Green Skills

Transdisciplinary Education for Transformative Action

Dr.nat.techn. Marie-Sophie Attems

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WU WIRTSCHAFTS UNIVERSITÄT WIEN VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS

RCE Vienna
Regional Centre of Expertise on Education for Sustainable Development

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Current Status

- Human activities have caused global warming – surface temperatures reaching 1.5°C
- Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere (affecting weather and climate extremes)
- Climate related risks are constantly rising
- Limiting human-caused global warming requires net zero CO2 emissions

(IPCC, 2023)

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Goals to be met

The European Green Deal

- No net emissions of greenhouse gases by 2050
- Economic growth decoupled from resource use
- No person or place left behind

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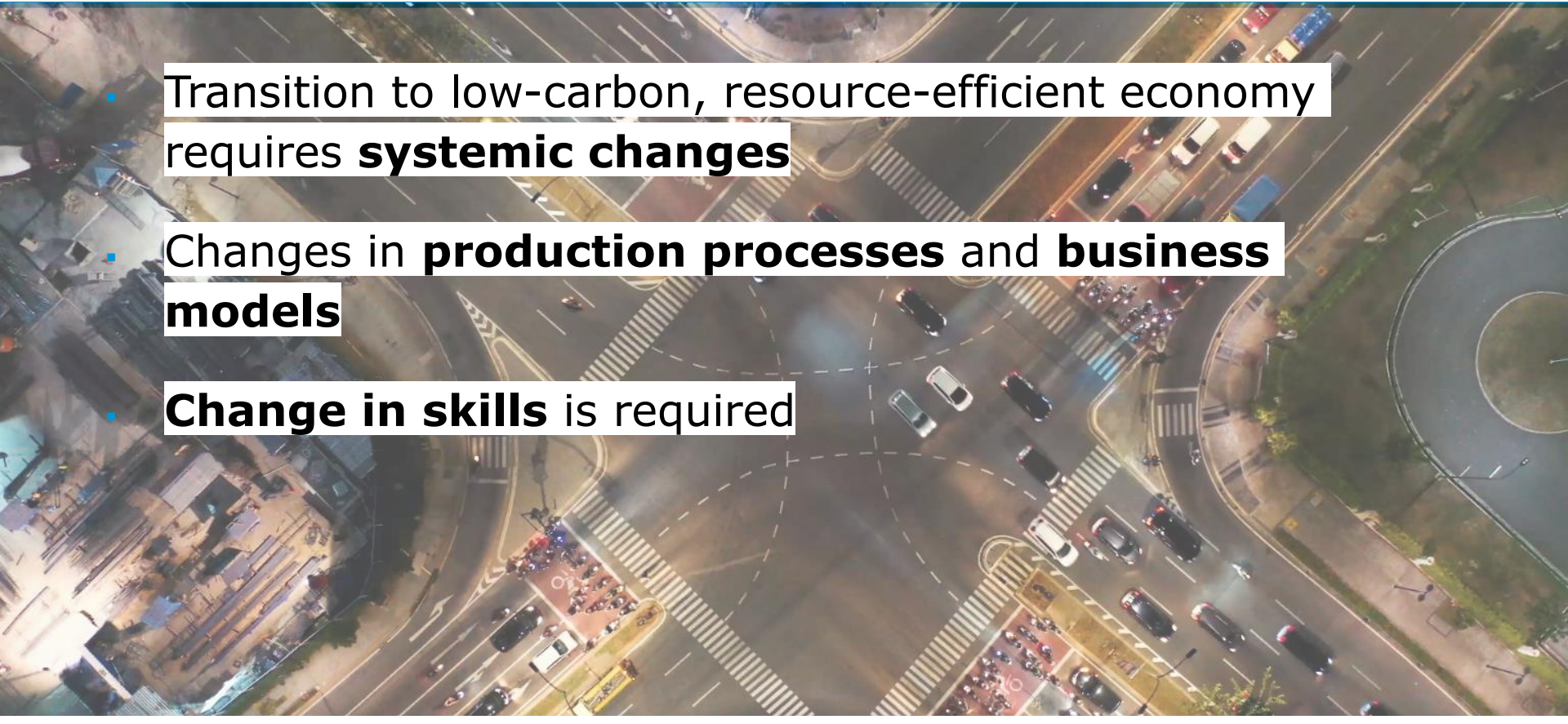
What is needed?



