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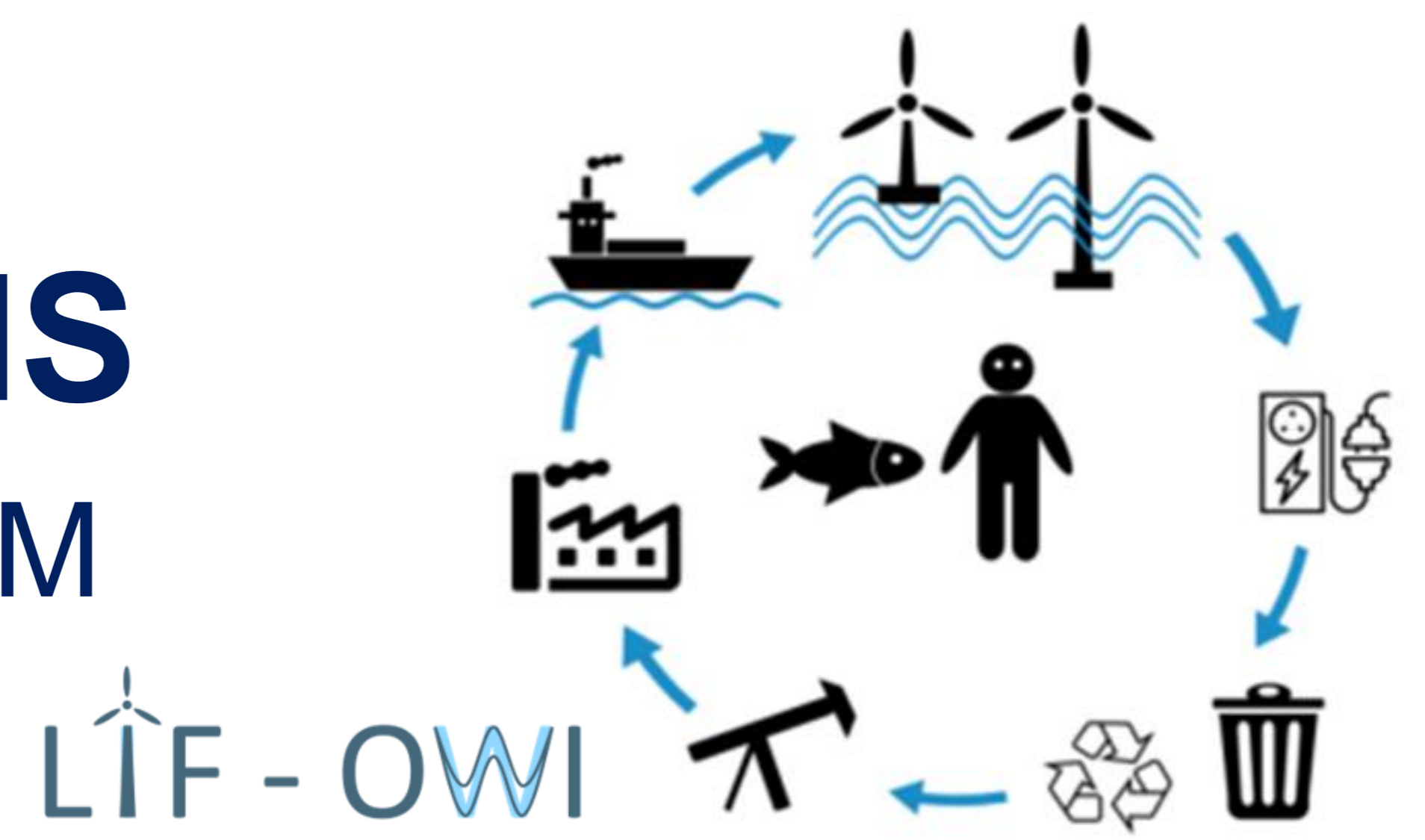
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TOWARDS SOCIAL LIFE CYCLE ASSESSMENT OF ENERGY SYSTEMS

