TARJA MERISTÖ

Laurea University of Applied Sciences / FuturesLab CoFi, Finland

JUKKA LAITINEN

Laurea University of Applied Sciences / FuturesLab CoFi, Finland

RENEWING SOCIETY, BUSINESS AND COMPETENCES FOR THE FUTURE IN SUSTAINABLE WAY

Abstract:

Sustainable development includes economic, social and ecological dimensions which have to be in balance not only today but in the future, too. The framework for sustainable development is multidisciplinary, including actors from different fields as defined in the Triple Helix Model. In this paper, we illustrate alternative scenarios for sustainable business opportunities in a specific region in Finland called Western Uusimaa. As background information we have a survey data concerning companies' attitudes towards sustainable development which has been collected from 88 companies in different business fields. We also analyse the needs for skills and competences in alternative scenarios and make recommendations for actors in the business, society and university to meet those challenges.

Western Uusimaa region and its business structure are in transition: many traditional industries do not operate there anymore and new businesses are more than welcome. One of the main driving forces shaping the operational environment is sustainable development. Therefore, green industry, cleantech and responsible business models are the elements of the renewal needed for the future.

Our paper is based on an ongoing project which is figuring out the ecosystem of sustainable business in the Western Uusimaa and examining future sustainable business opportunities in the long run. The focus of this paper is on future business opportunities related to sustainable development. The methods used in the research are related to future studies and the timeframe is 20 years to the future.

As a result we introduce alternative future scenarios for the sustainable business development. The scenarios are 1) Branded niche for the global market, 2) Competitive advantage from proactive innovations, 3) Develop or die and 4) Local train. Scenarios 1 and 2 are market driven whereas scenarios 3 and 4 are society driven. The content of the scenarios have supplemented with the core competence tree concept, especially focusing on roots, i.e. competences. Knowledge and skills, values and attitudes as well as contacts and experiences together form the set of core competences which are necessary in business development.

According to results, most of the companies at least recognize the importance of sustainability and its role in the business. There also seems to be a real need to inform companies about the opportunities created by sustainable solutions. Networking and finding the right partners are essential when developing sustainable business. The co-operation of actors from all Triple Helix dimensions is needed when developing business opportunities within a regional sustainability cluster.

Keywords:

Sustainable development, future, scenario, triple helix, business, competences, regional development

1. Introduction

Sustainable development includes economic, social and ecological dimensions which have to be in balance not only today but in the future, too (United Nations 1987). The framework for sustainable development is multidisciplinary, including actors from different fields as defined in the Triple Helix Model, i.e. industry, university and government (Etzkowitz & Leydesdorff 2000). In this paper, we illustrate alternative scenarios for sustainable business opportunities in a specific region in Finland called Western Uusimaa. As background information we have a survey data concerning companies' attitudes towards sustainable development which has been collected from 89 companies in different business fields. We also analyse the needs for skills and competences in alternative scenarios and make recommendations for actors in the business, society and university to meet those challenges.

Western Uusimaa region and its business structure are in transition: many traditional industries do not operate there anymore and new businesses are more than welcome. One of the main driving forces shaping the operational environment is sustainable development. Therefore, green industry, cleantech and responsible business models are the elements of the renewal needed for the future. The importance of the sustainability in business world have recognized also in a global level. E.g. World Business Council for Sustainable Development has published a report about the sustainable vision from business perspective (WBCSD 2011).

Our paper is based on an ongoing project which is figuring out the ecosystem of sustainable business in the Western Uusimaa and examining future sustainable business opportunities in the long run. The focus of this paper is on future business opportunities related to sustainable development. The methods used in the research are related to future studies and the timeframe is 20 years to the future. As a background for the work, we applied also the results of our earlier research project in which the scenarios for the sustainable community were constructed (Tuohimaa et al. 2011; Meristö et al. 2011).

In our research we have applied futures studies, especially scenario approach, as a context. Typical feature for futures studies is long-range perspective, which is often 10 years and beyond. Futures Studies are a multidisciplinary field of research combining political, economic, societal, technological and ecological perspectives, so called PESTE perspectives as Meristö (1983) has defined that. Future is unknown and there will be no right answers to the question, how the future will look like. Rather, the future can be described as a set of alternative scenarios based on not only objective but also on intuitive information and on the combination of these two, producing visionary knowledge about the future and its various development paths, as pointed out in the research work in the largest companies in Europe (Malaska et al. 1982 & 1983 & 1984; Meristö 1989 & 1990 & 1991) and in US (Linneman et al. 1983).

According to Amara (1981) basic assumptions for the futures studies are as follows: future is un-predictable, future is not pre-determined and one can have an influence on the future with own choices and actions. Derived from these basic assumptions three

tasks of futures studies can be defined: 1) imagination (what is possible?), 2) analysis (what is probable?) and 3) participation (what is preferable?).

