

Building a Resilient Future:

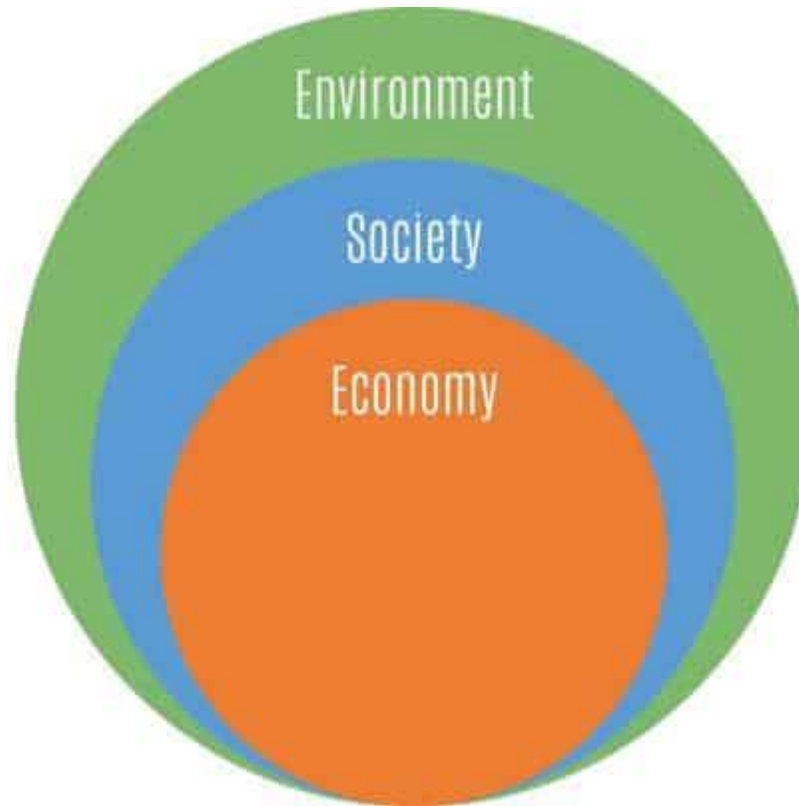
The Role of DEI in Advancing ESO's Mission

Claudio Melo

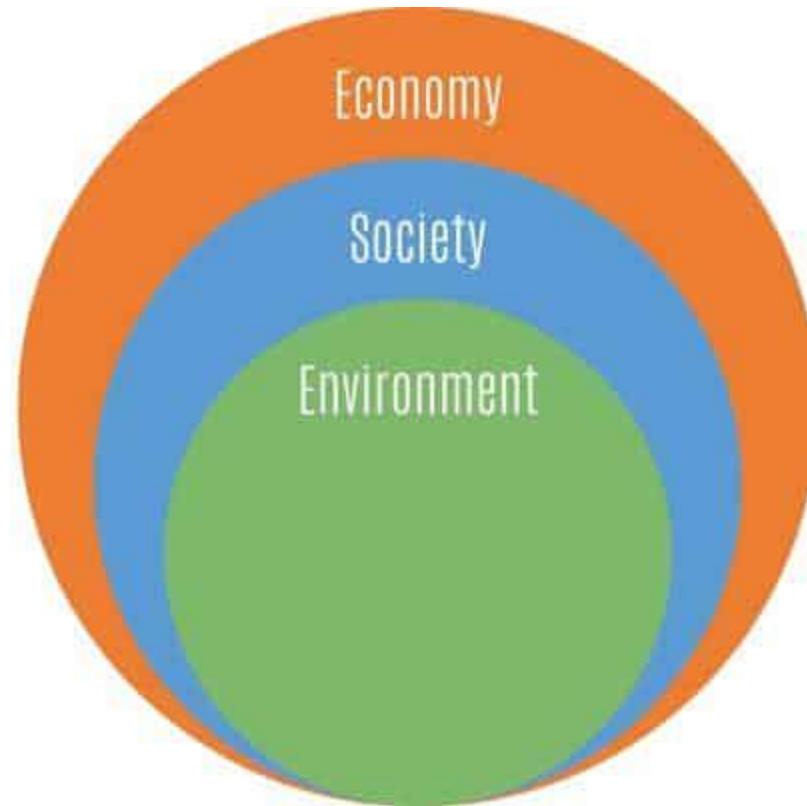
ESO's Sustainability & Diversity Officer



