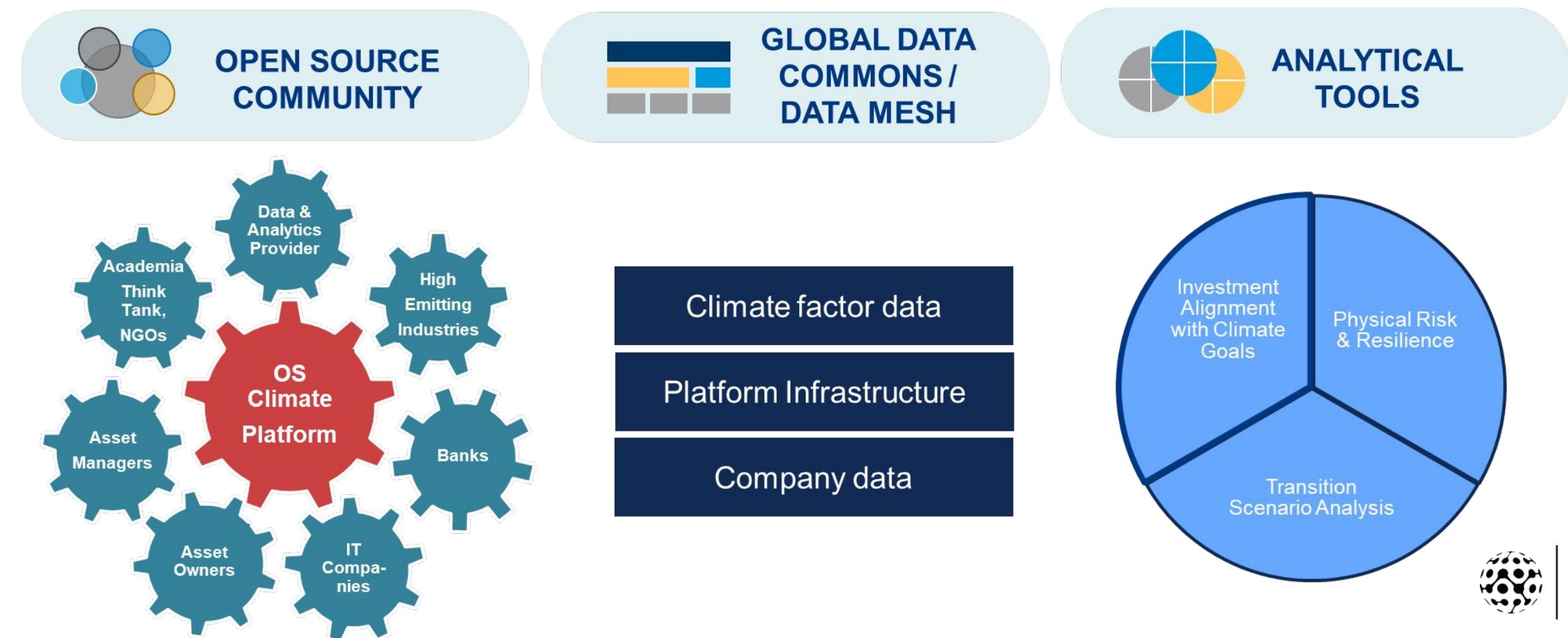
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OS-C proposes concrete measures to address climate risks and opportunities



OS-Climate Approach

To address the data & analytics issues which stymie investments towards Paris Climate Accord goals, OS-C is applying the community-based, open-source approach that has enabled breakthroughs in Life Sciences & Technology Sector (e.g., mapping human genome, COVID vaccine).





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Members & Partners

PREMIUM MEMBERS



BNP PARIBAS



GENERAL MEMBERS



THE NET-ZERO ASSET
OWNER ALLIANCE



ASSOCIATE MEMBERS



PARTNERS & DATA PROVIDERS



JUPITER™



riskthinking.AI™

URGENTEM!™

World Resources Institute



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Four Primary Workstreams

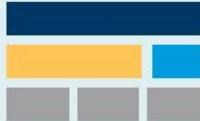
In addition to 2 smaller scale workstreams covering

- Data Extraction: [link](#).
- PCAF: following [link](#).