Futures studies have several various approaches, including both qualitative and quantitative methods. In our project we applied scenario approach. Scenarios are internally consistent, plausible and logical stories of the future, which illustrate the development from the present towards the possible future. Scenarios are a way to summarize the results of the futures research (see e.g. Meristö 1991). Scenarios can be used then as e.g. wind tunnels for strategy formulation, concept design or competence development for the future needs. Scenario building process will open alternative development paths to the future based on different assumptions e.g. from market, technology and society perspectives in the long run. Scenarios are not accurate forecasts but they are possible, not necessarily probable or preferable future.

2. Framework

The framework of the study is holistic in three different ways. *Firstly*, we have applied the approach of Triple Helix Model, which states that successful innovation environment requires active cooperation between universities, industries and government (Etzkowitz & Leydesdorff 2000). Even though the focus is on developing sustainable business opportunities, the educational and societal dimensions are important as well. Universities, or more generally, education sector takes care of skills and competence development but also brings fresh research information to the regional actors about the issues related to sustainable development. Government side, or more generally decision makers, creates opportunities for regional development by taking care of infrastructure and being involved in appropriate networks. *Secondly*, the sustainable development is defined widely so that it includes not only ecological but economic and societal dimensions as well (United Nations 1987). Thirdly, the study applies the methods of futures studies, which is multidisciplinary by definition (Masini 1993). The summary of these three dimensions is described in the Figure 1.
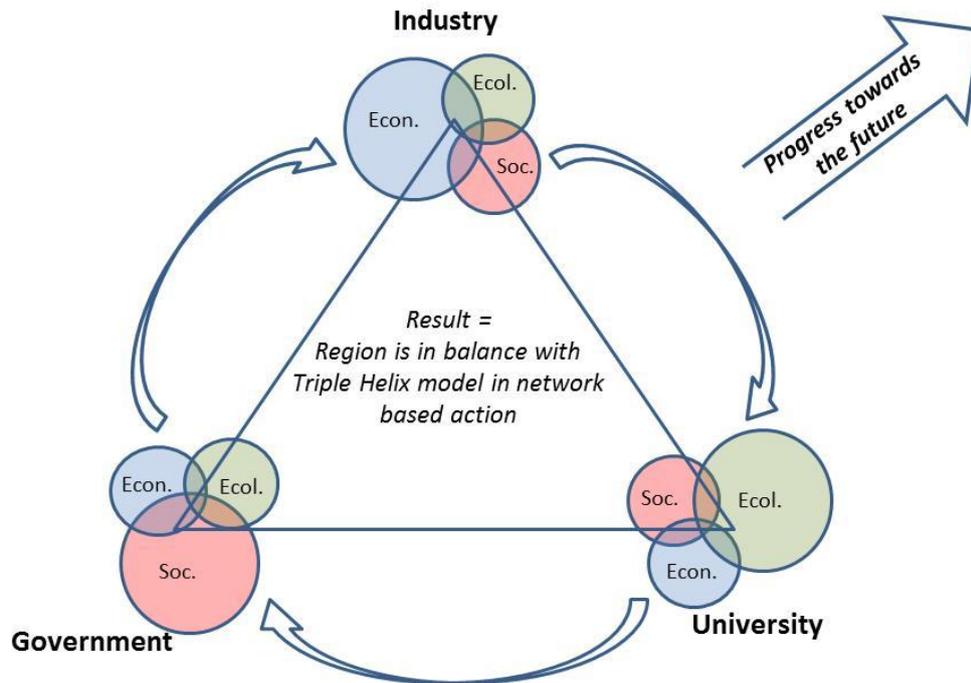
Figure 1. Sustainable development balanced with Triple Helix actors towards to the future.

We suggest that it is possible so share the responsibilities unevenly between the Triple Helix actors and still reach a proper balance in the end. Thus, each actor can concentrate on its own strengths for the good of the whole society. Each Triple Helix actor, i.e. university, industry and government consists of many individual actors (Meristö & Laitinen 2013). In Western Uusimaa region we have recognized some of them: university sector consists of Laurea University of Applied Sciences and its partners including e.g. University of Helsinki; government sector consists of the municipalities of the region and publicly owned development organisations like Novago Business Development; and industry sector includes the companies from different sectors such as construction, retail, wellbeing and technology, and also from cleantech, especially from water business field.

