

Capabilities approach

To understanding fairness to participation in domestic demand response

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Background

Domestic demand response (DR) holds potential to support energy system decarbonisation and also benefit participating households. However, DR participation could also negatively impact on households' wellbeing, with implications for energy justice.

Theoretical lens

Several conceptual lenses have been introduced (Capabilities Lens¹, Flexibility Capital²) or adapted (Capabilities Approach^{3,4}) to support the analysis of such issues. This paper reviews these existing approaches and critically reflects on the application of the Capabilities Lens while developing a Smart Local Energy System as part of Project Local Energy Oxfordshire (Project LEO^{5,6}). Drawing on this, it develops a new conceptual framework that builds on the Capabilities Approach^{3,4} and Home for the Common Future⁷ framework to conceptualise ultimate desired outcomes (primary capabilities) via meanings people attach to their homes.

Application and results

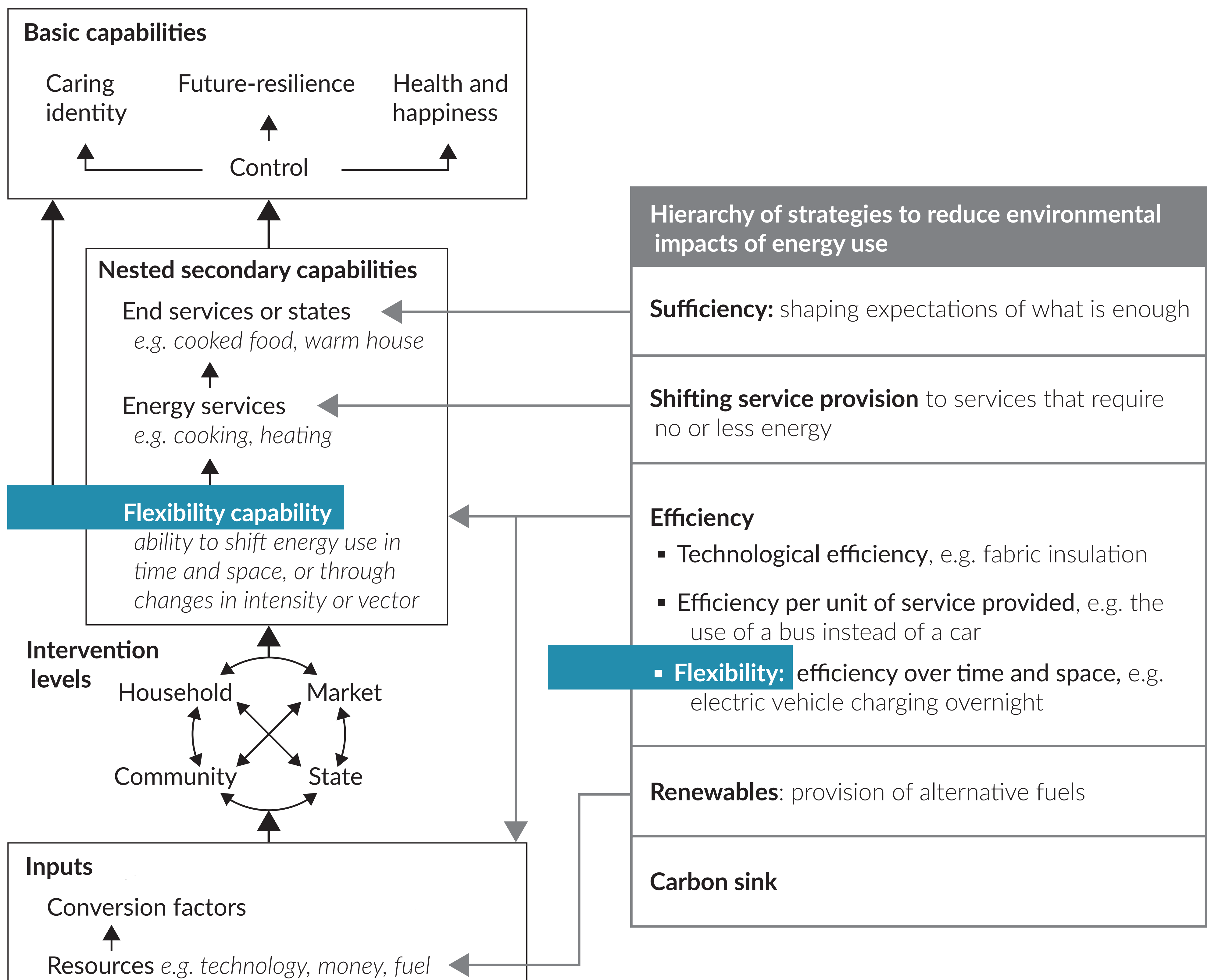
We illustrate the application of the novel framework in the case of DR involving domestic heat pumps. Novel contributions include conceptualising both valued outcomes and inputs that influence opportunities to achieve them in a single framework; conceptualising valued outcomes in relation to home meanings; and conceptualising inputs as relational and emerging across four levels (household, community, market and state). Differentiating between primary and secondary capabilities highlights the most relevant criteria for the evaluation of fairness and the need to go beyond a focus on inputs such as access to specific technologies. At the same time, we illustrate how our conceptualisation of inputs can be applied to identify potential supportive interventions across the community, market and state levels; and discuss its further application to analyse distributional impacts and issues of power and responsibility.