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1. Data Commons / Data Mesh



GLOBAL DATA
COMMONS /
DATA MESH

Goal: In Data We Trust

- Implement [Red Hat's Data Mesh Pattern](#), an architecture developed with OS-Climate members, to address data management challenges.
- Red Hat created an open-source blueprint that manages 'data as code', bridging climate-related data gaps.
- Increases Availability – data is accessed through a data exchange (presents commercial layer opportunity)
- Improves Reliability – managing 'data as code' increases data quality, audibility, & transparency
- Enables Comparability – OS-Climate's Data Mesh & Open Metadata component drives consistency across and within data sources

For a high-level overview of the Data Commons use cases and architecture, see the following [link](#).



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Datasets

(federated or locally stored / derived):

- Climate scenarios
- Sector data
- Industry data
- Policy data
- Corporate data
- Sovereign data
- Physical assets
- Linkages between companies & financial instruments
- Other physical data (e.g., climate, weather)

“In god we trust.
All others must
bring data.”

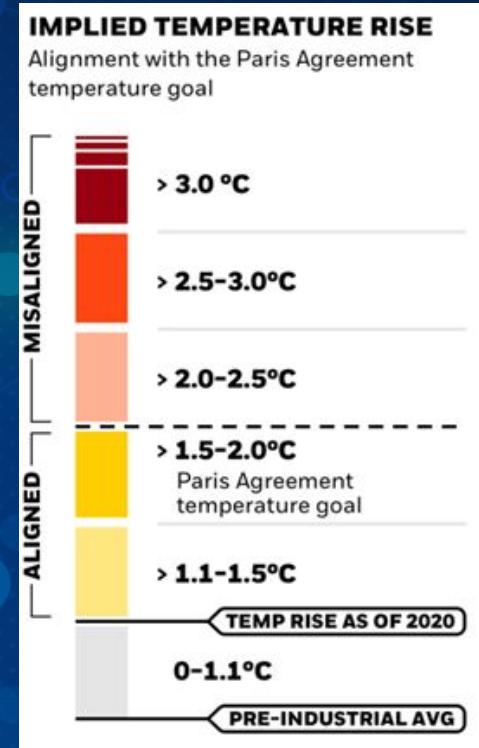
– W. Edwards Deming

2. Sector Alignment & Implied Temperature Rise (ITR) Tool

Goal: The ITR tool helps investors align their portfolios with 1.5 degree pathways.

OS-Climate's Open Source-based ITR tool enables investors to:

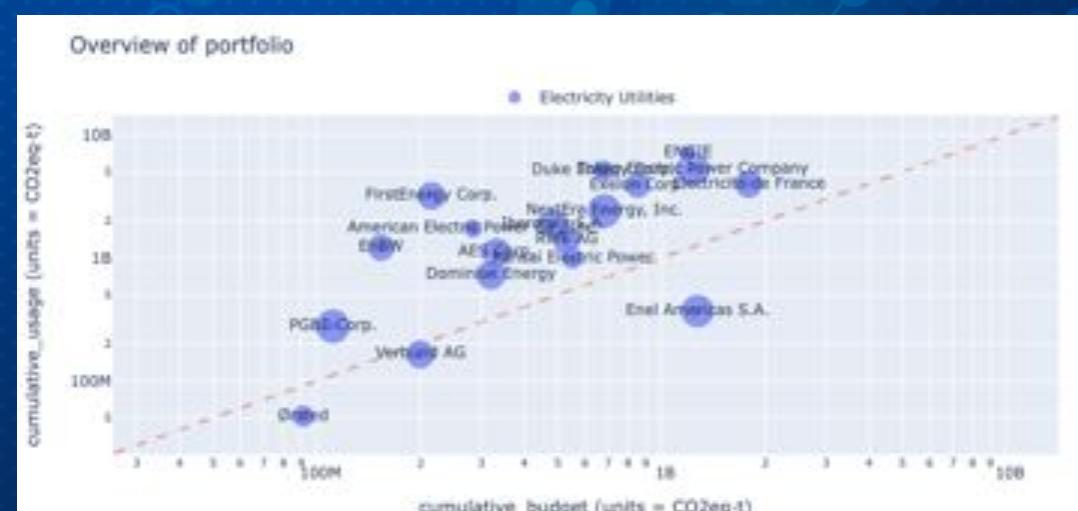
- Objectively assess emissions targets and projections
- Transparent end to end computation steps for temperature score
- Compare scenarios and their results
- Allow academia and research institutions to collaborate
- Enable a partial independence from commercial data providers
- Compliant with the TCFD-Commissioned report “Measuring Portfolio Alignment”



For a high-level overview of the Sector/Portfolio Alignment workstream, see the following [link](#).