3. Research process

During our research process we have used various different activities and methods (Figure 2). We started with a literature review concerning definitions of sustainability (United Nations 1987; GRI 2013) and theoretical cluster structures (Porter 1990) in different industry branches. The work continued with concept definition and analysis and based on them we created a tool for interviews covering all the dimensions of the sustainability. The essential data gathering method in the process has been interviews of SMEs. Also several workshops and open forums with participants covering all triple helix dimensions have been arranged during the research process. Based on the literature review and supplemented by interviews and workshop results we figured out the sustainable business cluster with core competence tree and cluster design adapted from

Porter's (1990) cluster definition. Finally, we also created alternative future scenarios for the sustainable business cluster for the region as well as the competence requirements in each scenario. The results will be presented in the chapter 4 in this paper.
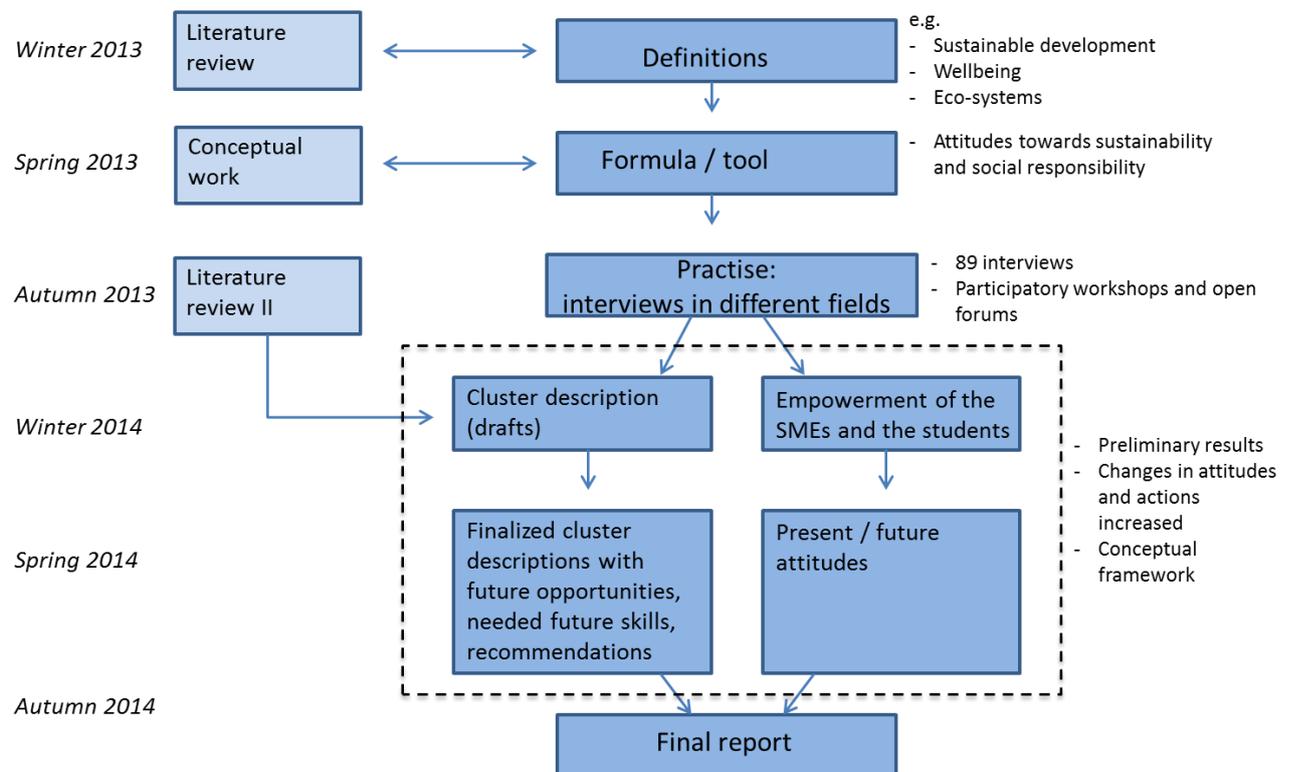

Figure 2. Research process: phases and timetable.

The main tool for the company tools was created during the research process in joint effort with researchers and regional business advisors. The purpose of the interview was not only to interview the companies about the sustainable development but also to increase the awareness of sustainable development and its different dimensions. The interview formula included the following parts: the background information of the company; the role of sustainable development in the company; the most important issues related to the sustainable development; main sources or stakeholders for the sustainable development; future investment plans related to sustainable development. Finally, the companies could report their willingness to participate the depth interview later.

4. Results

4.1. Company interviews

Totally 89 companies were interviewed in the period between 9/2013 and 8/2014. Interviews are still going on till the end of October 2014. The interviewed companies covered several different branches and business areas including retail, tourism and catering business, wellbeing, technology industry, construction and marketing and

communication (Figure 3). According to the results, most of the interviewed companies at least recognized the sustainable development and about half of them carried out it somehow. Additionally, most of the companies thought that sustainability is basic business. On the other hand, 20 % of the respondents saw sustainability as cost factor. Some of the companies kept it as competitiveness factor (~36 %) or opportunity (~27 %) (Figure 3).

