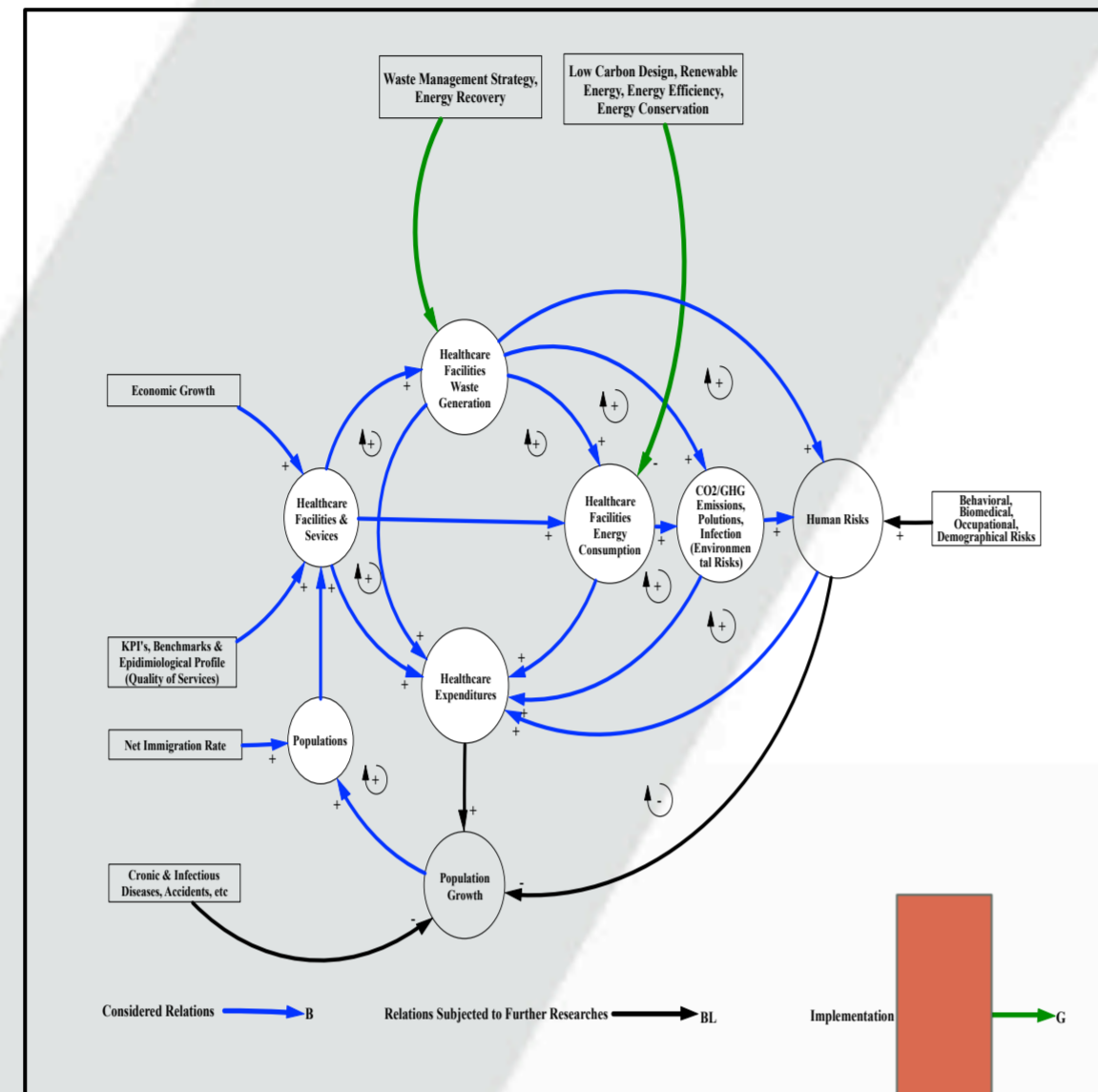


1. Introduction

Healthcare buildings have large impact on environment. The impact is generated from two sources;

- energy consumed and
- waste generated.