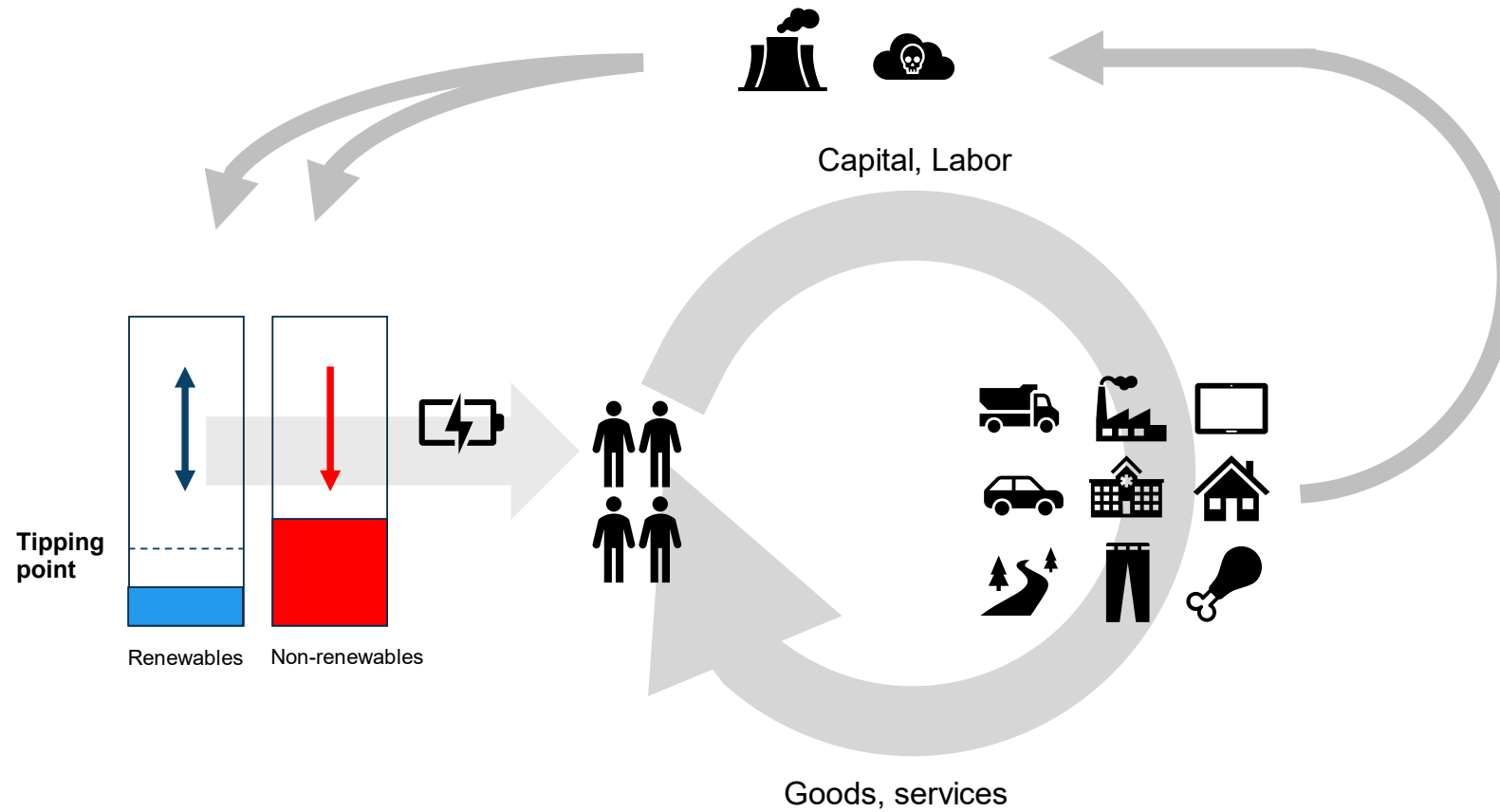
The natural systems hierarchy

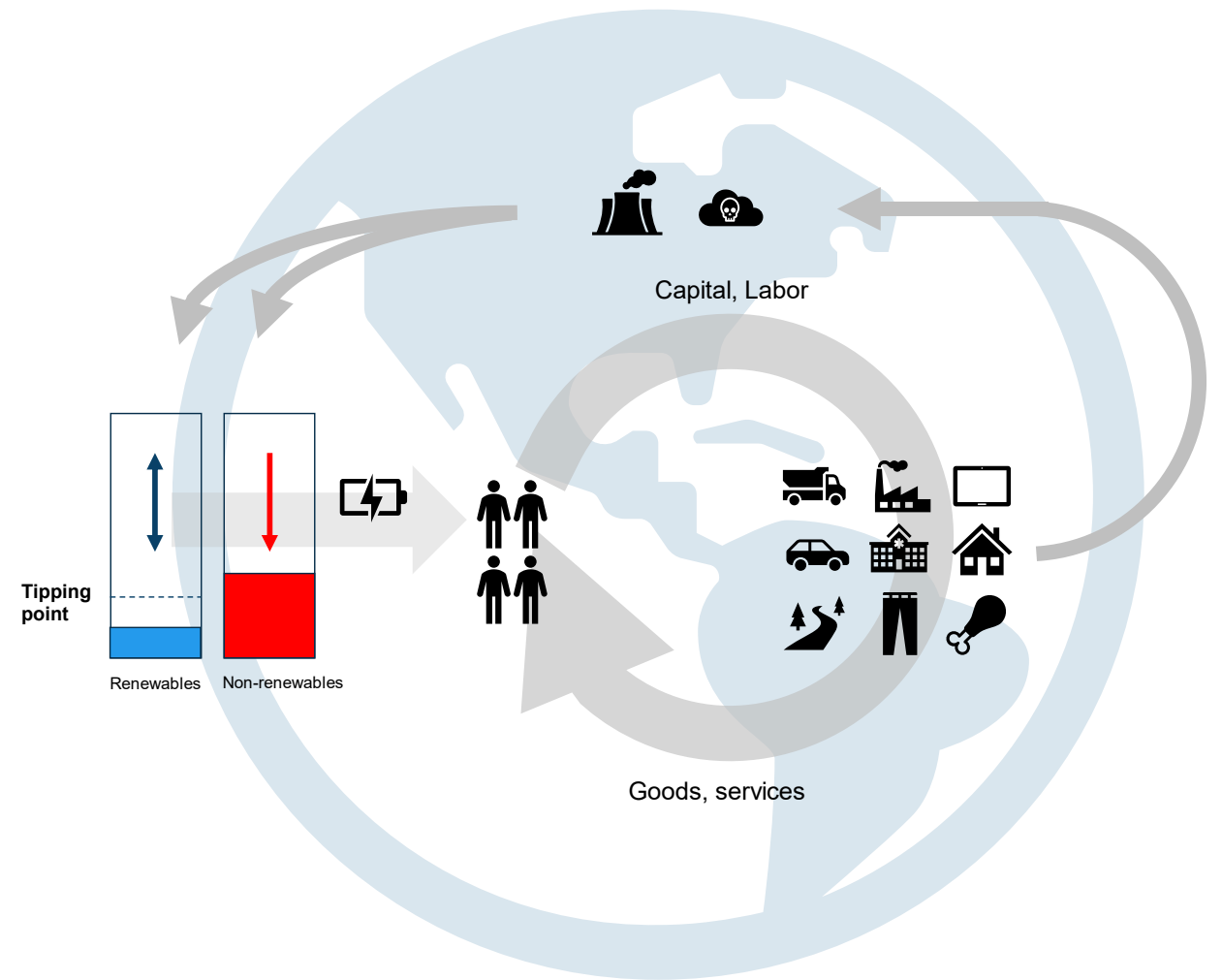


We see things the other way around