BRANCHES / INDUSTRIES   THE ROLE OF SUSTAINABILITY IN THE COMPANY

- Basic business (54) (~61%)
- Competitiveness factor (32) (~36%)
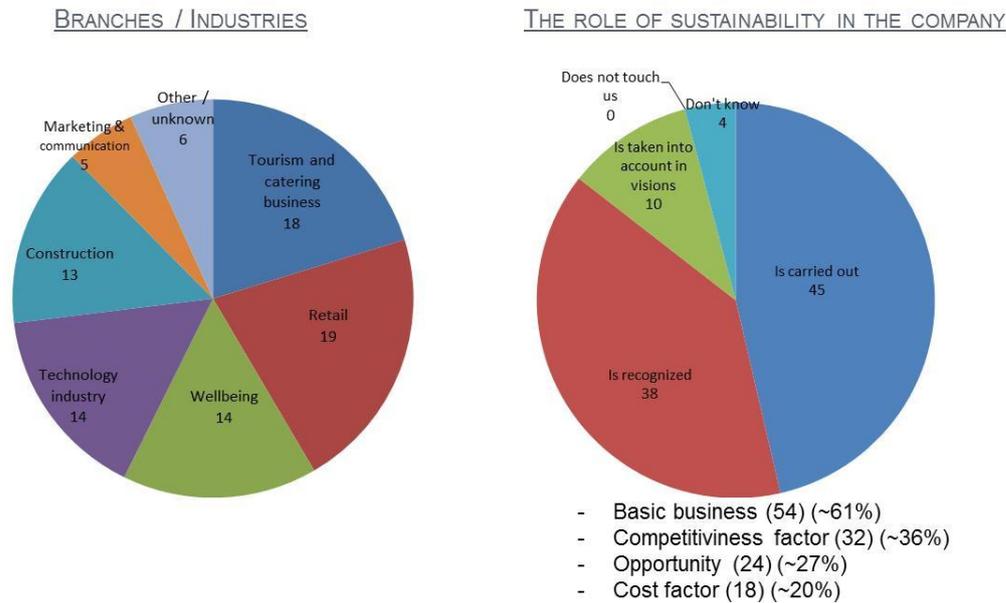- Opportunity (24) (~27%)
- Cost factor (18) (~20%)

Figure 3. The background of the interviewed companies and the role of sustainability in them.

In the near future, the companies will focus on economic sustainability (Figure 4), which is quite understandable in these economically challenging times. Economic sustainability includes issues such as profitability and market value. Quite many of the respondents were also going on to put emphasis on ecological issues (e.g. products and services, materials, debris) or concentrate on social sustainability (e.g. work wellbeing, product responsibility, norms and standards).

Ecological sustainability (39)
- Products and services
- Materials
- Debris

Economic sustaibability (54)
- Profitability
- Market value

Social sustainability (25)
- Work wellbeing
- Product responsibility
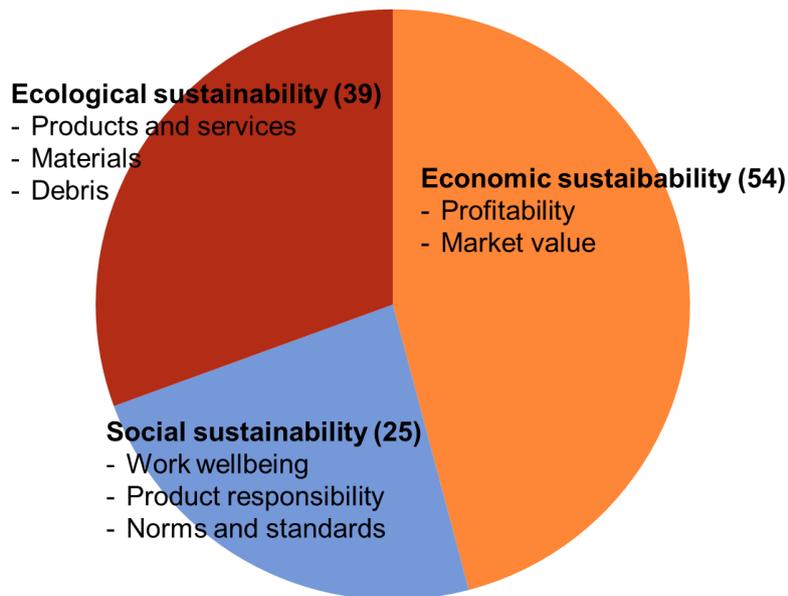- Norms and standards

Figure 4. The focus of sustainability in the near future.