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3. Transition Scenario Tool

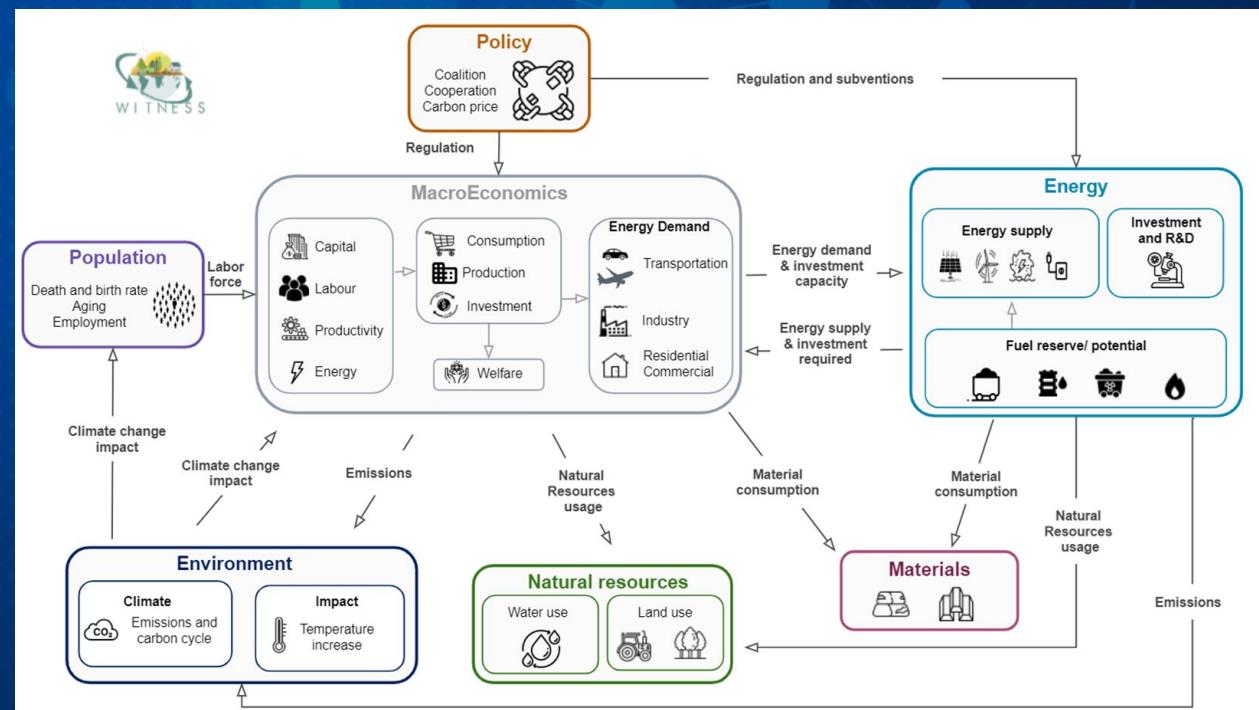
Goal: Provide users with capabilities to build a complete world transition model

- Perform multiple scenario assessments
- Optimize global investments – maximize economic development whilst minimizing emissions
- Assess the value and/or impact of energy production technologies on resources
- Project global economic evolution based on changes to energy, resources, climate & policies
- Open source layer allows for input from collaborators/expert community

For a high-level overview of the Sector/Portfolio Alignment workstream, see the following [link](#).



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4. Physical Risk & Resilience Workstream

Goal:

- Build pre-competitive layers of data & tooling to support the identification of physical risk within (and beyond) the global financial system
- Set a framing for resilience/adaptation financing



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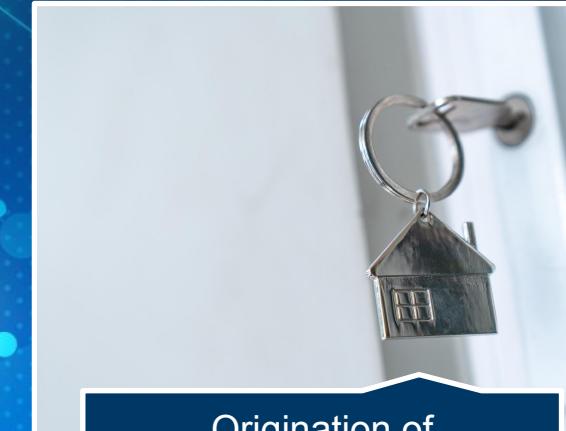
Physical Risk & Resilience: Use Cases