- Transition to low-carbon, resource-efficient economy requires **systemic changes**
- Changes in **production processes** and **business models**
- **Change in skills** is required

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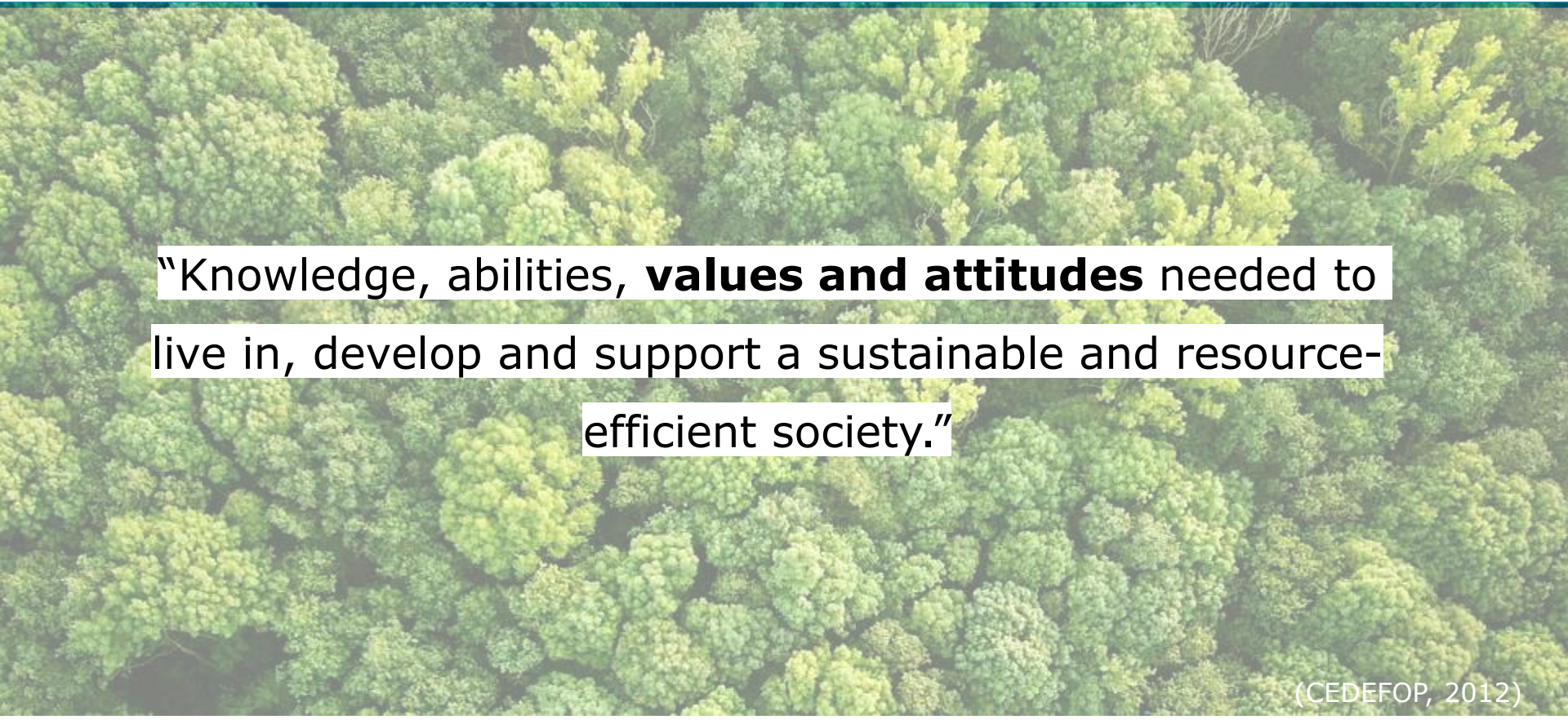
Green Skills



"Knowledge, abilities, **values and attitudes** needed to live in, develop and support a sustainable and resource-efficient society."

