

## Key Concepts in Processes of Sustainability Transformation

# NICHE

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### DEFINITION

The definition for niche varies depending on the discipline or field of application. In ecology, a niche refers to an area or position that is exactly suitable for a particular species. In economics, a (market) niche refers to a specialized segment of the market for a certain product or service. In socio-technical systems, a niche refers to a locus or "protective space" (Smith & Raven, 2012, p. 1025), where dedicated actors nurture the development of innovative, technological novelties.

### CONTEXT

With regard to transition / transformation processes, the concept first emerged as scholars in the field of evolutionary theories argued that ground-breaking innovations first form in niches, where they are protected from mainstream selection pressures (e.g. Schot 1992; Leventhal, 1998; Rip and Kemp, 1998). A group of scholars, above all system innovation and sustainability researcher Frank Geels, then used and developed this conceptualization to explain transitions towards sustainability. The research field is known as Sustainability Transitions Research (STR). According to STR, sustainability innovations start as experiments in niches, so called "incubation rooms" (Elzen et al., 2004, p.100). Once changing conditions put pressure on established regime actors, niche actors use these windows of opportunity to enter the mainstream and transform it towards sustainability. As some scholars in the field of strategic niche management research (e.g. Kemp et al., 1998) have argued, protective spaces, i.e. niches, can also be constructed purposefully to facilitate the introduction and diffusion of sustainability innovations.

### RELEVANCE

In keeping with the understanding of niches as put forward by sustainability transition researchers, niches are fundamentally important to initiate large-scale changes. This change is conceptualised as bottom-up

or grassroot change (as opposed to top-down). Since firmly established businesses as well as political and cultural institutions tend to be caught-up in strong path dependencies, they themselves can hardly initiate the required transformation towards sustainability. Experiential, innovative and mission-driven niche actors (such as start-ups, local initiatives, and small-scale networks) are required to help society see working alternatives to break free from rigid patterns. Transdisciplinary researchers in the field of Sustainability Transformations can initiate, accompany and/or support small-scale projects in niches to help contribute to larger transformation processes. As innovative niche actors have a tendency for creative chaos and little time capacity, the structured, evidence-based scientific approach can be a useful complement, especially for scaling activities, which require time-intensive analysis, reflection and anticipation in order to be sustainable.

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