Disclosures



Portfolio risk measurement
(scenario analysis)



Origination of
loans/investments (e.g., real estate)



Operational risk



Resilience & adaptation
measurement & finance¹

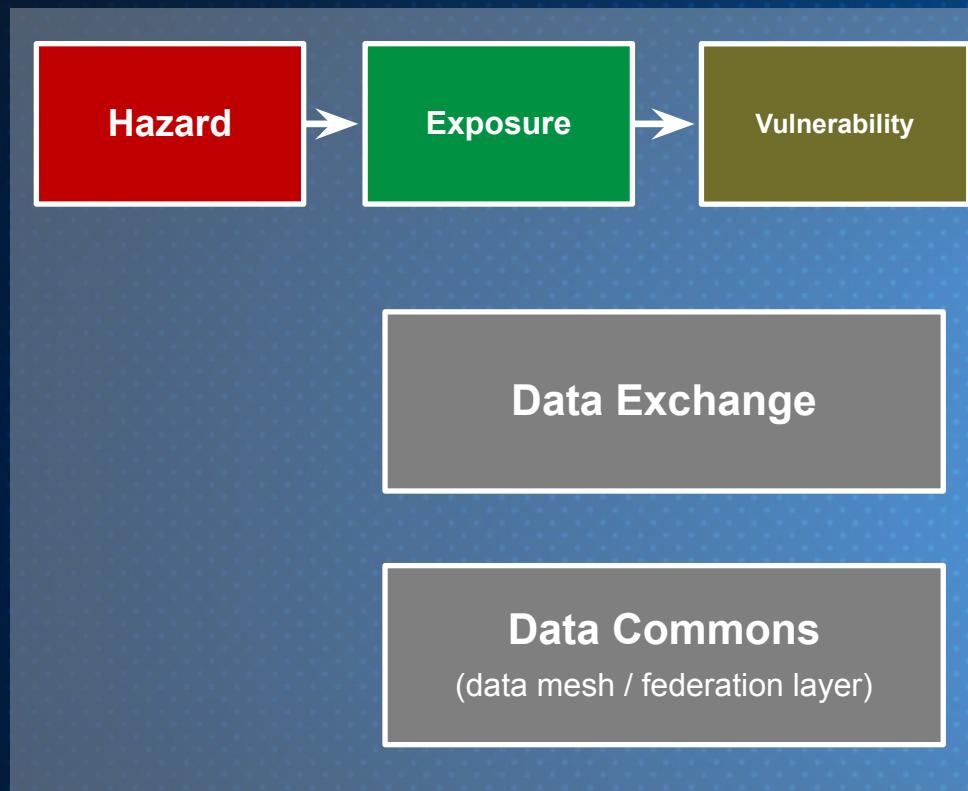


