

Gender Impact Assessment of Climate Change Mitigation Policy in Lithuania

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Abstract

The gender aspect of climate change and climate policy has been getting an increasing amount of attention in the global climate change and climate justice debates. However, most of the focus so far has been on the developing countries and climate change adaptation, where the linkages between climate change and gender issues are the most apparent. It has been explored to a much lesser extent in the context of the developed countries, and this is what this study is set out to do on a small scale. It attempts to analyse the Lithuanian climate change mitigation policy using the Gender Impact Assessment framework that is an official gender mainstreaming tool in the European Union. The results of the policy analysis suggest that Lithuanian climate change mitigation policy produces gender-specific impacts in all climate policy areas, but many of them are difficult to quantify due to the lack of gender-disaggregated data. Policy suggestions drawn from the results include generating gender-disaggregated data and further implementing gender mainstreaming at all levels of climate policy design and implementation.

Keywords: policy analysis, climate policy, gender impact assessment, gender mainstreaming, gender equality, climate change mitigation, Lithuania, European Union.

Foreword

This is a final 30 ECTS thesis towards a Master of Arts in Environment and Natural Resources at the University of Iceland. The thesis was written under the supervision of Jón Geir Pétursson at the School of Social Sciences, the Faculty of Social and Human Sciences. I would like to express my sincere gratitude to Jón for his support and assistance during the whole process, and all the interviewees for their precious time and insights. I dedicate this study to the women of Lithuania.

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Acronyms

BPfA - Beijing Platform for Action

AAU - Assigned Allowance Unit

COP - Conference of Parties (to the UNFCCC)

EIGE - European Institute for Gender Equality

EU - European Union

EU ETS - European Union Emissions Trading System

GEI - Gender Equality Index

GHG -Greenhouse Gases

GIA - Gender Impact Assessment

IPCC - Intergovernmental Panel on Climate Change

LAAIF - Lithuanian Environmental Protection Investment Fund

LEPA - Lithuanian Environment Protection Agency

LSIF - Lithuanian Social Innovation Fund

NSCCMP - (Lithuanian) National Strategy for Climate Change Management Policy

LRS - Lietuvos Respublikos Seimas (Lithuanian Parliament)

LUCUF - Land Use and Land Use Change

OECD - Organization for Economic Cooperation and Development

RES - Renewable Energy Sources

UN - United Nations

UNFCCC - United Nations Framework Convention for Climate Change

WEDO - Women's Environment and Development Organization

WHO - World Health Organisation

Glossary of terms

Care work: includes (a) direct care of persons such as feeding or bathing them, (b) indirect care where one is responsible for, and supervising, a person needing care but not interacting directly, and (c) supportive services such as cleaning and cooking that provide the preconditions for more direct care. Those with intense care needs include young children, the frail elderly and people with various illnesses and disabilities, but able-bodied adults also require and receive care. Direct and indirect care are often seen as separate from the other activities that provide the preconditions for personal caregiving, such as preparing meals, shopping and cleaning sheets and clothes (housework). But such boundaries are arbitrary, especially since the persons needing intensive care are often unable to do such tasks themselves. Care work can be paid or unpaid (Razavi & Staab, 2008).

Climate change: refers to any long-term change in the statistical distribution of weather patterns, whether in terms of changes in average conditions (more/less rainfall, higher/lower temperatures), or in the distribution of events around the average (extreme weather events such as floods or droughts). Generally, the term is used for any change in climate over time, regardless of cause, but the UN definition is more specific in using the term to denote changes that are attributable, whether directly or indirectly, to human activity (IPCC, 2007).

Policies and Measures (PAMs): refers to the steps taken or to be taken by countries to reduce greenhouse-gas emissions under the UNFCCC and the Kyoto Protocol. Some possible policies and measures are listed in the Protocol and could offer opportunities for intergovernmental cooperation (UNFCCC, 2015a).

Feminization of Poverty: the phenomenon in which women experience poverty at rates that are disproportionately high in comparison to men. Though in industrialized nations a great emphasis is placed on women shattering the glass ceiling and climbing the corporate ladder, the most unquestionably pressing and widespread socioeconomic issue faced by women around the world is poverty – and often extreme poverty at that (Abbate, 2010).