The economy in a nutshell





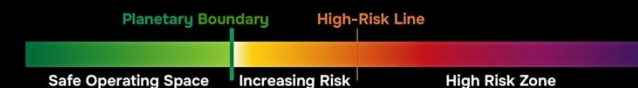
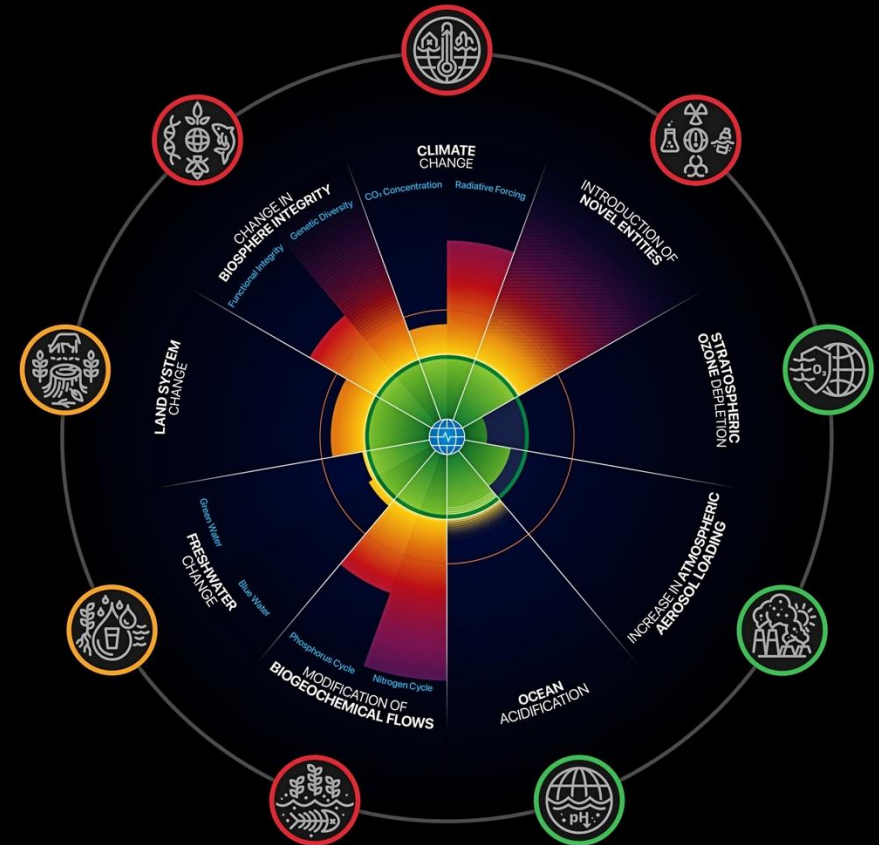
Six out of nine planetary boundaries have been breached