(CEDEFOP, 2012)

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Green Jobs

- Multiple definitions of green jobs

*"Decent jobs that contribute to **preserving or restoring the environment**, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency. Green jobs help to improve efficiency in the use of energy and raw materials, limit greenhouse gas emissions, minimize waste and pollution, protect and restore ecosystems, and support adaptation to the effects of climate change" (ILO, 2016).*

- Common understanding allows policy makers to identify necessary interventions

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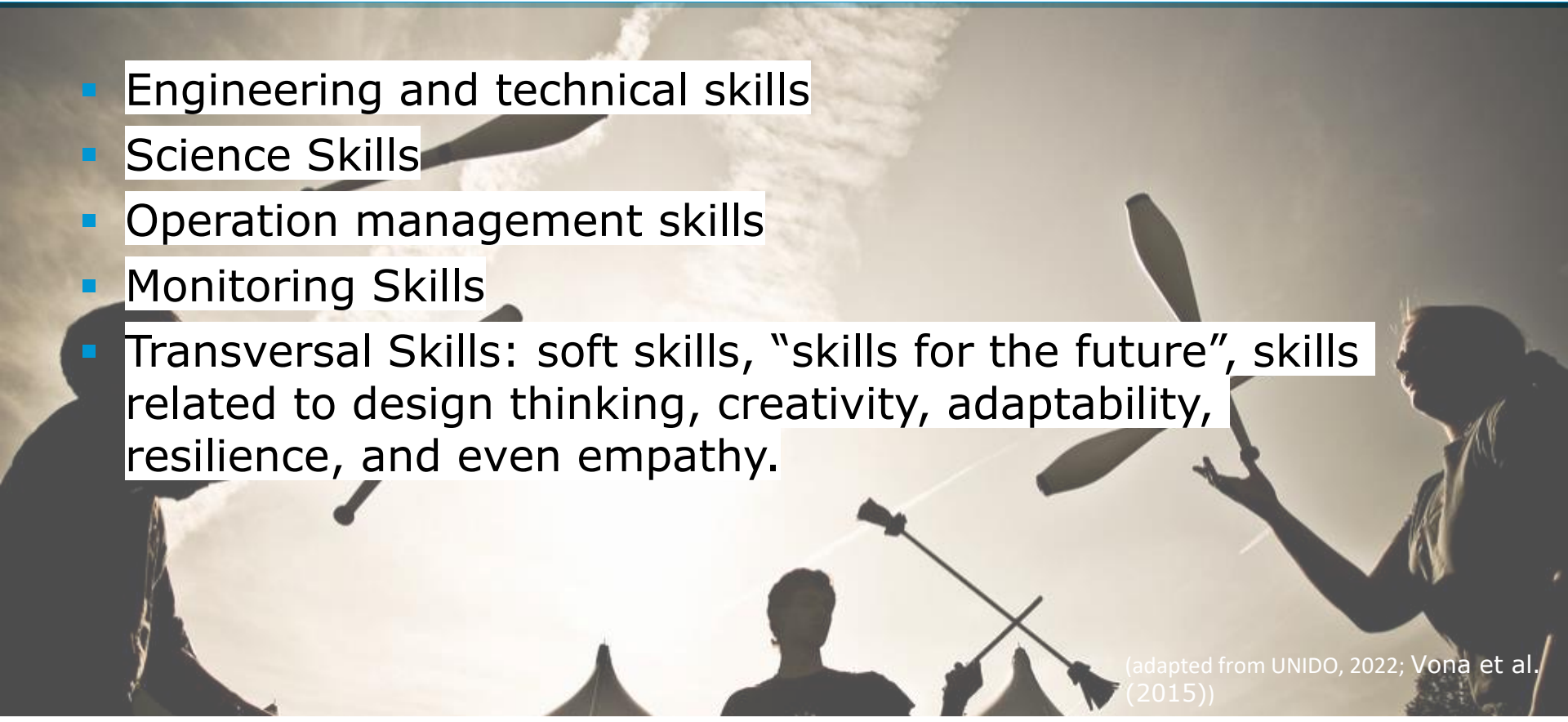
Work Tasks for Green Occupations



- Engineering and technical skills
- Science Skills
- Operation management skills
- Monitoring Skills
- Transversal Skills: soft skills, “skills for the future”, skills related to design thinking, creativity, adaptability, resilience, and even empathy.