In order to protect the environment, hospitals and healthcare facilities must have an efficient operation and management strategies of these resources. (Gunther et. al.,2008)

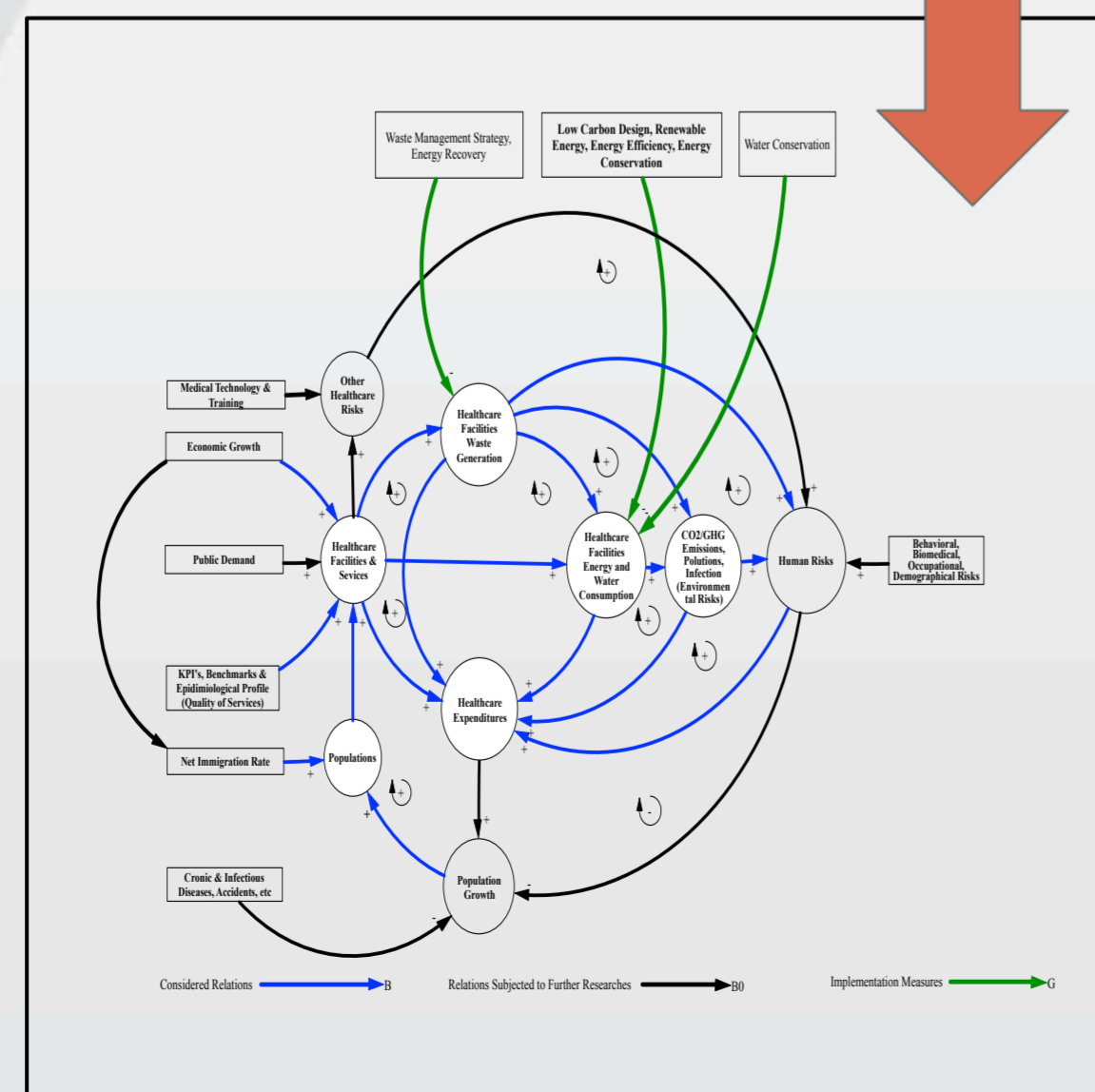


The researcher trace a third Healthcare buildings large impact on environment, that is water consumption. Availability of enough potable, clean and filtered water for different healthcare operations, especially in countries with limited fresh water resources like Bahrain, is a real environmental challenge need to be considered.

