Appendix 2. Typology and description of the participatory co-production processes.

Co-production is a complex process that has been categorized and described using multiple different variables. However, for simplicity we limit our differentiation to three axes capturing the main differences of our cases: 1) Level of stakeholder engagement, ranging from consultation to collaboration (Rowe and Frewer 2005, Mobjörk 2010); 2) Primary outcome, in our cases awareness raising, capacity building and informing policy (Luederitz et al. 2017); and 3) Process mandate, with in our study the three types *independent*, *consecutive* and *embedded* (in resonance with the policy arenas and cultures descibed in e.g. Pohl 2008). Consultation means obtaining feedback from and providing adequate information to interested third parties on relevant aspects of the design, methodologies, analysis and results of a project. Collaboration instead means working in partnership with individuals, or groups, in relevant aspects of the co-production process, including the development of alternative methods and the identification of preferred solutions or outcomes to satisfy participant needs. There are multiple hybrid versions in between collaboration and consultation, and sequential, multi-step processes like our three cases may mix and move between the two as they unfold. Independent means driven and owned by the researchers (as in Halle), consecutive that the process is a semi-autonomous, researcher owned process connected to parallel or earlier processes (with varied ownership) (as in Stockholm), and embedded that the process was coowned and formed part of another process owned by someone other than the researchers (ass was the case in Barcelona).

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