When discussing the main sources for the sustainability pressure, the customers (52 answers) were seen to be the most important motivator. Also, the personnel of the company (48) seem to be also in an active role when rising the awareness for sustainability issues. Education (27), subcontracting network (24), authorities (25), competitors (18) and media (16) received also were also mentioned relatively often. Finance (4) received only few mentions.

In the interviews some of the companies announced their interest of depth interview and further consultation session related to the sustainability issues. These additional interviews and consultations sessions are carried out in 8 companies during October 2014.

4.2 Sustainable business cluster

We have described the sustainable cluster in Western Uusimaa with two tools which are Porter's cluster design concept and the core competence tree. The cluster of sustainable business in Western Uusimaa includes not only cleantech companies, but companies throughout all business clusters. According to Porter's (1990) cluster definition we have divided the actors in three positions: core business field, supporting & related businesses and enablers (Figure 5). We have develop Porter's module further, e.g. in the core we define the business through the definition of our own. The competitive solutions are a combination of three elements: services, physical elements and skills & know-how. The more the focus is on service and know-how, the more sustainable is the solution. Also, the more eco-efficient is and using renewable/recycled materials, the more sustainable is the solution (Meristö et al. 2014).
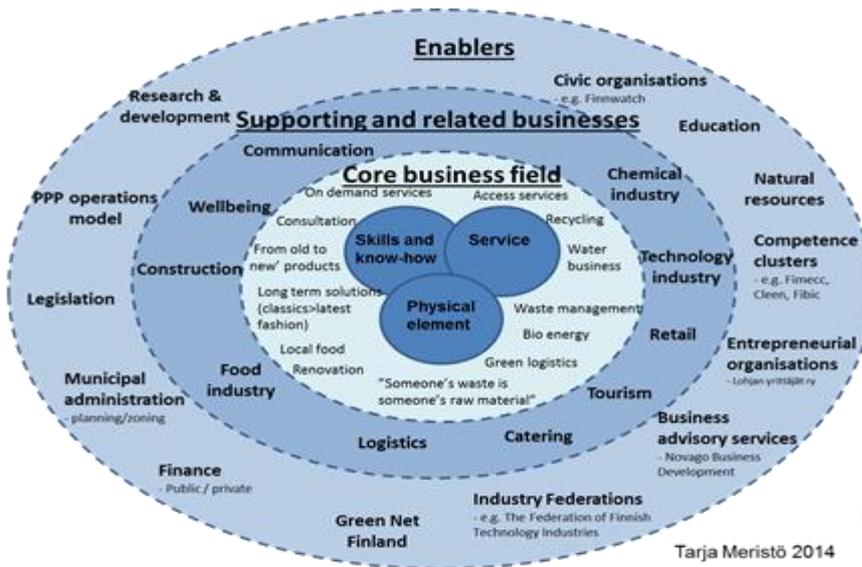
Figure 5. Sustainable business cluster in Western Uusimaa (Meristö et al. 2014).

Another way to describe the sustainable business cluster is core competence tree (Figure 6), which was originally presented by Hamel & Prahalad (1996). We have developed it further especially focusing on more detailed definition of roots, i.e. competences. Knowledge and skills, values and attitudes as well as contacts and experiences together form the set of core competences which are necessary in every project (Meristö 1993, Kamensky 2008).
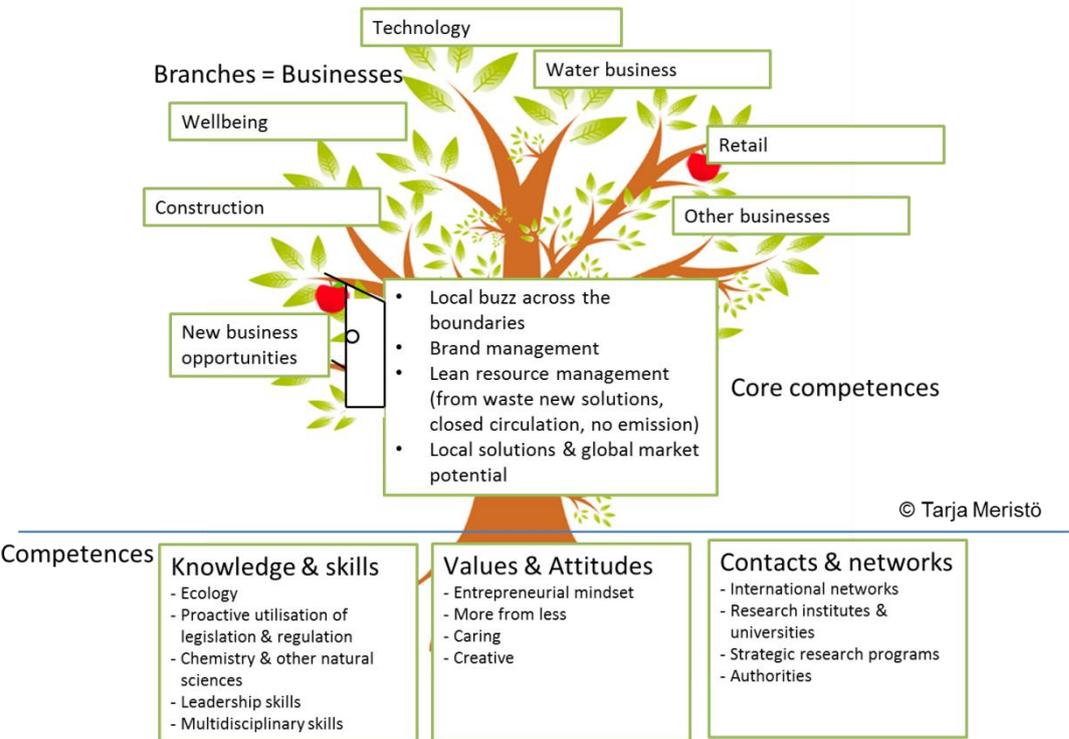
Figure 6. Core competence tree of sustainable business cluster in Western Uusimaa (Meristö et al. 2014).

