

## Summary

Co-management is a governance system which consists of the sharing of responsibilities, entitlements, decentralized institutional rules and agreements between the state and local community for maintaining certain resources. Community led renewable energy (CRE) is a kind of collaborative energy management where state, regional and other nongovernmental organizations have been involved. However, very few of studies focus on the co-management aspects of CRE. This study explores the patterns of co-management including policy regulations, ownership structure, stakeholder's participations and decision-making process of CRE both in Canada and EU by the summative content analysis method. This study found that different EU countries have applied miscellaneous effective policy tools like Feed-in-Tariff (FIT), Feed-in-Premium (FIP), Community and Renewable Energy Schemes. Consequently, different energy cooperative and community based ownerships models have been developed and local residents could be engaged in highest level of participation ladder. Most of the Canadian renewable energy policies are more technocratic and accelerating "energy developer" oriented commercial ownership than in the EU. Therefore, public participation in these renewable energy projects is like "Decide-Announce-Defend". Strong decentralized governance, awareness raising and policy reformation should be increased for prolific renewable energy co-management.

## 1. Introduction

Community owned renewable energy ensures sustainable development through collaborative management in energy production (Walker, 2008; Walker & Wright, 2008). Collaborative or co-management refer to sharing responsibilities, rights and duties between the primary stakeholders, in particular, local communities and the state. Through the community renewable energy projects, local residents can participate in the resource management, ownership and control process. The study described how the renewable policies including FIT, FIP, and Community and Renewable energy schemes are impacting on ownership structure, stakeholders' participation and decision-making processes of community renewable energy projects.

## 2. Methodology

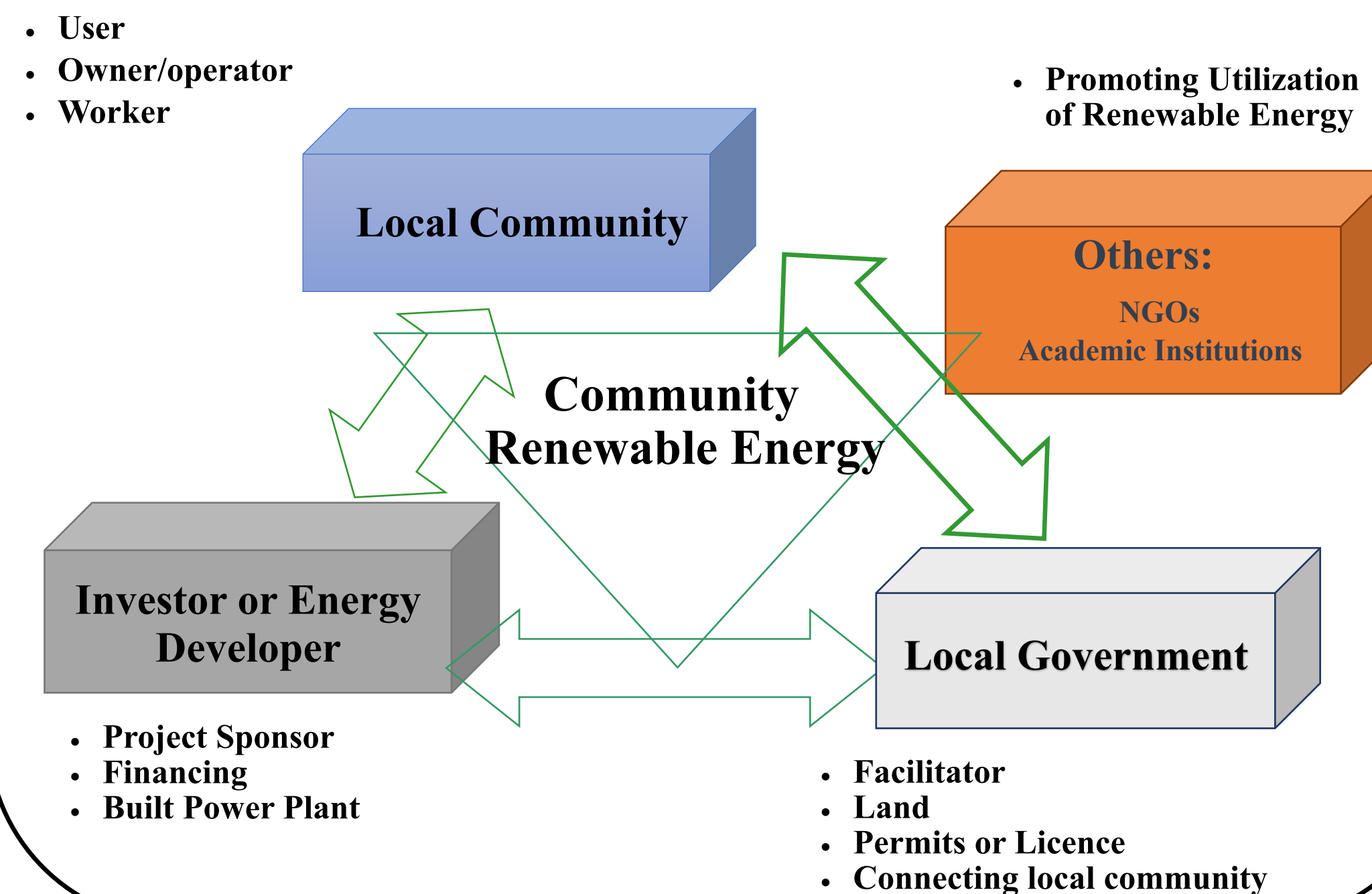
i) **Research Techniques:** Summative content analysis