- 01 Stratospheric Ozone Depletion
- 02 Increase in Atmospheric Aerosol Loading
- 03 Ocean Acidification



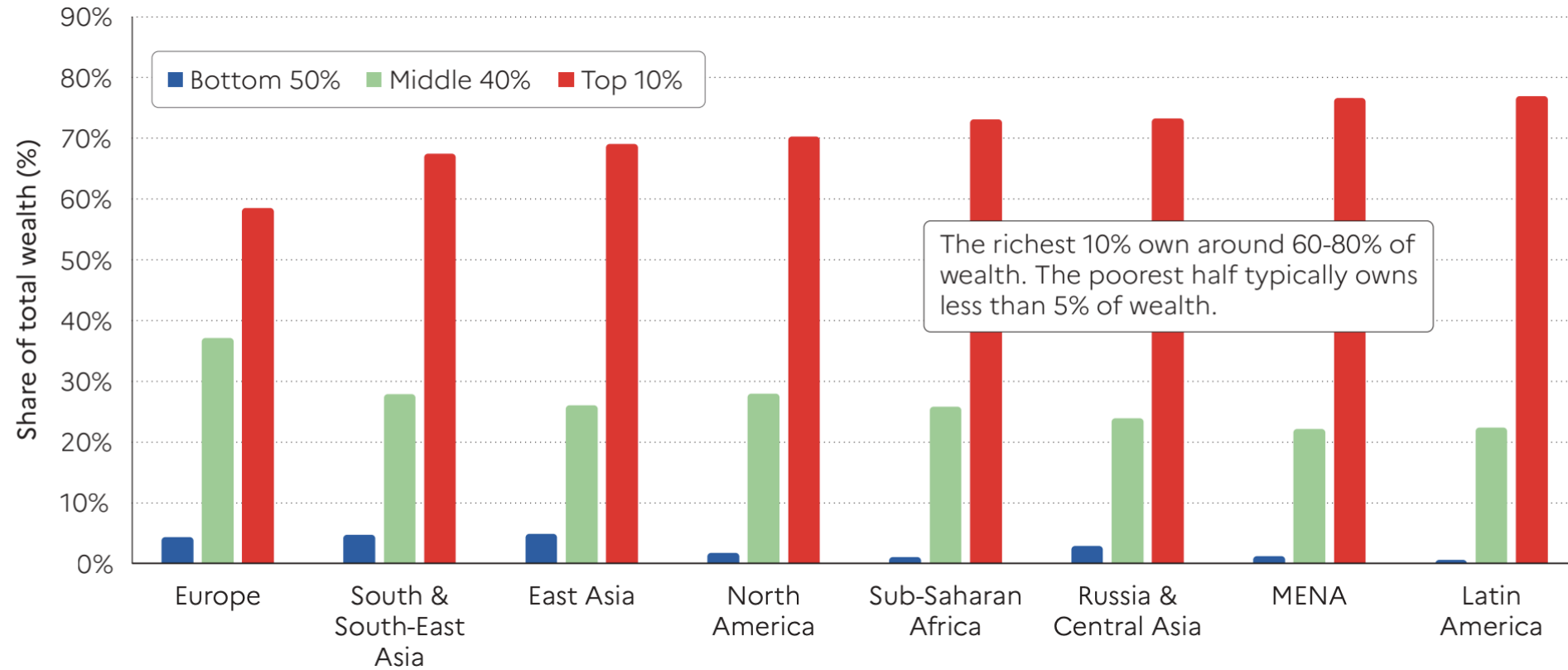
- 04 Freshwater Change · Green Water
- 05 Freshwater Change · Blue Water
- 06 Climate Change · CO₂ Concentration
- 07 Land System Change

- 08 Change in Biosphere Integrity · Functional Integrity
- 09 Modification of Biogeochemical Flows · Phosphorus Cycle
- 10 Climate Change · Radiative Forcing
- 11 Modification of Biogeochemical Flows · Nitrogen Cycle
- 12 Change in Biosphere Integrity · Genetic Diversity
- 13 Introduction of Novel Entities



* Given its kinetic behavior, persistence, prevalence, complexity, uncertainty, and the precautionary principle, we place the Novel Entities boundary at the start of the High-Risk Zone.
 ** The Genetic Diversity control variable has been set to the midpoint of its range.