(adapted from UNIDO, 2022; Vona et al. (2015))

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Climate relevant jobs

- Net zero requires changes in **every sector of the economy**

- **New jobs** will be created
- Certain jobs will be **eliminated**
- Jobs will be **substituted**
- Most jobs will be **transformed**

(Auktor, 2021)

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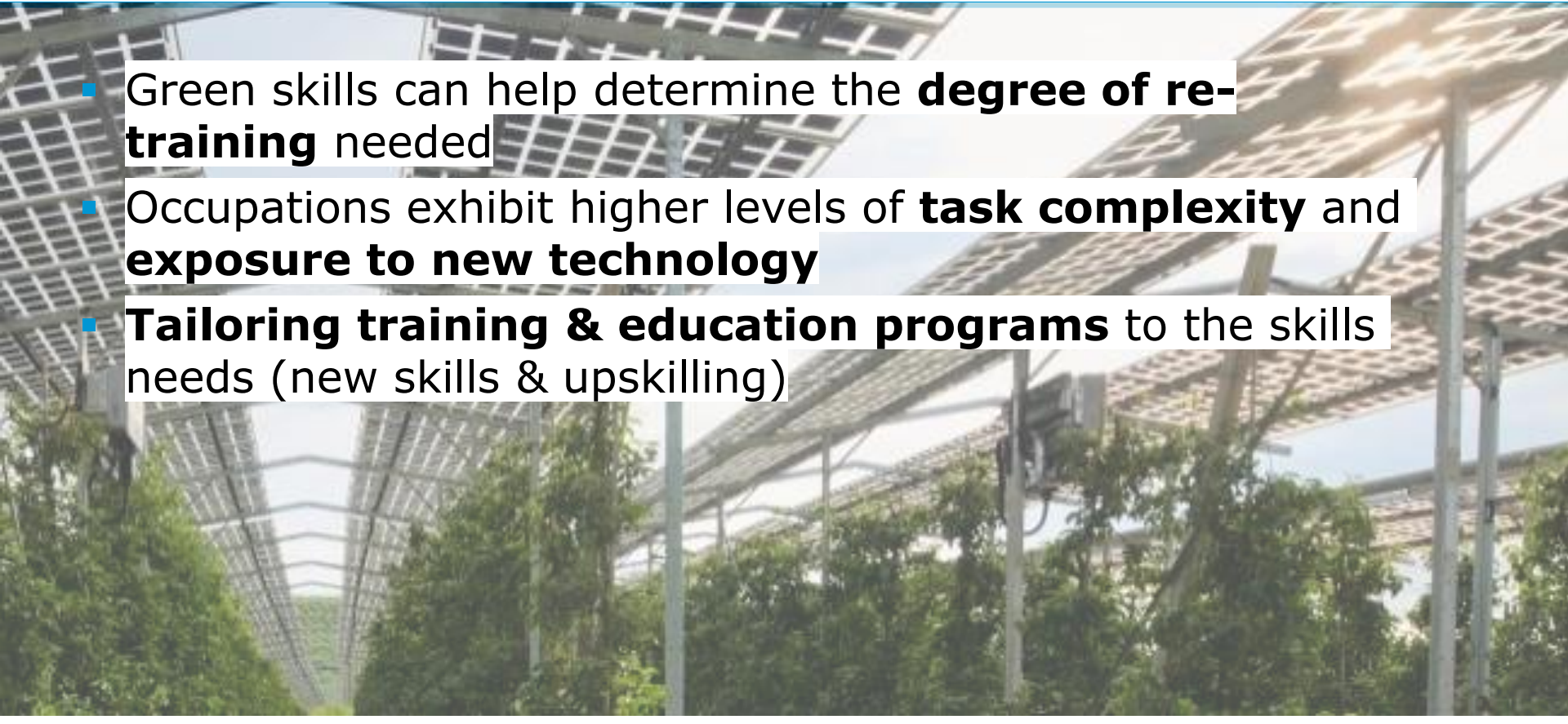
Reskilling & Upskilling



- Green skills can help determine the **degree of re-training** needed
- Occupations exhibit higher levels of **task complexity** and **exposure to new technology**
- **Tailoring training & education programs** to the skills needs (new skills & upskilling)