The branches of the tree illustrate the businesses and industries which are part of the sustainable business cluster. The trunk describes the core competences which are necessary for developing the sustainable business cluster and roots illustrate competences in more detailed. Various skills and competence are needed to develop sustainable business cluster. Knowledge and skills, values and attitudes as well as contacts and experiences together form the set of core competences which are necessary in business development. In Western Uusimaa, there is a need for knowledge about e.g ecology, legislation and natural sciences. Additionally, entrepreneurial mind good networks with various actors are needed (Meristö et al. 2014).

4.3. Scenarios for sustainable business in Western Uusimaa

To develop a sustainable business one has to have an understanding of the evolving future and its alternatives. As the future is unpredictable, scenario analysis is here applied. The sustainable business scenarios for Western Uusimaa region have a time frame of 20 year to the future and they were developed in a researcher workshop based on the results received in the project. The scenarios were created with simple method by choosing two essential drivers concerning the sustainable business and setting them for horizontal and vertical axes. The horizontal axis represents the companies' impulse or motivation for the sustainable business, i.e. whether the reason for focusing on sustainable business stems from regulation or market opportunities. The vertical axis describes the strategic focus of companies, i.e. whether their sustainable business efforts are focusing only on certain businesses or on all business. As a result we introduce alternative future scenarios for the sustainable business development (Meristö et al. 2014).

The scenarios are 1) Branded niche for the global market, 2) Competitive advantage from proactive innovations, 3) Develop or die and 4) Local train. Scenarios 1 and 2 are market driven whereas scenarios 3 and 4 are society driven (Figure 7).
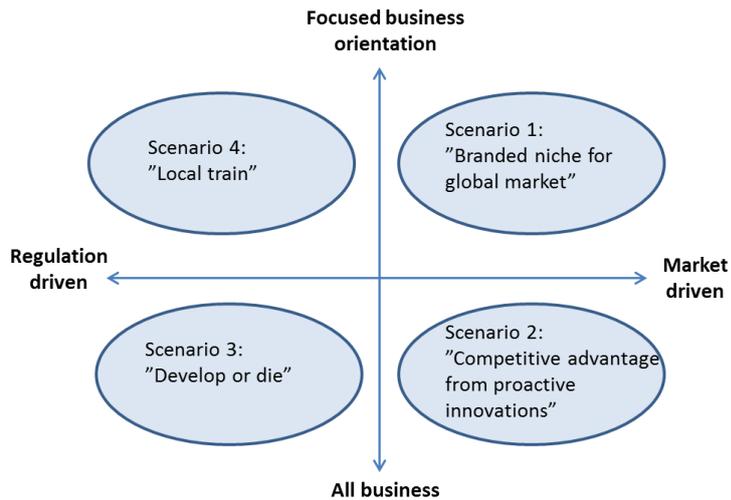
Figure 7. The scenarios for the sustainable business cluster in Western Uusimaa.

Scenarios were then used as wind tunnels for core competence tree and as a result we found out key competences in each scenario as described in chapter 4.4.