Most of the wealth generated by our production model is concentrated within the top 10% with the bottom 50% capturing almost nothing.



Risk categories

- Economic
- Environmental
- Geopolitical
- Societal
- Technological

2 years

1 st	Misinformation and disinformation
2 nd	Extreme weather events
3 rd	State-based armed conflict
4 th	Societal polarization
5 th	Cyber espionage and warfare
6 th	Pollution
7 th	Inequality
8 th	Involuntary migration or displacement
9 th	Geoeconomic confrontation
10 th	Erosion of human rights and/or civic freedoms

10 years

1 st	Extreme weather events
2 nd	Biodiversity loss and ecosystem collapse
3 rd	Critical change to Earth systems
4 th	Natural resource shortages
5 th	Misinformation and disinformation
6 th	Adverse outcomes of AI technologies
7 th	Inequality
8 th	Societal polarization
9 th	Cyber espionage and warfare
10 th	Pollution

Source

World Economic Forum Global Risks
Perception Survey 2024-2025.

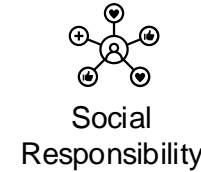
Motivation and scope of ESO's Sustainability Strategy



Ensures **long-term operational resilience** by managing environmental risks and resource use.



Meets **stakeholder expectations** for responsible and ethical practices.

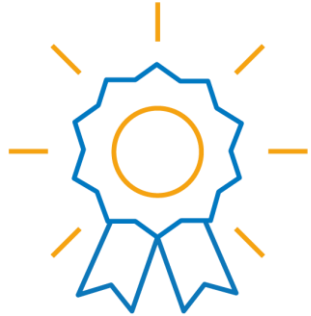


Promotes **social responsibility** by contributing positively to the community.



Aligns with **global sustainability trends**, ensuring we remain proactive and forward-thinking.

ESO Values approved in 2021



**We strive for
excellence through
innovation**



**We foster
diversity and
inclusion**



**We provide
outstanding services
to our communities**



**We believe in the key
role of sustainability
for our future**

*These values are realised
and maintained by ESO's people*

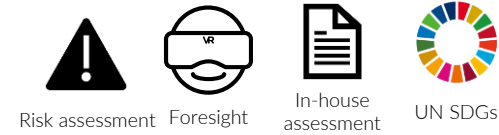
The path in a nutshell

- 01 Assessing Opportunities
- 02 Defining Materialities
- 03 Setting Targets
- 04 Integrating
- 05 Reporting

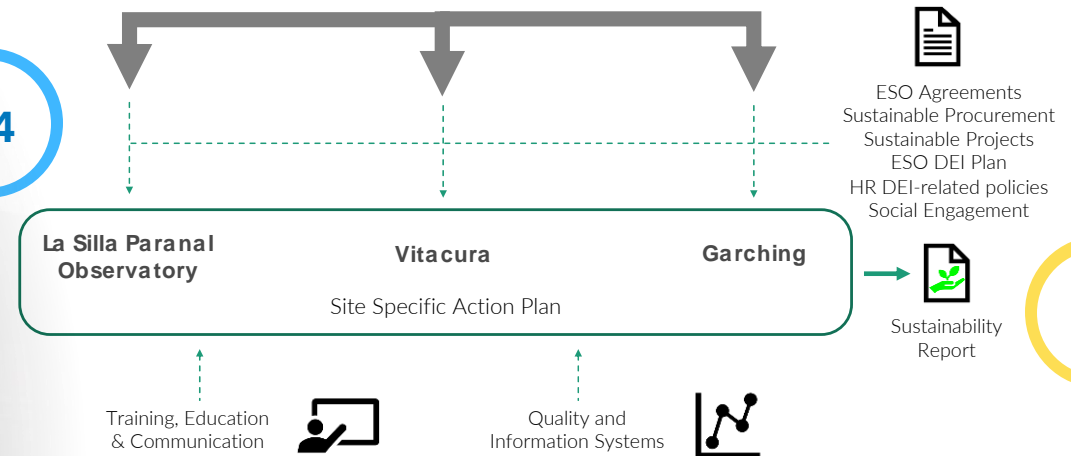
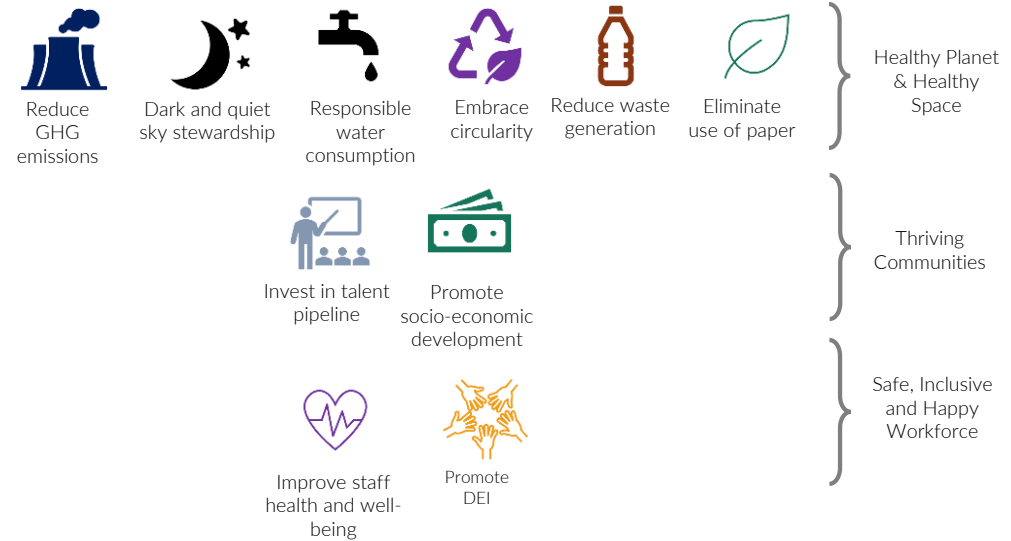
03