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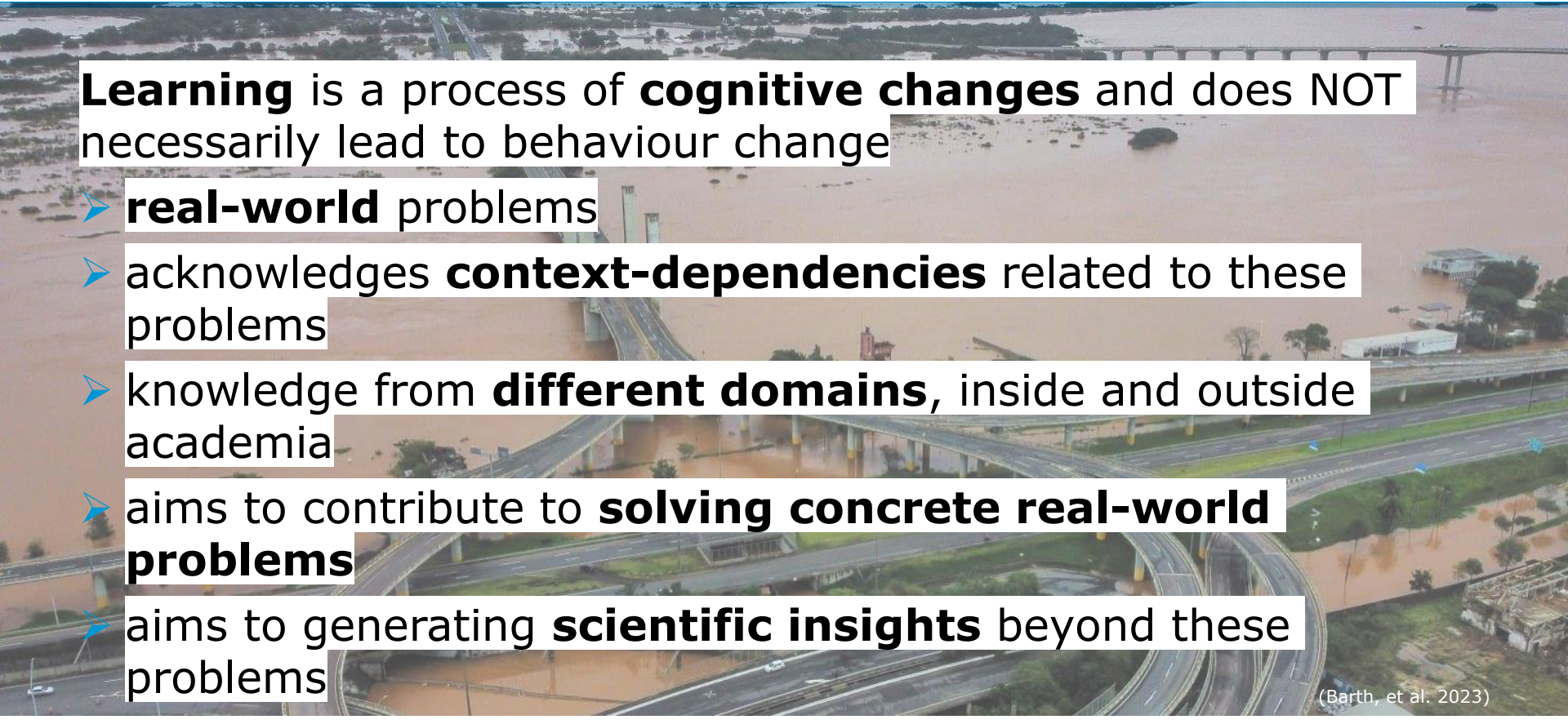
Transdisciplinary Learning



Learning is a process of **cognitive changes** and does NOT necessarily lead to behaviour change

- **real-world** problems
- acknowledges **context-dependencies** related to these problems
- knowledge from **different domains**, inside and outside academia
- aims to contribute to **solving concrete real-world problems**
- aims to generating **scientific insights** beyond these problems

(Barth, et al. 2023)