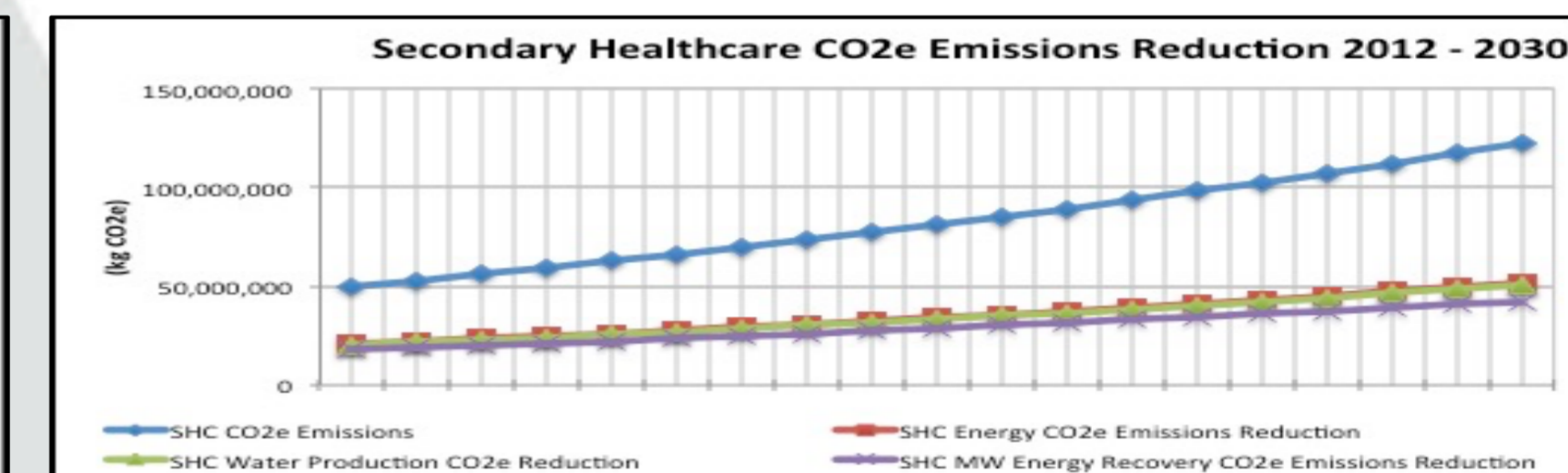
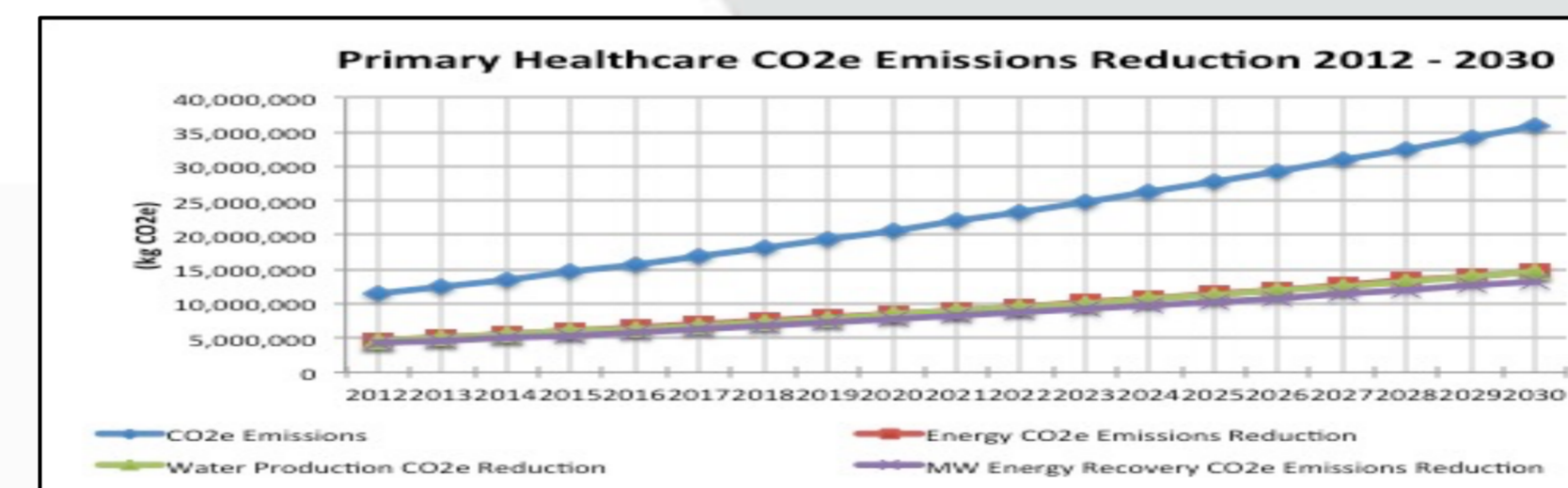
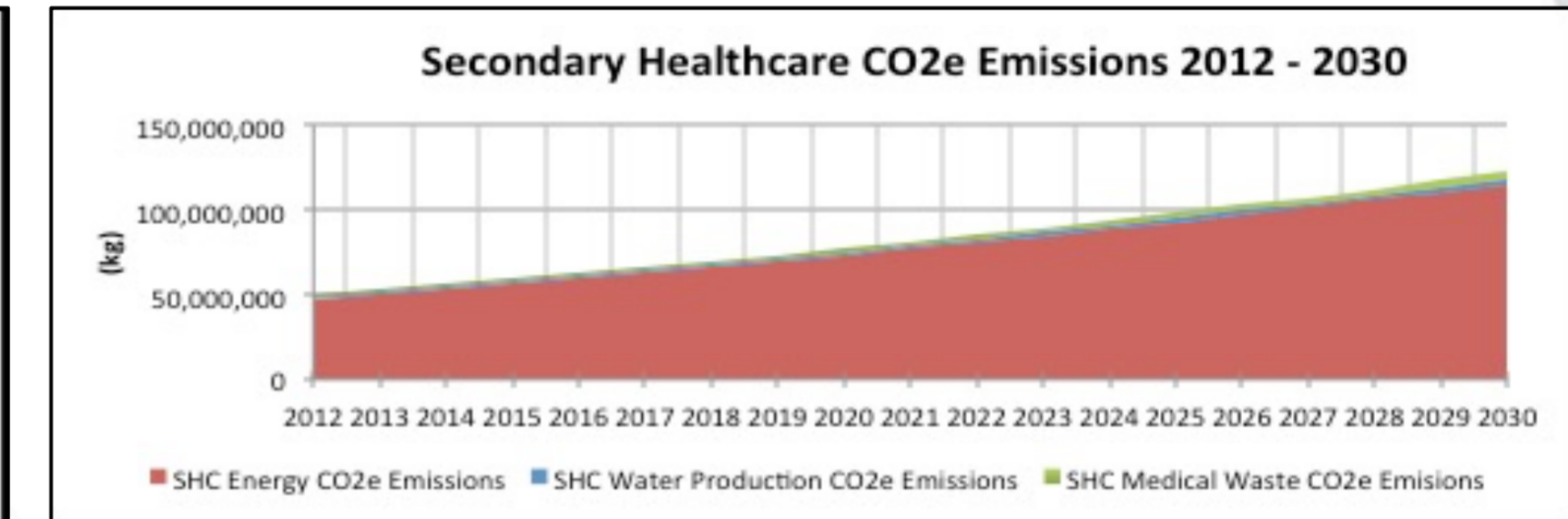
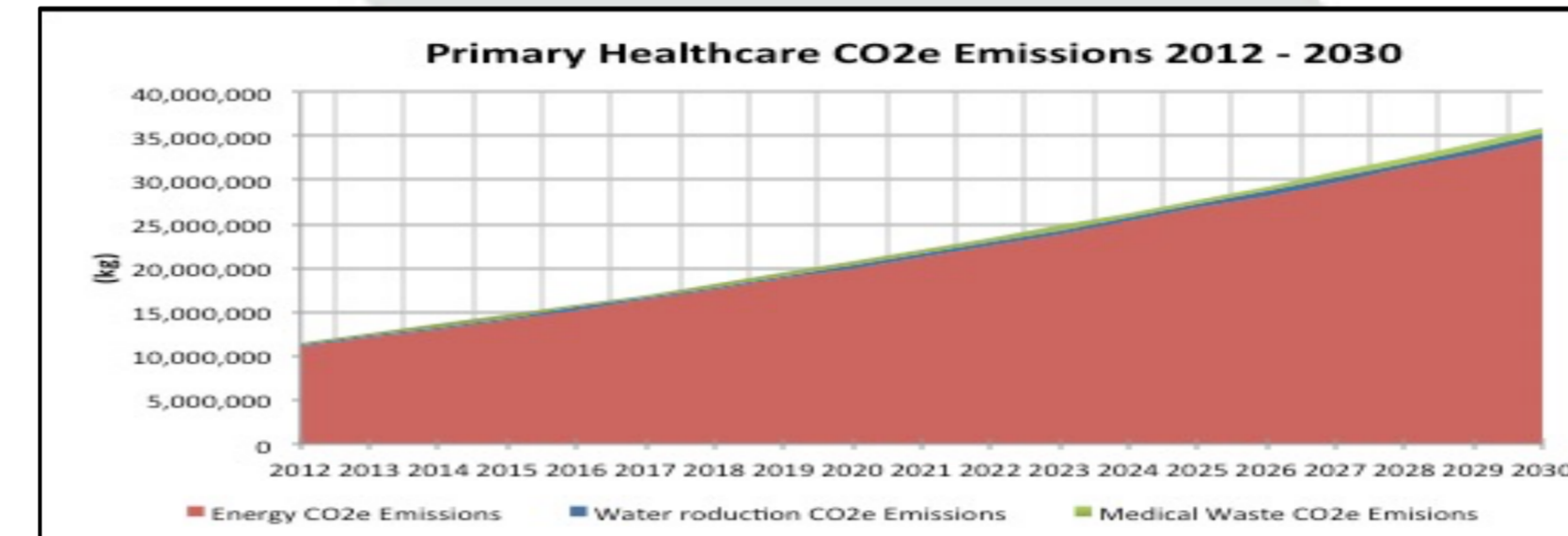
The researcher also trace group of environmental challenges related to the practicing of healthcare services neither classified as energy nor waste but it can expose human (staff and patients) to high risks and need to be efficiently managed in order to improve social sustainability of healthcare system (subjected to further studies).

Focus Group Interviews

- ✓ 06 Focus Groups
- ✓ 45 Participants.
- ✓ 57 Feedbacks.



2. Implementations and Analysis



3. Discussions and Conclusions

Discussions:

- The potential of achieving 80% of energy saving in building as per IEA found possible.
- Testing the effectiveness of IEA solutions to achieve Green Buildings and found very effective (65% of energy saving)
- Implementing simple Energy Conservation can save up to 10% of Energy.
- The potential of operating cost reduction is found disappointing (0.5%).

Contributions:

- The Conceptual Model.
- Four Healthcare System Dynamics Models.
- Nine Contextual Bahrain Healthcare Energy Benchmarks
- Nine Contextual Bahrain Healthcare Water Benchmarks
- Bahrain Healthcare Energy Consumption Categories

Conclusions:

This research has investigated the healthcare buildings large environmental impacts and the effectiveness of mitigation solutions on healthcare services performance. The research results strongly supported the implication of stated environmental impacts and the effectiveness of suggested measures in mitigating the undesirable results on healthcare services.