CASE STUDY ON OFFSHORE WIND FARMS FROM COMPANIES' PERSPECTIVE



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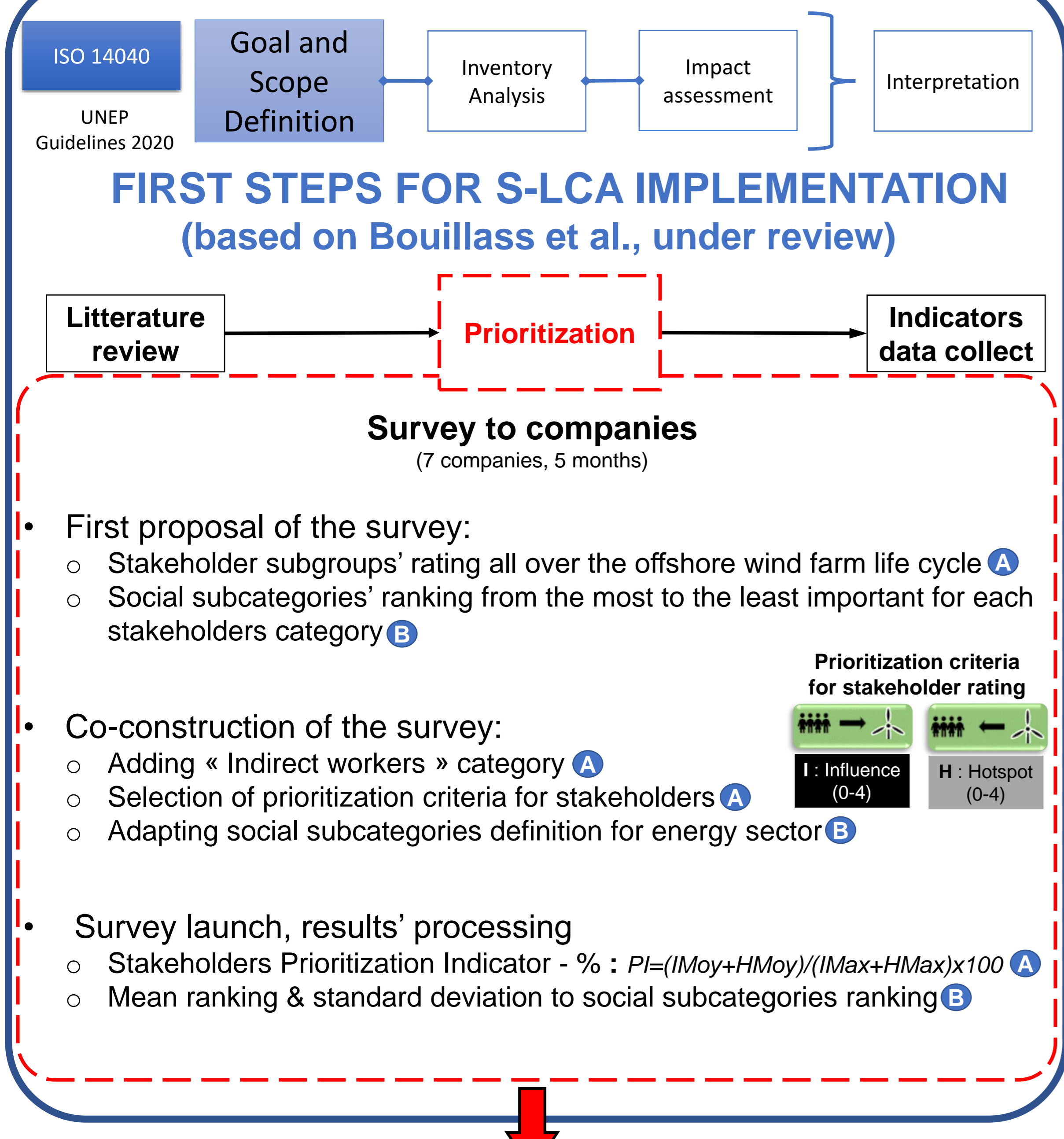
INTRODUCTION

- Decision-makers must choose between different offshore wind power configurations considering social impacts of these energy systems
- Social impacts of energy systems can be evaluated based on Social Life Cycle Assessment (S-LCA) framework, described in UNEP Guidelines (2020)
- Prioritization needs of stakeholder categories and related social impact subcategories have already been identified and an approach has been proposed by Bouillass et al. (under review)