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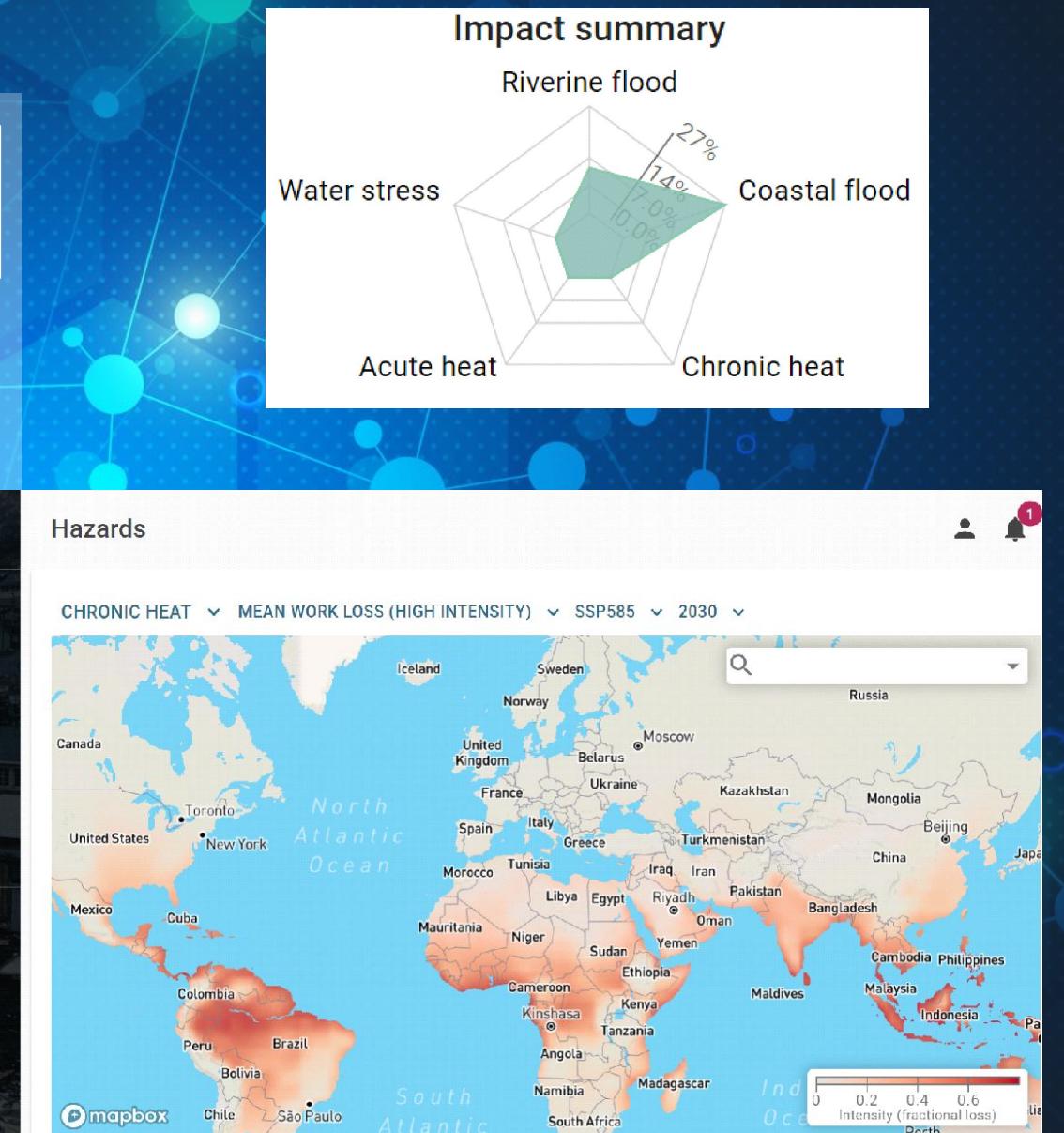
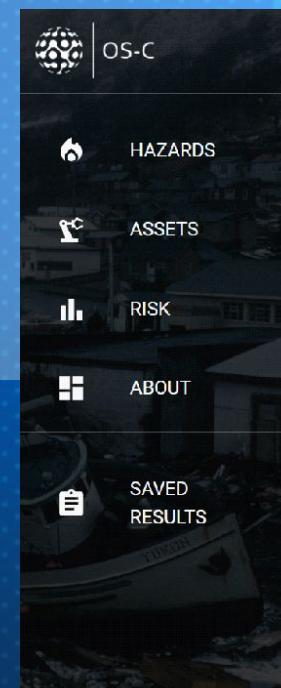
¹ potential to leverage and extend models and know-how to the public good space