Carlos Macedo/AP

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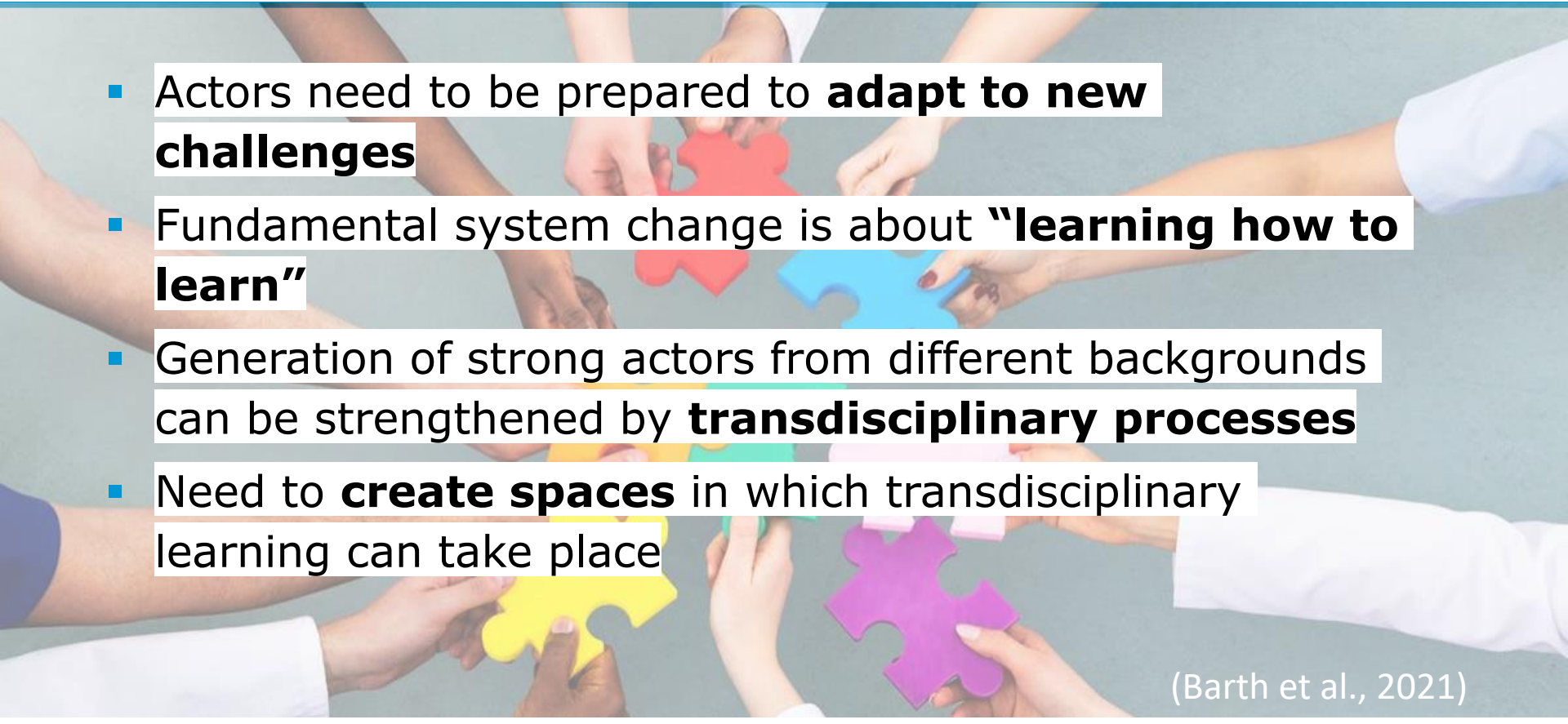
Enable Deliberate Transformation



- Actors need to be prepared to **adapt to new challenges**
- Fundamental system change is about **"learning how to learn"**
- Generation of strong actors from different backgrounds can be strengthened by **transdisciplinary processes**
- Need to **create spaces** in which transdisciplinary learning can take place

(Barth et al., 2021)

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Real-world Challenges

- Real–world labs which **explore societal challenges**
- Challenge-led approach
- Requires the **recognition of complexity**
- **Multi-layeredness** when multiple stakeholders are engaged

(Baumber, 2022; Scholz & Steiner, 2015)