OBJECTIVE

- Prioritization of social subcategories and stakeholders for offshore wind farms
 - Focus on companies' perspective
 - Target data collection

METHODOLOGY



RESULTS

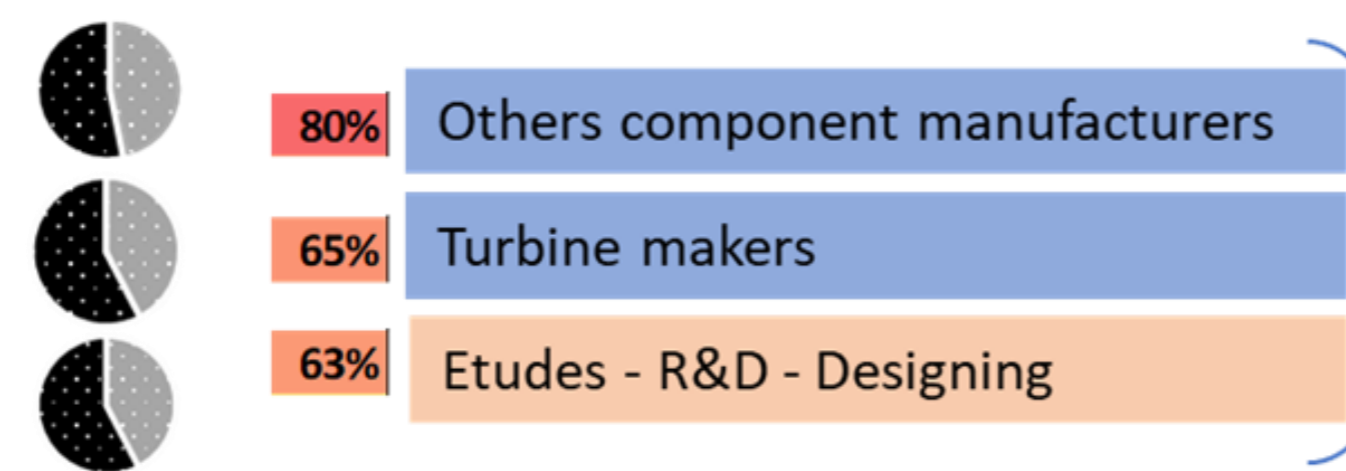
B SOCIAL SUBCATEGORIES RANKING (TOP 3)

Stakeholder categories	RANK 1		RANK 2		RANK 3	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
DIRECT WORKERS	Health and safety 1.3 0.50		Social benefits / social security 3.3 2.06		Equal opportunities discrimination 4.3 3.30	
INDIRECT WORKERS	Health and safety 2.8 2.87		Child labor 3.5 1.00		Fair salary 4.8 2.87	
VALUE CHAIN	Promoting social responsibility 2.3 1.50		Fair competition 2.8 0.96		Supplier relationships 2.8 2.06	
LOCAL COMMUNITY	Safe and healthy living conditions 1.8 0.50		Local employment 2.5 3.00		Secure living conditions 3.0 1.15	
CONSUMERS	Health and Safety 1.0 0.00		Transparency 2.3 0.50		Consumer privacy 3.0 0.82	
SOCIETY	Contribution to economic development 3.3 2.22		Poverty alleviation 3.3 1.71		Public commitments to sustainability 3.3 2.63	