4.4. Skills and competences in alternative scenarios

As described in the Triple Helix model, university sector, including educational activities and study programs are an important part of the regional development not only today but in the future, too. University sector offers fresh information regarding the sustainable development and on the other hand, educates students who will be the future worker in the companies. Figure 8 summarizes the skills and competences which are needed to develop sustainable business opportunities in each scenario. Scenario-specific competence needs are based on the results of core competence tree but they are analyzed through different scenarios.
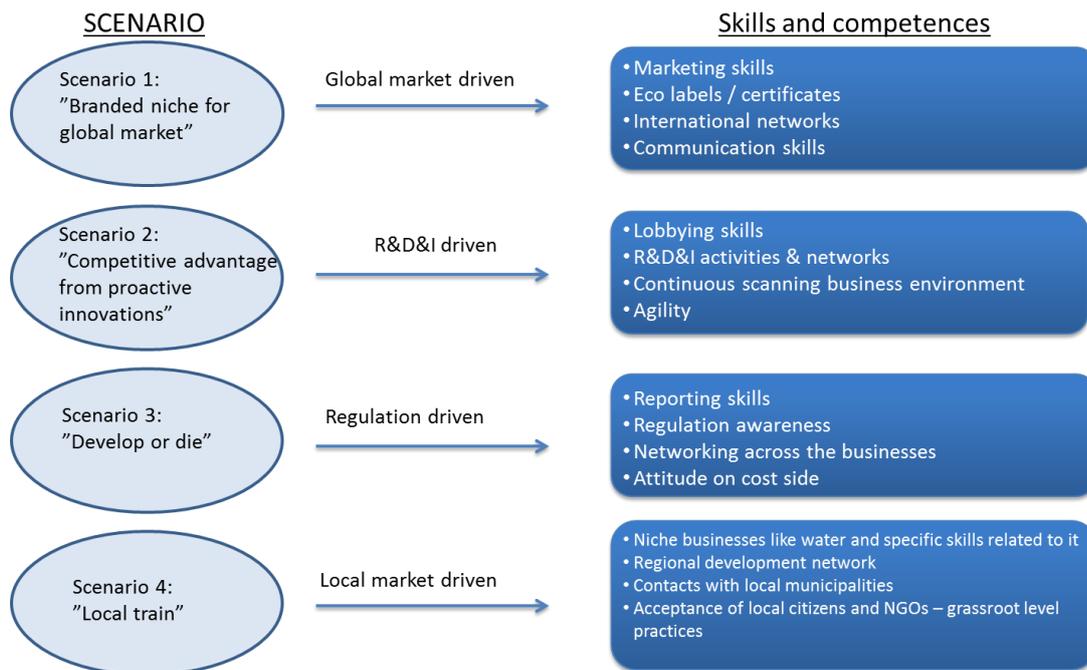
Figure 8. Skills and competencies needed in alternative scenarios.

In the global driven Scenario 1 marketing and communication skills and knowledge of eco labels and certificates are on the focus. In the Scenario 2 the emphasis is on R&DI skills and continuous scanning of business environment whereas the focus in the Scenario 3 is on regulation awareness and reporting skills. Scenario 4 the focus is on contacts with local municipalities and knowledge of niche businesses.

5. Conclusions

The results of this study are based on ongoing project. Therefore, the results of this paper are partly preliminary. However, based on the company interviews it seems that most of the companies in the Western Uusimaa region at least recognize the importance of the sustainability and its role in the business. Additionally, some companies see that sustainability issues could bring new business opportunities and create competitiveness advantage.

Networking and finding the right partners are essential when developing sustainable business. Agility and proactive attitude are also important as well as the mindset of the company management. The co-operation of actors from all Triple Helix dimensions is needed when developing business within regional sustainability cluster. This is also in line with earlier studies. E.g. according to Mazmanian & Kraft (2009) sustainability cannot be attained by regulations and restrictions alone but cooperation with all the actors in a community is needed.

Scenario approach will shed light on alternative strategies and create flexibility to triple helix actors in practice. The scenarios for the sustainable cluster in Western Uusimaa

region are 1) Branded niche for the global market, 2) Competitive advantage from proactive innovations, 3) Develop or die and 4) Local train. Based on these scenarios we suggest action proposals for different triple helix actors which could help to develop and exploit business opportunities in a sustainability field (Meristö et al. 2014).

In the first scenario (Branded niche for global market), decision makers need a shared vision of sustainable business development, universities have to focus on certain niche-areas relevant to sustainable business and companies need active partnering both regionally and internationally. The second scenario (Competitive advantage from proactive innovations) requires pro-active attitude and open-mind from decision makers, networking and multidisciplinary research from universities and awareness and agility from companies. In the case of scenario 3 (Develop or die) broad awareness of future regulations and communication with local community is need from decision makers, universities need to focus on joint efforts with SMEs and companies need active development work and exploit analogy models from different industry branches. In the forth scenario (Local train) it is recommendable for decision makers to put efforts on lean procurement, whereas for universities is important to focus on regional development in specific business fields and for companies is advisable to focus on public-private partnerships and actively participate to regional networks.

