



re-sourcing

Renewable Energy Roadmap Workshop

Recycling of Wind Turbines & Solar PV Modules

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Agenda

- Housekeeping
- Feedback D4.1
- Development of Roadmap

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Housekeeping



Housekeeping

- Please mute your microphone
- Write COMMENT or QUESTION in chat
- 30 min Feedback D4.1
- 50 min Development of Roadmap

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Feedback D4.1

Challenges

Standards

Vision

Gap Analysis

Challenges – Recycling



- Wind Turbines & Solar PV modules
- Turbine Blades
 - Potentially large amounts of land fill
- Photovoltaics
 - Potential of environmental pollution, impact on biodiversity, human health
- Occupational Health & Safety
- Environmental impact
- Economics & Policy
 - Recycling currently unprofitable



IRMA
 ICMM
 EITI
 IFC EHS for Mining
 The Copper Mark
 ARM
 Natural Resource Charter
 World Bank Climate-smart Mining
 OECD Meaningful Stakeholder Engagement
 GRI
 EBRD
 TSM

IFC Smelting and Refining

The World Bank Environmental and Social Framework for Financing
 WWF Responsible Investment Framework
 Connex G7

IFC wind energy
 AWEA
 IEC wind & solar energy
 NSF457, NPCR 029, ... (national level)

IEC wind & solar energy
 CESA
 AWEA
 ISO 16079; 61400

WEEE directive
 DIN SPEC 4866

LME

OECD Responsible Mineral Supply Chains Responsible Steel ASI CSC

ISO 14000-series
 ISO 50001; 20400; 26000
 ISO 45001/OHSAS 18001

ILO
 IFC EHS
 OECD Multinational Enterprises

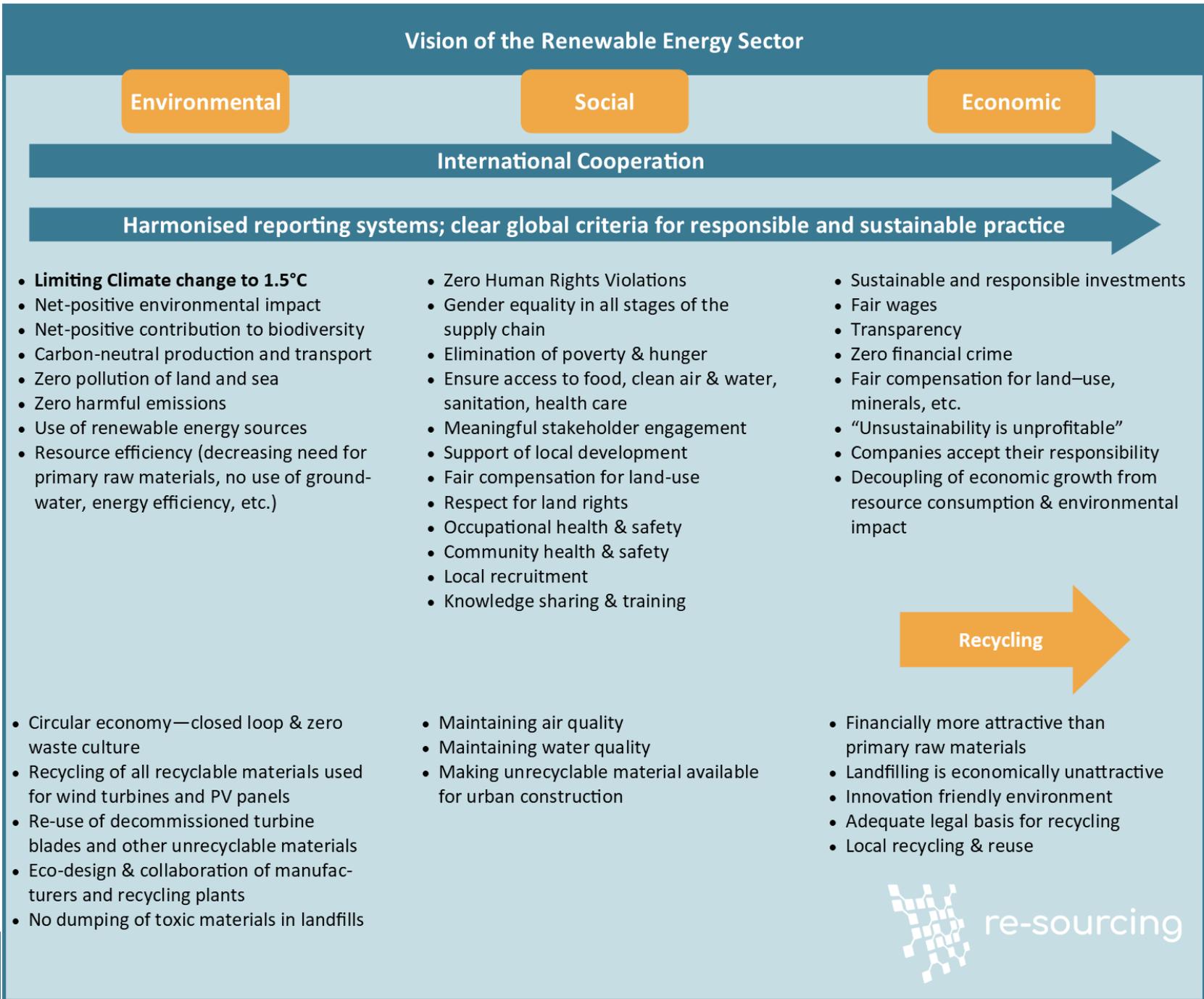
UN Human Rights Principles; UN Global Compact
 SDGs
 (GRI; ARM)



Questions

- Have we included all relevant challenges?
- Have we included all relevant standards?