ii) **Unit of Analysis:** Five different key themes including "Community owned", "Renewable energy," "Ownership", "Public participation", "Decision making".

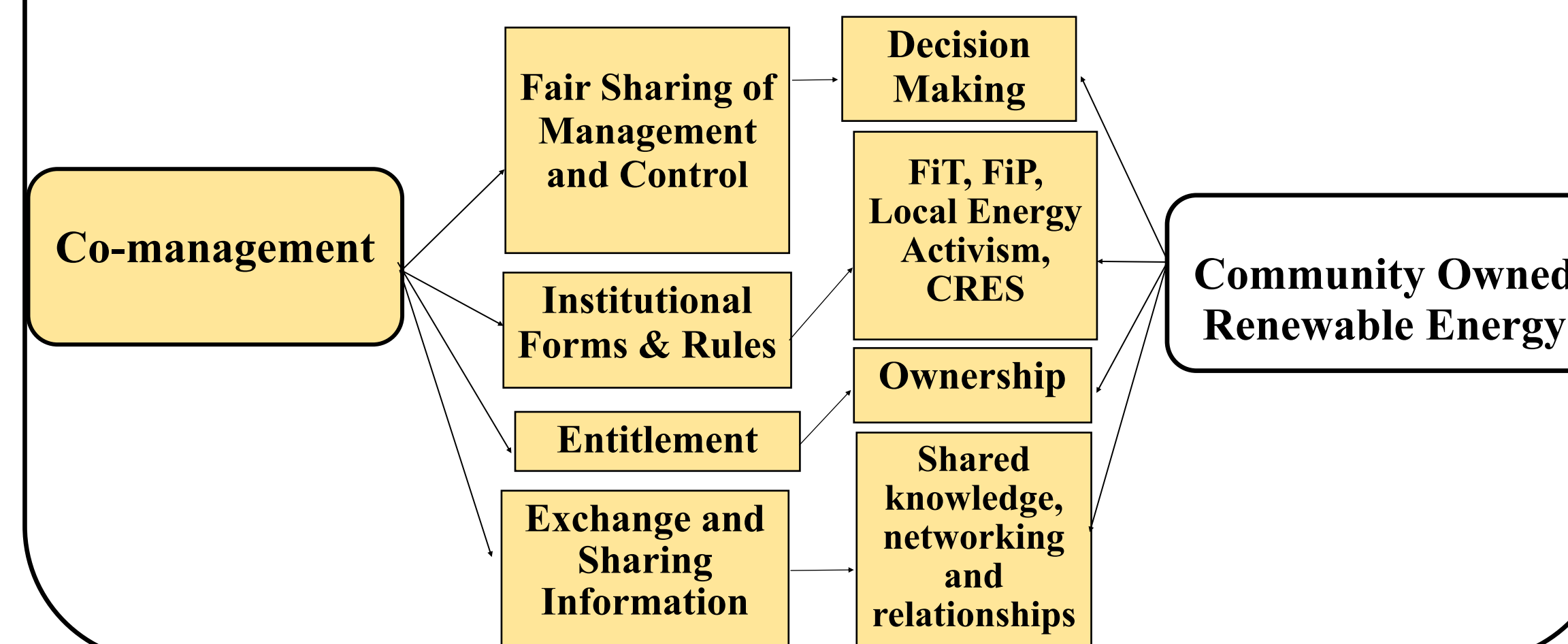
iii) **Data Sources:** Google Scholar and Memorial University of Newfoundland's e-resources including different data bases such as Scopus, PAIS index and GreenFILE.