04

05



01 02



DEI as an integral pillar of ESO's sustainability



Sustainability
DEI

Diversity, Equity, and Inclusion can be seen as part of the long-term success of navigating turbulent times, reinforcing the core mission.

- We continue to have society interested in what we do
- We contribute to social peace, sharing value
- We can attract talent
- We can manage talent



Risk assessment

Managing key resources: securing the necessary talent, ensuring support from society, and aligning with upcoming regulations. Inclusion to manage diversity avoiding it becoming a source of conflict.



Social Contract

Reinforcement of Social Contract: DEI efforts contribute to strong and accountable institutions by fostering a sense of trust between ESO and the communities we serve. These efforts strengthen the social contract and promote social cohesion.



Retirement
Wave

25% of the workforce is retiring in the next ~7 years.
A different generation is coming whether we want it or not.



New
Lenses

New staff members are to be selected from a pool of candidates with different **mindsets** about life-work balance, hierarchy, **expectations** on sustainability, cultural backgrounds, political backgrounds, etc.



Inclusion
Building Blocks

Difficult/impossible to map and norm interactions and conflicts across all different dimensions of diversity.

Continue to develop building blocks of inclusion - empathy, psychological safety, and non-violent communication.

ESO's DEI Plan in nutshell



Diversity

Gender. Increase female representation at ESO 30% in 2030, with particular emphasis on technical/engineering and decision-making positions. Main actions: reviewing the hiring process, sourcing, and communication.

People with disability. Fostering the conditions for integration of people with disability at ESO. Creating a network of DCPs across ESO sites to support the organization in topics related to disability.



Equity

Close potential equity gaps in the Organisation. e.g. looking into potential salary gaps and biases on advancement. Looking to align with the EU Pay Transparency Directive



Inclusion

Promoting a welcoming environment.

Structures: Anti-harassment policy & support from Advisors and Ombuds

Continue to develop building blocks of inclusion - empathy, psychological safety, and non-violent communication.