Vision





Gap Analysis

- International Frameworks
- Collection & Treatment Systems
- Environmental sustainability
- Resource Efficiency





Questions

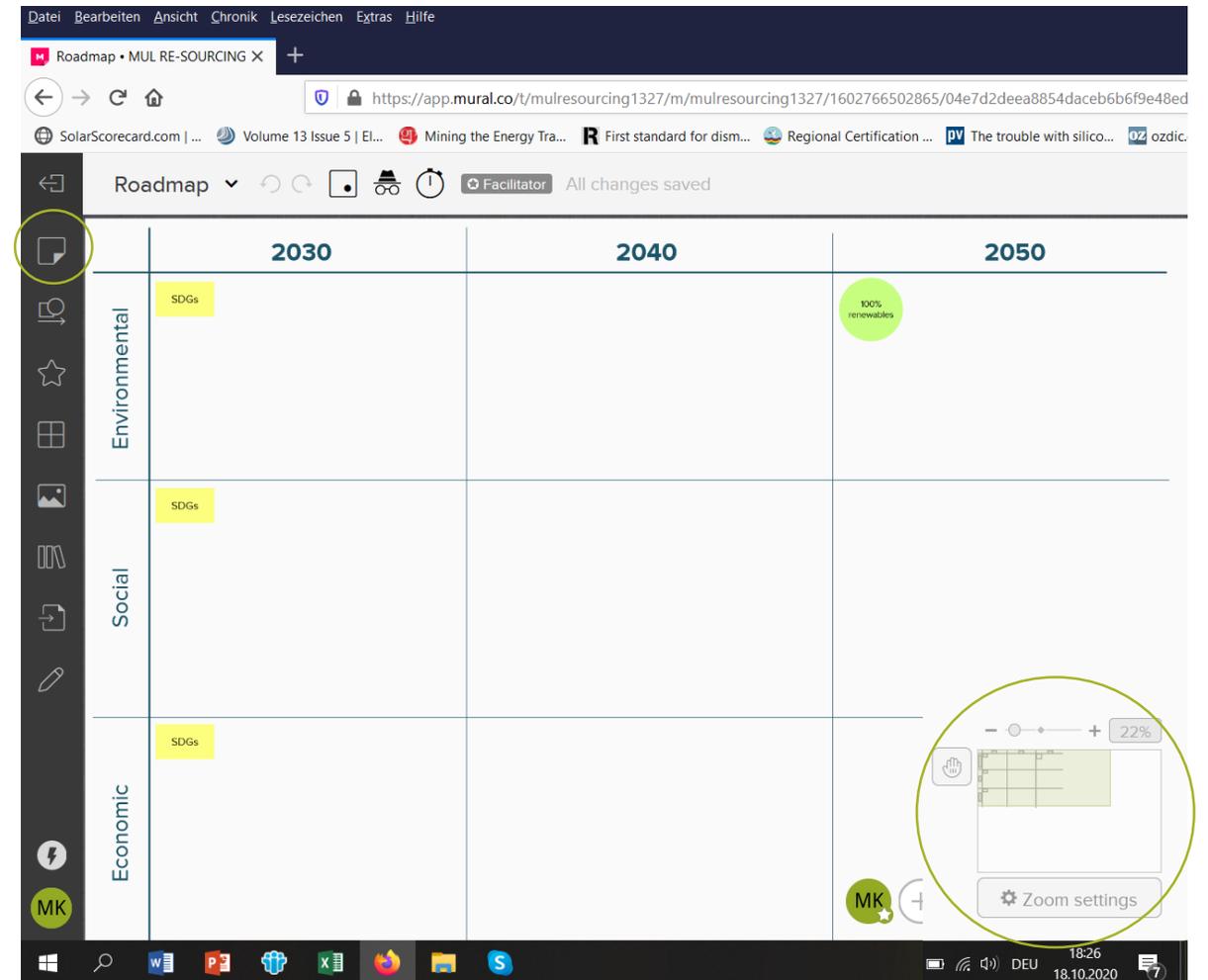
- Are you aware of any new standards/initiatives currently being developed?
 - If yes, can they cover some of the gaps?
- What do you think is the most important gap that needs to be addressed?

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Roadmap Development

Roadmap Development

- Mural, i.e. virtual whiteboard
- Link in chat:
<https://app.mural.co/t/mulresourcing1327/m/mulresourcing1327/1603780665075/518dcfe5e104238ff3a3dc0dec2f4a67e5e5afb9>
- Everyone can participate
- Use sticky notes
- Zoom/Navigation using mouse or controls bottom right corner



The screenshot displays the Mural Roadmap Development interface. The main area is a grid with three columns representing the years 2030, 2040, and 2050, and three rows representing the categories Environmental, Social, and Economic. Each cell in the grid contains a yellow sticky note labeled 'SDGs'. In the 2050 column, there is a green circular sticky note with the text '100% renewables'. The interface includes a top navigation bar with 'Roadmap' and 'Facilitator' options, and a bottom right corner with a zoom control set to 22% and a 'Zoom settings' button. A user profile icon 'MK' is visible in the bottom right corner.

	2030	2040	2050
Environmental	SDGs		100% renewables
Social	SDGs		
Economic	SDGs		



Roadmap Development

- Step 1: Brainstorming
 - What do we need to achieve by 2050? What is our vision?
- Step 2: Setting Priorities
- Step 3: What are milestones and target timeline for the vision?
 - Timeline 2030, 2040, 2050
 - Environmental, Social and Economic Milestones



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THANK YOU
for your attention!



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