Physical Risk & Resilience Tools

Ecosystem overview



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Physical Risk & Resilience

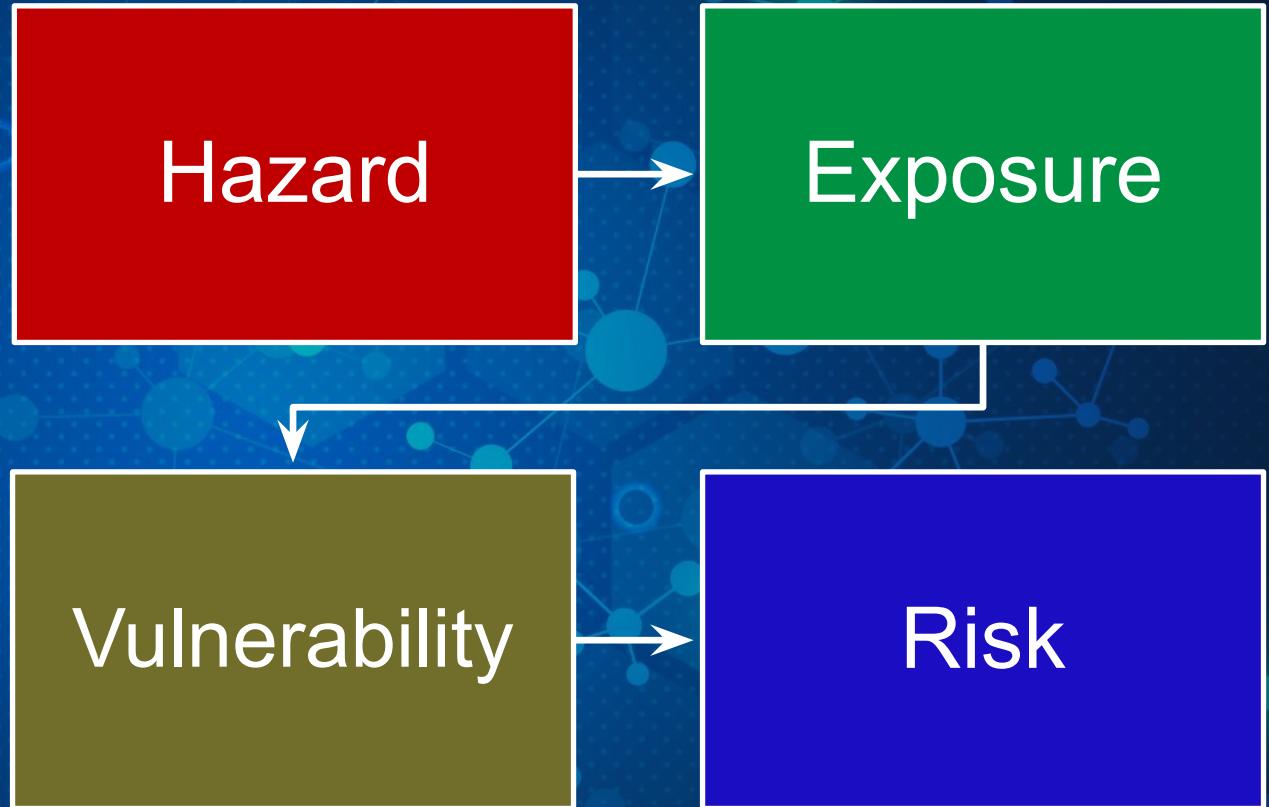
Model building blocks in the end-to-end solution

Reference tools, data & expertise for measurement of physical risk climate hazard and asset damage & vulnerability.

A modular ('plug & play') approach to the risk measurement building blocks.

Gathering asset data and structuring climate models in a usable and understandable format.

(At least) the first three building blocks in the chain are pre-competitive (i.e., ripe for collaboration) for financial institutions, and some elements of risk models can be too.