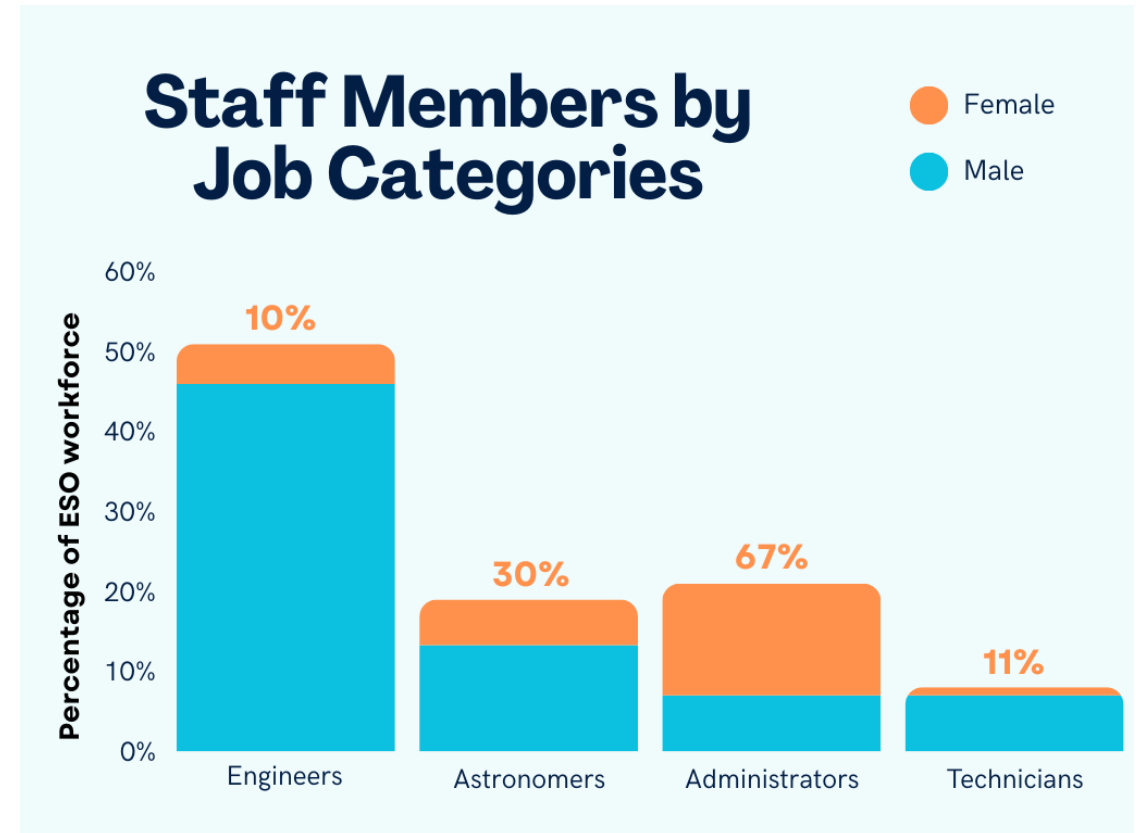
Gender diversity at ESO

- 28% of women at ESO
- 30% astronomers
- 10% engineers

Our ambition:

Increasing the overall number of women in the organisation, with the aim of reaching 30% representation by 2030;

Increasing the percentage of women in technical, engineering, and decision-making positions;





Disability Contact Person Network

Convention Definition of Disability

"Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various **barriers** may hinder their full and effective participation in society on an equal basis with others."