References

Amara, R. (1981) Searching for Definitions and Boundaries. The Futurist, February 1981. pp. 25-29.

Etzkowitz, H., L. Leydesdorff., (2000), "The dynamics of innovation: From national systems and 'Mode 2' to a Triple Helix of university-industry-government relations". Research Policy 29, pp. 109-123.

GRI (2013) G4 Sustainability Reporting Guidelines. Global Reporting Iniative. https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf

Hamel, G. & Prahalad, C.K. (1996) Competing for the Future. Harvard Business School Press.

Kamensky, M. (2008). Strateginen johtaminen - menestyksen timantti (Strategic management – the diamond of the success). Helsinki: Talentum (in Finnish).

Linneman, R.E., Klein, H.E. 1983) The use of multiple scenarios by U.S. industrial companies: A comparison study, 1977–1981. Long Range Planning. Volume 16, Issue 6, December 1983, Pages 94–101.

Malaska, P., Malmivirta, M., Meristö, T., Hansen, S.-O. (1982) The Multiple Scenario Approach in Strategic Management, The First Summary Report .Turun kauppakorkeakoulun julkaisuja, Keskustelua ja raportteja.

Malaska, P., Malmivirta, M., Meristö, T., Hansen, S.-O. (1983) Multiple Scenarios in Strategic Management, The First European Survey .Turun kauppakorkeakoulun julkaisuja, Keskustelua ja raportteja.

Malaska, P., Malmivirta, M., Meristö, T., Hansen, S.-O. (1984) Scenarios in Europe – Who Uses Them and Why? Long Range Planning, Vol. 17, No 5, pp. 45-49.

Masini, E. (1993) Why Futures Studies? Grey Seal, London.

Mazmanian, D. A. and Kraft M. E. (eds.) (2009) Towards Sustainable Communities. The MIT Press, Cambridge.

Meristö, T. (1983) Scenarios in Corporate Planning as Part of the Information Base. Proceedings, Research Seminar on Strategy 1982. Helsingin kauppakorkeakoulun julkaisuja B-61, pp. 231-250.

Meristö, T. (1989) Not Forecasts but multiple scenarios when coping with uncertainties in the competitive environment. European Journal of Operatios Research Vol 38, pp. 350-357 ,1989.

Meristö, T. (1990) Futures Research and Strategic Planning - Do They go Together? Proceedings XI World Conference of WFSF, Budapest, Hungary, pp. 312-320.

Meristö, T. (1991) Skenaariotyöskentely yrityksen johtamisessa. (Scenario Working in Company Management). Acta Futura Fennica No 3, VAPK-kustannus, Helsinki, Finland (in Finnish).

Meristö, T. (1993). Tulevaisuuden näkemisestä tulevaisuuden tekemiseen: Suomi 2020.(From Seeing the Future to the Making the Future). In Prime Minister's Office (1993). Suomi 2020: visioita kansakunnan tulevaisuudesta. Suomen tulevaisuuspoliittinen selonteko, 147-162. Prime Minister's Office Publications. (in Finnish).

Meristö, T., Haapola, L., Kauppi, P., Kettunen, J., Kivelä, S., Laitinen, J., & Tuohimaa, H. (2011) Tulevaisuuden kestävä yhdyskunta loppuraportin liiteraportti Länsi-Uusimaa. Turku: CoFi. Appendix Report for the Sustainable Community: Case Western Uusimaa (in Finnish).

Meristö, T. & Laitinen, J. (2013) Sustainability as a Business Opportunity Today and Tomorrow: Triple Helix Perspective, in Proceedings of The METNET Seminar 2013 in Luleå: HAMKin julkaisuja 1/2014. HAMK University of Applied Sciences, Hämeenlinna, Finland.

Meristö, T., Laitinen, J. & Ahola, A. (2014) Future Sustainable Innovations – a Competitive Advantage or a Must? Proceedings of the XXV ISPIM Conference, Dublin, Ireland (2014): Innovation for Sustainable Economy & Society.

Porter, M. E. (1990), The Competitive Advantage of Nations, Macmillan, London.

Tuohimaa, H., Meristö, T., Kettunen, J. & Laitinen, J. (2011) Sustainable Community Scenarios – A Challenge for Innovation Management in the Public Sector. Proceedings of the XXII ISPIM Conference, 12-15 June 2011, Hamburg, Germany.

United Nations (1987) Our Common Future - Report of the World Commission on Environment and Development.

WBCSD (World Business Council for Sustainable Development) (2010) Vision 2050: The new agenda for business. E-report: http://www.wbcsd.org/vision2050.aspx