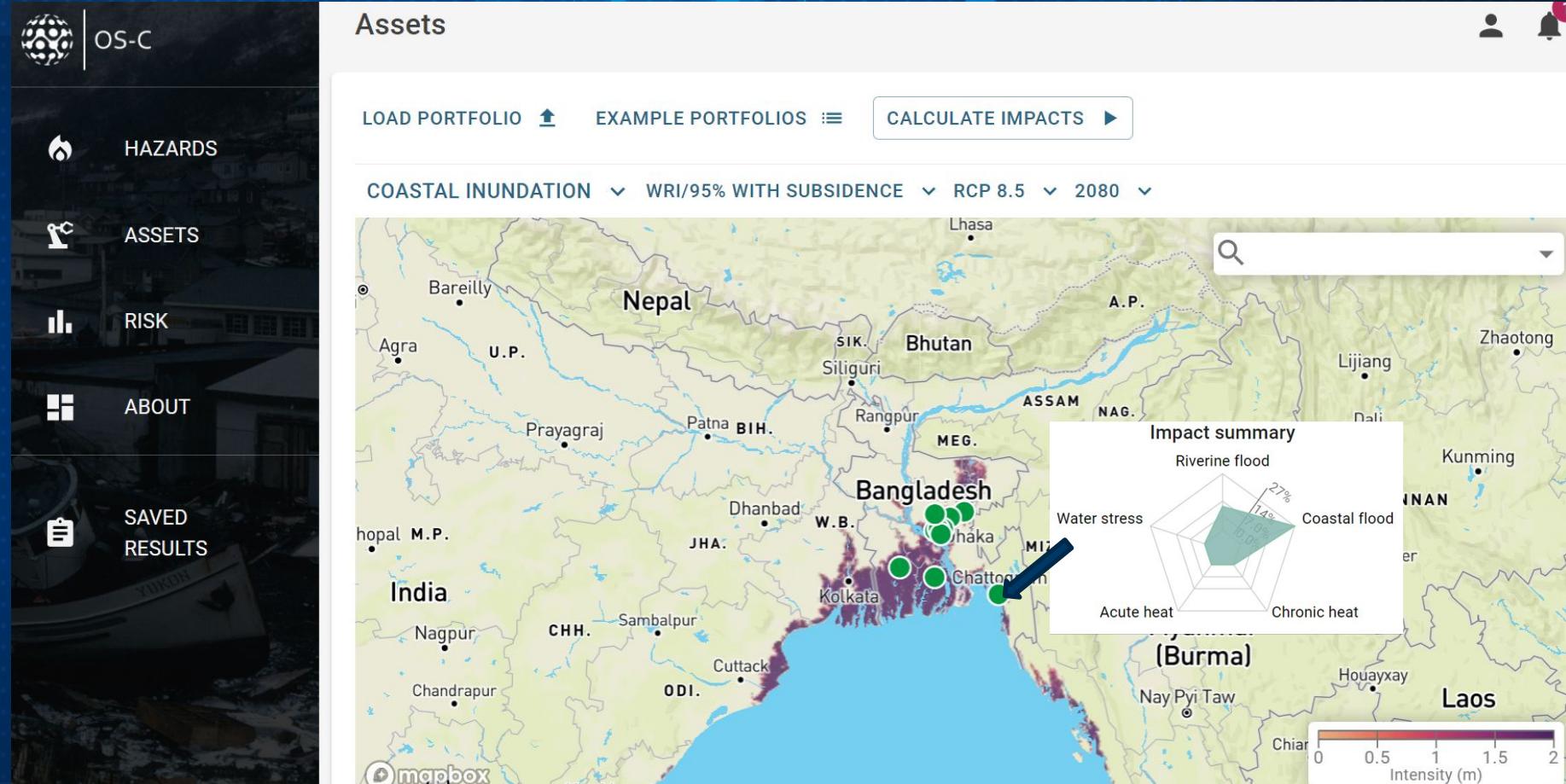


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Physical Risk & Resilience

Sandbox UI example

Temporal and spatial measurement of assets at risk



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The tool connects data for a portfolio of assets to climate hazard models, then visualise the portfolio and the modelling outputs, drilling into each asset to view specific impacts. All the code for linking assets to climate & vulnerability models is an unrestricted public good.

Physical Risk & Resilience

Public good use cases

OS-C community members are leveraging its tools, initially created for corporate use cases, to serve pressing public good needs:

- The recently formed Sustainable Africa Initiative¹ will localize OS-Climate's data & PRR Tool with climate and vulnerability models for agricultural production in Africa, to assess risk and potential mitigation strategies.
- Consortium Members will utilize OS-Climate's ecosystem for collaborative development through its shared open data mesh infrastructure, Data Commons, and Data Exchange.



**SUSTAINABLE
AFRICA INITIATIVE**
A CLIMATE RISK RESEARCH PROJECT

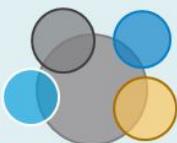


¹ [About – The Sustainable Africa Initiative](#)

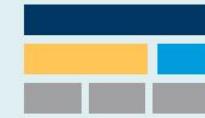


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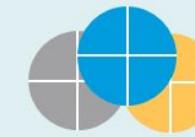
OS-Climate End to End Ecosystem Summary