iv) **Data Analysis:** Thematic analysis a) Community participation and exchange of goods, information and services in CRE ; b) Entitlement and ownership in CRE; c) 2 Institutional forms and rules in CRE ; d) Decision Making Process in CRE .

## 3. Community Renewable Energy Model



## 4. Co-management Framework in CRE



## 5. Major Findings

Region	Entitlement in CRE	Institutional Forms In CRE	Exchange & Sharing Information	Decision Making in CRE
EU	Cooperative based and more collective ownership (Grundmann and Ehlers, 2016; Berlo et al., 2016)	Every EU nation required to have a certain level of energy from renewable sources by 2020 (European Commission, 2009)	More participatory (Slee, 2015)	Local community to EU (Gotchev, 2015)
Canada	More corporate energy ownership (Jami and Walsh, 2014; Shaw et al., 2015)	Less substantial due to lack of comprehensive and integrated energy policy (Mabee et al., 2012)	More technocratic (Barlee, 2014; Shaw, 2015)	"Decide-announce-Defend" model (Bauwen et al., 2016)

## 6. Conclusion

EU countries have applied more effective policy tools than in Canada. Strong decentralized governance, awareness raising and policy reformation should be increased for prolific renewable energy co-management.

### Key References

- Barlee, G. (2014). The truth come out from private power, *Power Trip*, 33(3).
- Bauwens, T., Gotchev, B., Holstenkamp, L. (2016). What drives the development of community energy in Europe? The case of wind power cooperatives. *Energy Research & Social Science*, 13:136–147.
- Gotchev, B. (2015). Market Integration And The Development of Wind Power Cooperatives in Denmark: Lessons Learned For Germany. *Transdisciplinary Journal of Energy Change*.
- Jami, A., & Walsh, P., R. (2017). From consultation to collaboration: A participatory framework for positive community engagement with wind energy projects in Ontario, Canada. *Energy Research & Social Science*, 27: 14–24.
- Mabee, W., E. Mannion, J. & Carpenter, T. (2012). Comparing the feed-in tariff incentives for renewable electricity in Ontario and Germany. *Energy Policy*, 40, 480–489.
- Slee, B. (2015). Is there a case for community-based equity participation in Scottish on-shore wind energy production? Gaps in evidence and research needs. *Renewable and Sustainable Energy Reviews*, 41, 540–549.
- Walker, G. & Wright, D., P. (2008). Community renewable energy: What should it mean? *Energy Policy*, 36, 497–500.
- Walker, G. (2008). What are the barriers and incentives for community-owned means of energy production and use? *Energy Policy*, 36:4401–4405.
- Walker, C. & Baxter, J. (2017). Procedural justice in Canadian wind energy development: A comparison of community-based and technocratic siting processes. *Energy Research & Social Science*, 29: 160–169.