Barriers and Accessibility



Physical Barriers

Narrow hallways, stairs, dim lights



Technology and Communication Barriers

Inaccessible websites, complicated procedures



Organizational Barriers

Lack of proactive policies



Legislative Barriers

Outdated or nonexistent laws

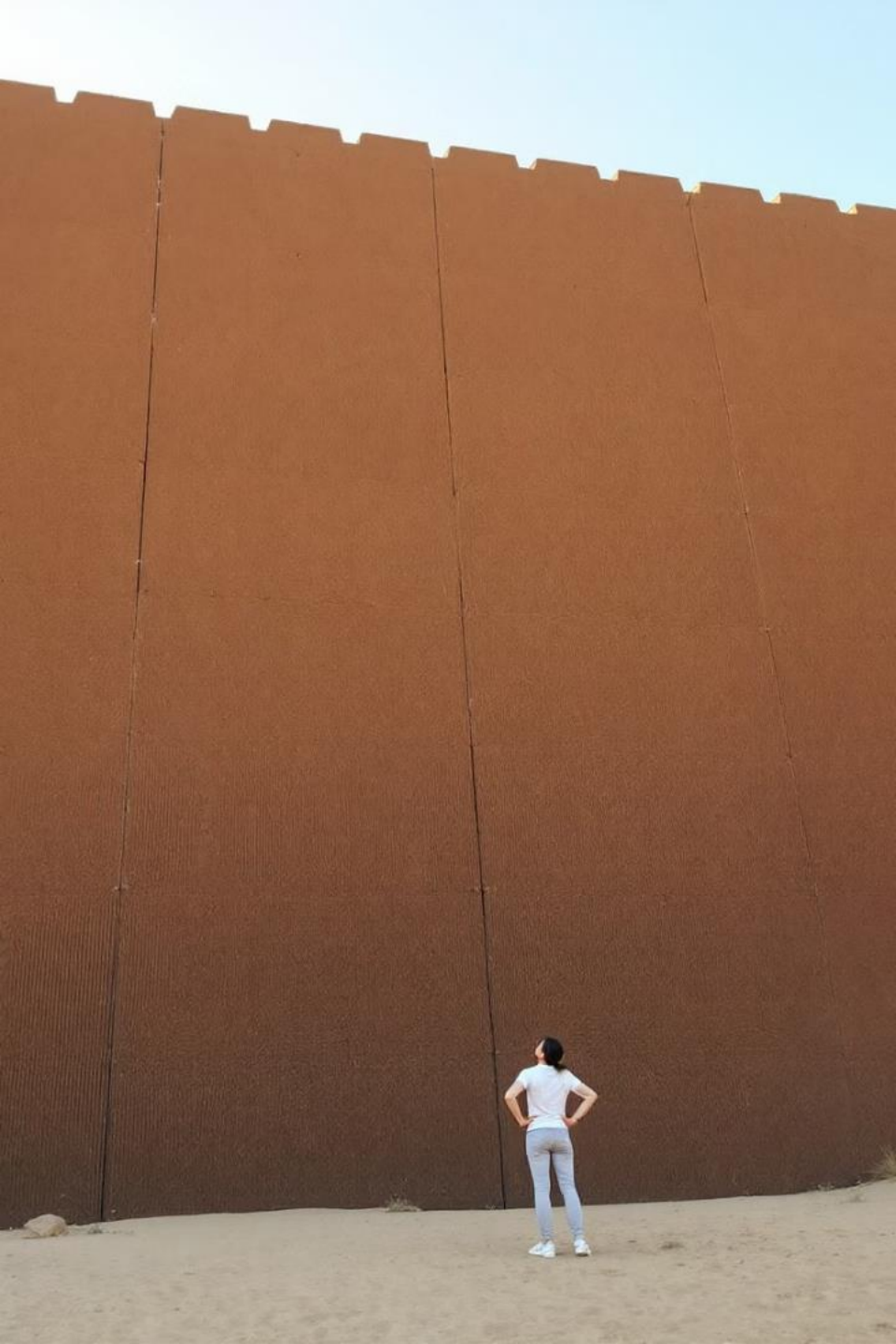


Negative Attitudes

Misconceptions about capabilities

To overcome these barriers, three approaches are recommended:

Accessibility, Reasonable Accommodation, and Disability Awareness training.



Disability Contact Person Concept

Definition

DCPs are trained peers who serve as a confidential resource for other members of personnel to help them source and obtain the support they need to surmount the barriers or problems they are encountering at work.

Role

They will use their role and influence to contribute to fostering and strengthening an inclusive working environment where staff with disabilities can safely express their concerns and needs. By interfacing with HR and the DEI committee, they will give a voice to staff with disabilities.

Unadjusted Gender pay gap at ESO

- Gender pay gaps are differences in pay for groups of women and men, usually based on the median or mean pay that the two overall populations of men and women receive.
- Overall, there is a gap measured in the median of the salary distribution of 17% for ISM and 8% for LSM.
- As a reference, OCDE gender pay gap gives (median):
 - Chile: 8.5% (2020), 10.9% (2021)
 - Germany: 14.2% (2020), 13.7% (2021)
 - EU: 11.6% (2020), 11.9% (2021)
 - Global: 23% (2022)
- Follow-up study ongoing to decompose the unadjusted gap with key factors (e.g. seniority, job family, education)

Second Chance Education: Empowering Local Talent

Focus on Chile

Collaboration with Second Chance Education program to identify and train local talent.

Specialized Training

Hands-on technical training for coating mirrors for the world's largest telescope, ELT.

Diverse Candidates

7 candidates with no formal STEM education welcomed in 2021.
3 participants hired.

Success Stories: From Training to Employment



Coating Process Technicians

Two participants hired for critical roles in telescope mirror coating.



Warehouse Assistant

One participant employed to support ELT operations and logistics.



Career Advancement

Participants gain valuable skills and experience for STEM careers.

The Partnership continues

1

Target Audience

Focus on senior year students from technical high schools in vulnerable communities.

2

Gender Inclusivity

Offering opportunities to both girls and boys near the observatory.

3

Technical Internships

Providing hands-on experience to prepare students for STEM careers.

4

Community Impact

Generating growth opportunities for local youth through knowledge sharing.



New/significantly evolved goals (III)

Full set of Organisational Goals for 2025 under <https://www.eso.org/intra/most-useful/docs.html>

- Organisational matters
 - **(Sustainability):** Following the approved sustainability strategy, define missing baselines, elaborate a development plan of the strategy. Deploy the sustainable procurement policy and implement it in the regular procurement procedures.
 - **(Diversity, Equity and Inclusion):** Monitor the effectiveness of the Diversity, Equity and Inclusion Plan, and adopt the necessary updates to achieve the target of 30% women employed by 2030. Strengthen the inclusion of persons with disability, with the support from the Disability Contact Persons.
 - **(Staff engagement)** Conclude the execution of the projects following the Staff engagement survey 2021 and define follow-up actions arising from the supplementary survey on psychological safety conducted in 2024. Start the planning of a new engagement survey in 2026, aiming at monitoring progress achieved in the last 5 years.





EXPANDING HORIZONS

TRANSFORMING ASTRONOMY IN THE 2040s

Selection Criteria

ESO's next Programme will be selected by ESO's Council, following the recommendations of a Senior Science Committee (to be announced) and ESO's Executive. The selection criteria will be:

- **Scientific drive:** Which fundamental problems in astronomy are expected to be addressed in the 2040s? How broad an impact will the new facility have? What synergies will there be with other ESO facilities?
- **Organisational ability:** Are the necessary competencies and skillsets available to own the design and development of the new facility? Is the organisation able to fulfil its operational requirements?
- **Sustainability:** To what degree could the new facility be designed, built and operated in an environmentally, socially and financially sustainable manner?
- **Institutional model:** Should the new facility be developed in a partnership with another organisation?
- **Risk assessment**



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