1. **Introduction**

There is a growing call in the academic community for improving the capability of integrated system models, especially in the food, energy, and water nexus [1-2]. While one strategy to address this need is to improve and refine the specific subcomponents, another is to take a more holistic Long-term planning is increasingly becoming more important in today’s world of environmental uncertainty. However, there are a wide range of scenario planning techniques and methods used by researchers in the academic community, each with their specific characteristics and uses, and has been called a “fuzzy multi-field”. While there has been a wealth of research in this area, the last comprehensive review of this topic was

1. **Methods**

* Several of the scenario review literature proposed different topological structures to tackle the lack of structure and organization in this field.

1. **Taxonomy**

There have been several attempts in the academic community to not only review the field of scenario development, but also apply, where possible, an organized classification on the different methods used by participants in the field. In fact, their review and classification provided a clear foundation to think how scenario planning methods can be organized, and provided much of the foundation of the work in this paper. Therefore, it is useful to first examine these prior efforts.

* 1. *Van Notten et al. (2003)*

Van Notten et al. examined around 70 scenario planning and forecast case studies in the literature, and created a high-level topology of those case studies based on common features across each of the processed used in the reviewed case studies. Van Notten et al. organized the methods based on three major themes: what was the goal of the analyst (*why)*; what were the characteristics of the process (*how*); what content were created for the scenario (*what*). In addition, 14 scenario characteristics were identified, and they were used to further characterize each of the case studies.

However, the focus of their review was on individual case studies, rather than the specific processes themselves. As such, while individual examples were examined and their characteristics dissected and analyzed, Van Notten et al. were

1. **Discussion**
2. **Future Research**