OPEN SOURCE
COMMUNITY



GLOBAL DATA
COMMONS /
DATA MESH

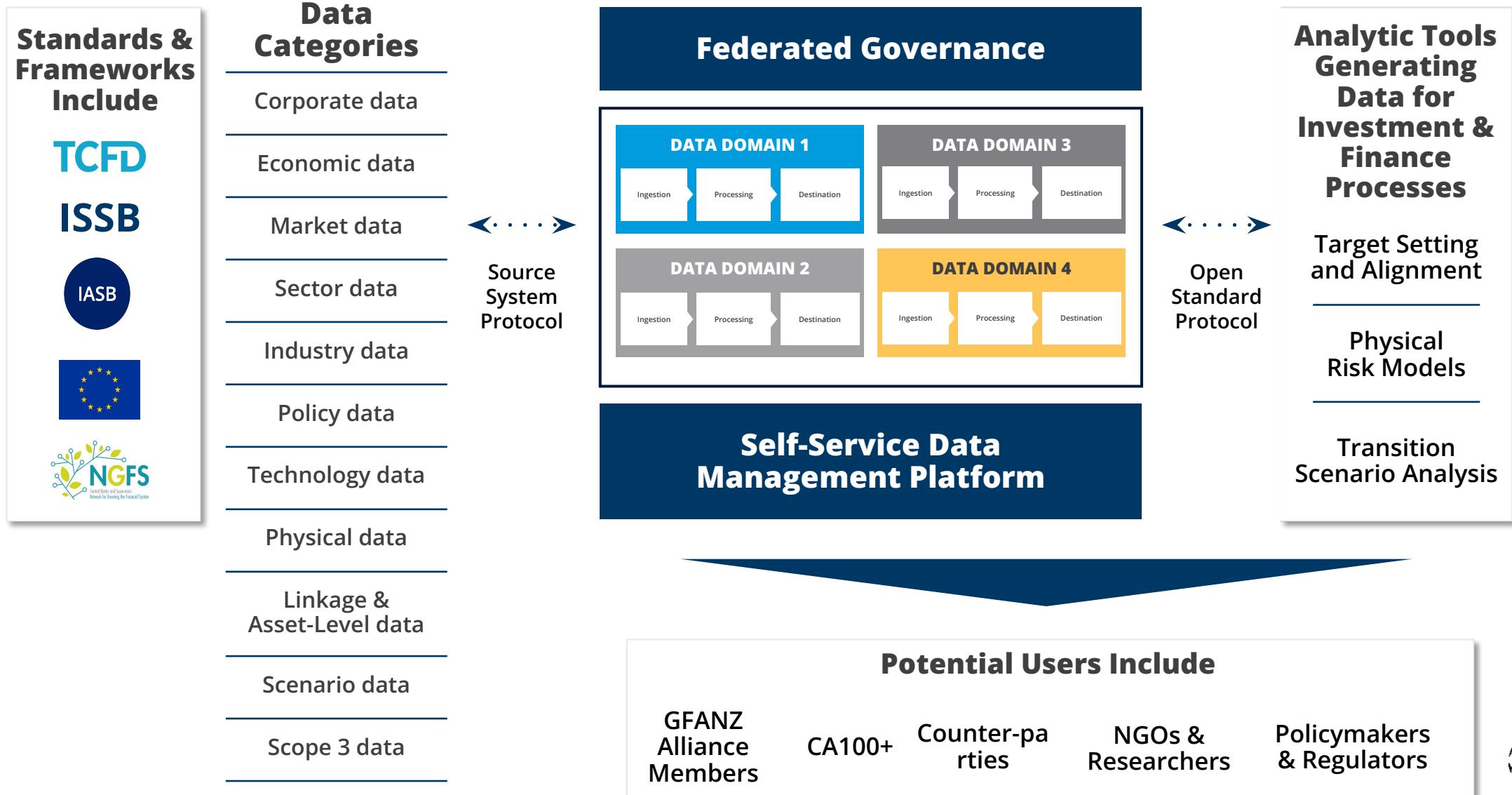


ANALYTICAL
TOOLS



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OS-Climate Platform end-to-end system flow



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Conclusions & Benefits of Open-Source

- Open-source collaboration (pre-competitive layers) reduces barriers to entry
- Eliminates common tasks across the industry, generates common language, and provides access to world class research & expertise
- Future proofs expansion of open models & data
- Community shapes the future by using open & trusted tools/methods
 - Long term commitments require credible data and modelling
- Helps eliminate ‘black box’
 - Users able to take more control of the computation and understand steps
- Agnostic data mesh and modelling (& collaboration) approaches well suited for expansion from climate data into biodiversity/nature

Become a member: <https://os-climate.org/become-a-member/>



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Thank You!

To Learn More
about OS-Climate



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