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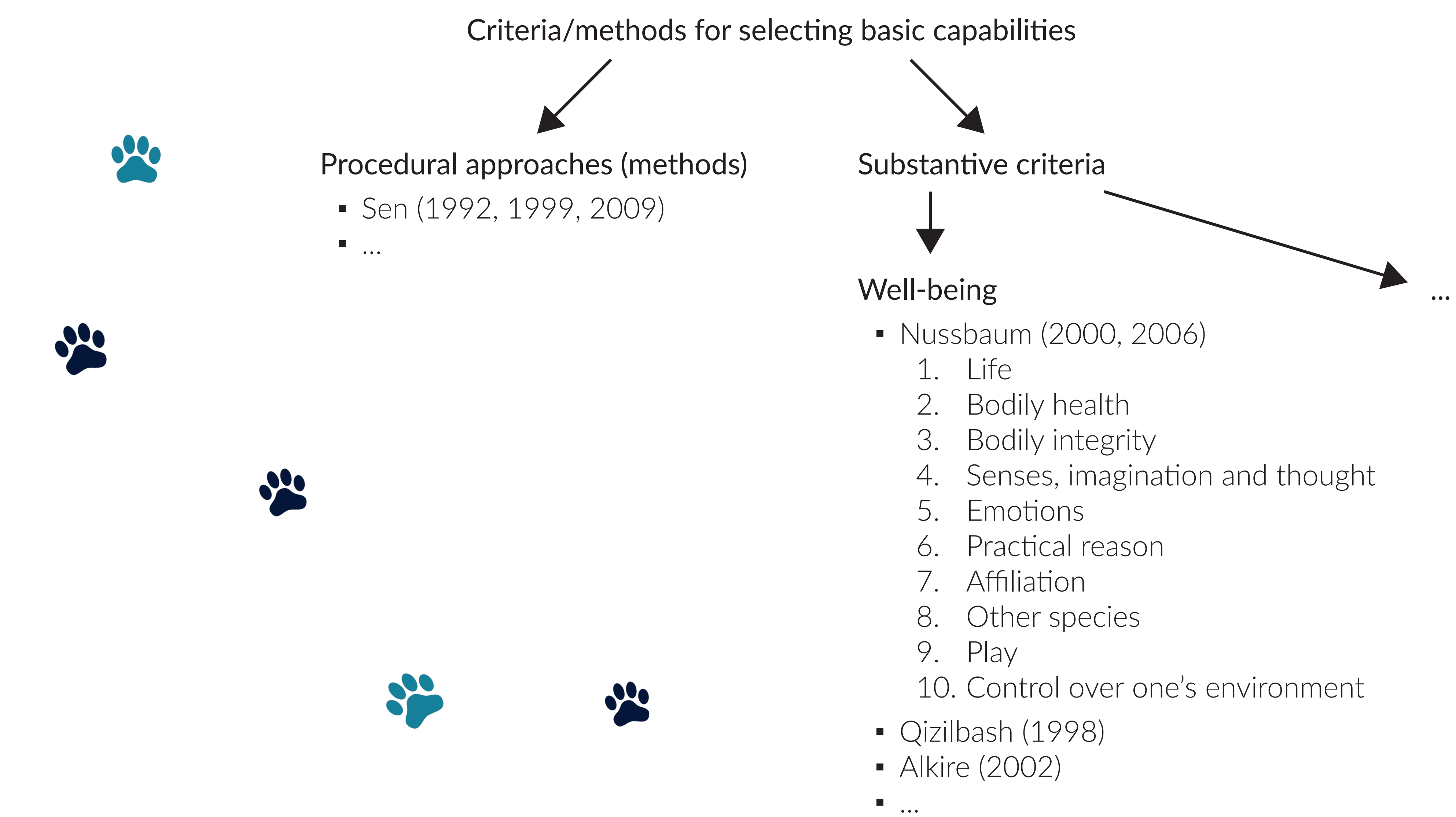
References (theoretical lens and LEO project):

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Capabilities for Demand Response Participation (CDRP)



Capabilities approach: selecting basic capabilities



Home for the Common Future (HCF)