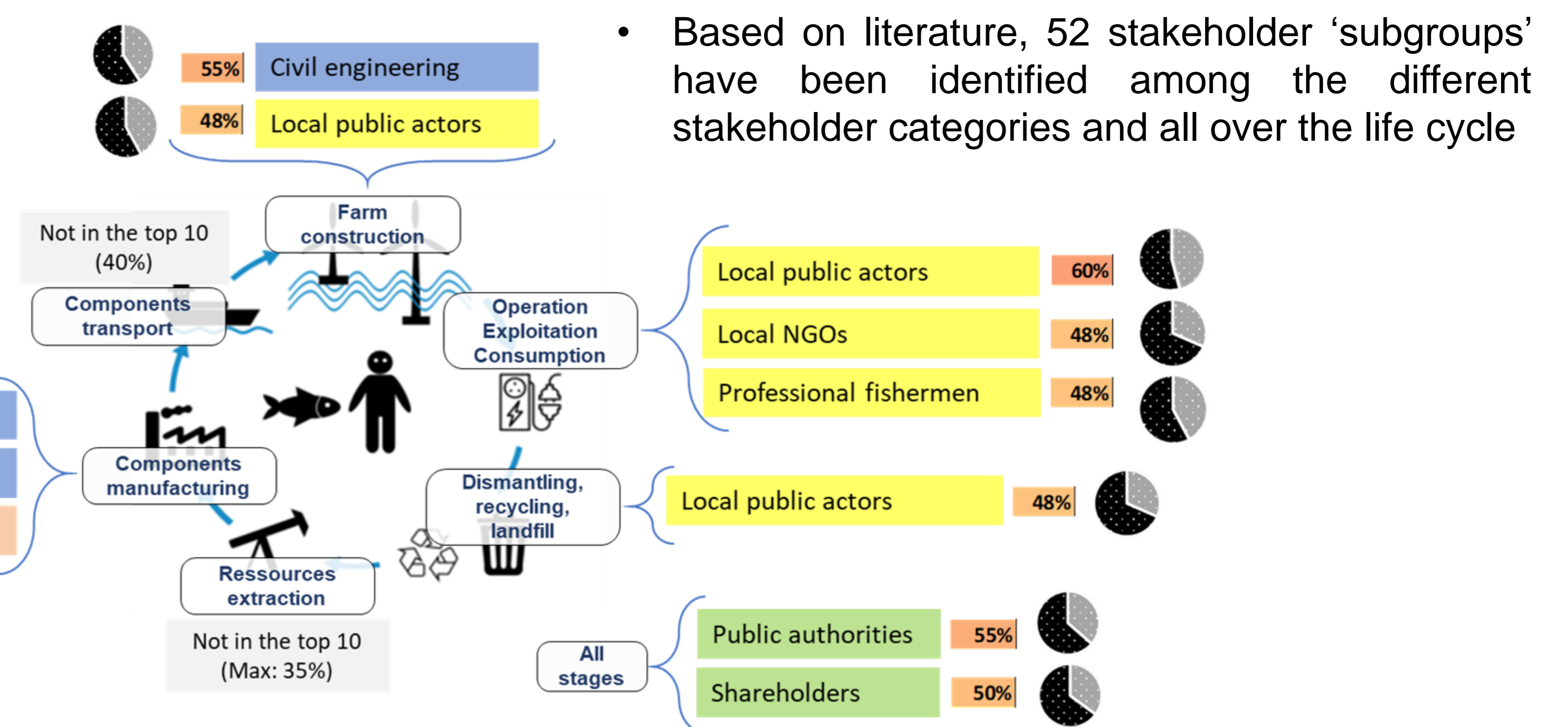
- The ranking may differ according to the respondents. There is a great variability in the perceptions of the social subcategories among companies
- However, the dispersion indicators highlight a consensus (in red) in these perceptions
- Globally, "health and safety" social subcategories are perceived as priority issues for most of stakeholder categories.

A STAKEHOLDER SUBGROUPS RATING (TOP 10)

- Results highlight mainly the suppliers, R&D workers, and local public actors, according to the respondents' perspective. In contrast, feedbacks show that social issues during extraction phase are not well known



- Presence of local public and private actors stakeholders (in yellow) reflects the importance of territorial issues in offshore wind farm sector according to respondents' perspective



CONCLUSIONS AND PERSPECTIVES

- By applying the prioritization method to the offshore wind sector, this study has highlighted, from the companies' perspective:
 - Stakeholders subgroups and
 - The main social issues subcategories to be taken into account in the life cycle of offshore wind projects
- However,
 - Prioritization is only one step in the entire data collect, helping to focus on "who" and "what"
 - There is a need to cross these first results with other stakeholders' perceptions (external experts).

References

○ UNEP, 2020. Guidelines for Social Life Cycle Assessment of Products and Organizations. Benoit Norris, C., et al., (eds.). United Nations Environment Programme (UNEP)

○ Bouillass, G., et al., under review, Step-by-step Social Life Cycle Assessment framework: A participatory approach for the identification and prioritization of impact subcategories applied to mobility scenarios

○ International Standard ISO 14040 (2006) Environmental Management—Life Cycle Assessment—Principle and Framework.

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