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Real-world Labs

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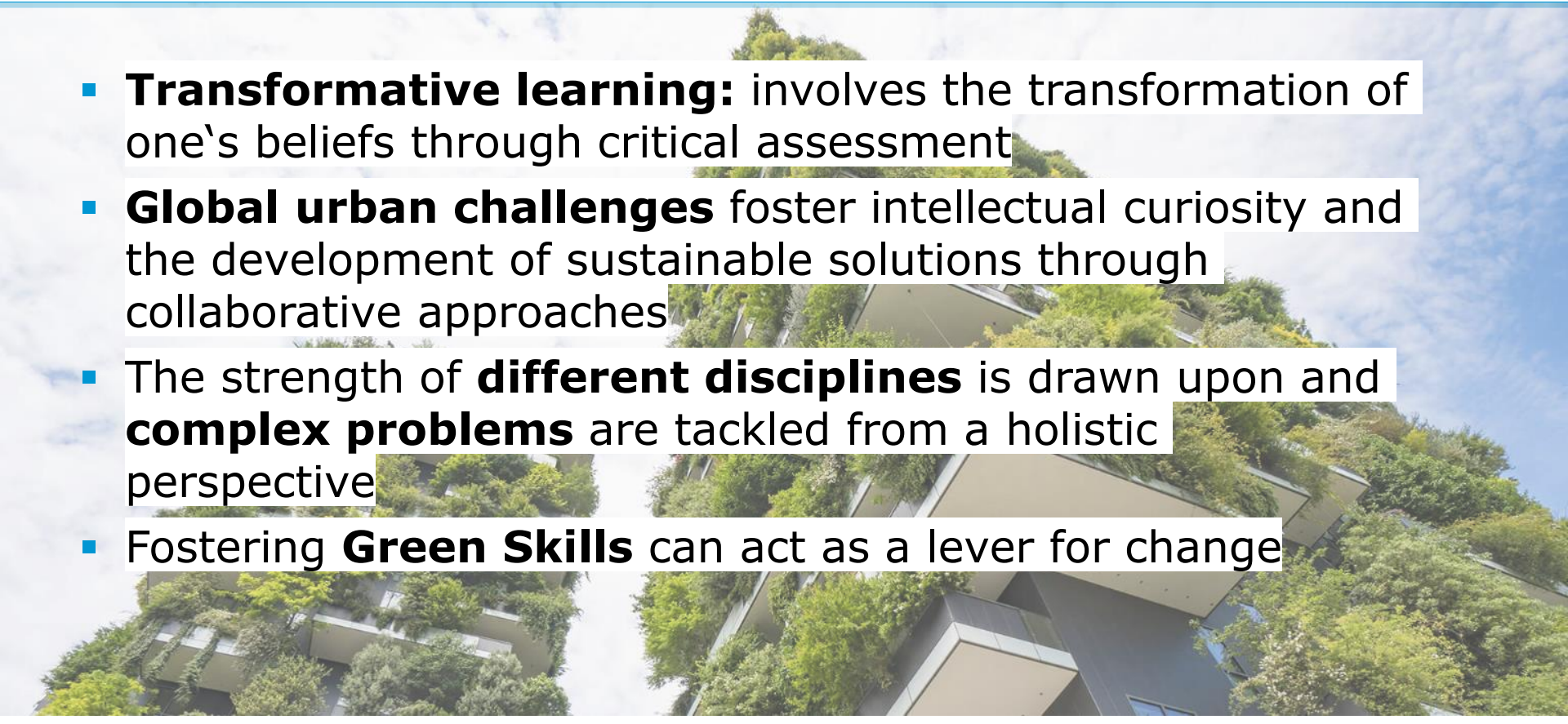
Real-world Labs

Transformative Action



- **Transformative learning:** involves the transformation of one's beliefs through critical assessment
- **Global urban challenges** foster intellectual curiosity and the development of sustainable solutions through collaborative approaches
- The strength of **different disciplines** is drawn upon and **complex problems** are tackled from a holistic perspective
- Fostering **Green Skills** can act as a lever for change

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REGIONAL CENTRE OF EXPERTISE ON EDUCATION FOR SUSTAINABLE DEVELOPMENT VIENNA (RCE VIENNA)

COMPETENCE CENTER FOR SUSTAINABILITY TRANSFORMATION AND RESPONSIBILITY (STAR)

Welthandelsplatz 1, 1020 Vienna, Austria

Dr. nat. techn. Marie-Sophie Attems

T +43-1-313 36-6797
marie-sophie.attems@wu.ac.at
https://www.wu.ac.at/star/about-us/rce-vienna/

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