Sex and Gender: sex refers to the biological and physiological characteristics, while gender refers to behaviours, roles, expectations, and activities in society. Sex refers to male or female, while gender refers to masculine or feminine (Nordqvist, 2015).

Gender-blind: failure to recognize that gender is an essential determinant of social outcomes impacting on projects and policies. A gender-blind approach assumes gender is not an influencing factor in projects, programs or policy (World Bank, 2015).

Gender Budgeting: means gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process and restructuring revenues and expenditures in order to promote gender equality (EC, 2003).

Gender Equality: refers to the equal rights, responsibilities and opportunities of women and men and girls and boys. Equality does not mean that women and men will become the same but that women's and men's rights, responsibilities and opportunities will not depend on whether they are born male or female. Gender equality implies that the interests, needs and priorities of both women and men are taken into consideration – recognizing the diversity of different groups of women and men. Gender equality is not a “women's issue” but should concern and fully engage men as well as women. Equality between women and men is seen both as a human rights issue and as a precondition for, and indicator of, sustainable people-centred development (Hannan, 2001).

Gender Mainstreaming: the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality (UN Economic and Social Council, 1997 in Hannan, 2001).

Gender Roles: learned behaviours in a given society/community, or other special group, that condition which activities, tasks and responsibilities are perceived as male and female. Gender roles are affected by age, class, race, ethnicity, religion and by the geographical, economic and political environment. Changes in gender roles often occur in response to changing economic, natural or political circumstances, including development efforts. Both men and women play multiple roles in society. The gender roles of women can be identified as reproductive, productive and community managing roles, while men's are categorized as either productive or community politics. Men are able to focus on a particular productive role and play their multiple roles sequentially. Women, in contrast to men, must play their roles simultaneously and balance competing claims on time for each of them (World Bank, 2015).

Gender Quotas: entail that both genders must constitute a certain number or percentage of the members of a body, whether it is a candidate list, a parliamentary assembly, a committee, or a government. The quota system places the burden of recruitment not on individuals, but on those who control the recruitment process. The Quota Project website distinguishes between three types of gender quotas used in politics: reserved seats (constitutional and/or legislative); legal candidate quotas (constitutional and/or legislative) and political party quotas (voluntary) (Quota Project, 2015). Gender quotas can also be introduced in non-political organisations, such as boards of strategic companies, and are applied to an underrepresented gender, either men or women.

Greenhouse Gases (GHGs): the atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). Less prevalent – but very powerful – greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆) (UNFCCC, 2015a).

Informal sector: defined by the 15th International Conference of Labour Statisticians in 1993 as private unincorporated enterprises that are unregistered or small in terms of the number of employed persons. An enterprise is unincorporated if it is not constituted as a separate legal entity independently of its owner(s) and does not maintain a complete set of accounts. Units engaged in the production of goods or services exclusively for own final use by the household are excluded, as are enterprises engaged in agriculture, hunting, forestry and fishing. National statistical definitions of the informal sector vary to some extent (LABORSTA, 2015).

Kyoto Protocol: an international agreement standing on its own, and requiring separate ratification by governments, but linked to the UNFCCC. The Kyoto Protocol, among other things, sets binding targets for the reduction of greenhouse-gas emissions by industrialized countries (UNFCCC, 2015a).

Mitigation: in the context of climate change, a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests and other "sinks" to remove greater amounts of carbon dioxide from the atmosphere (UNFCCC, 2015a).

Resources: (in gender equality context) can be economic, such as land or equipment; political, such as representation, leadership and legal structures; social, such as child care, family planning, education; and also time - a critical but often scarce resource (World Bank, 2015).

Unpaid Work: includes a diverse range of activities that take place outside the cash nexus. It includes: (i) unpaid work on the household plot or in the family business; (ii) activities such as the collection of water and firewood for household use; and (iii) unpaid care of one's child, elderly parent or friend affected by a chronic illness (Razavi & Staab, 2008).

“Men and women — largely owing to their gender roles, power relations, incomes and assets — have differing vulnerabilities to climate change and contribute in different ways to harmful global GHG emissions. They have differentiated capabilities to mitigate emissions as well as differing coping and adaptation strategies and distinct perceptions and preferences regarding policies and measures to reduce emissions. They are affected in differing ways by the socio-economic impacts of climate policy. These gender differences in mitigation and adaptation need to be taken into account in climate change policies, measures and instruments.”

(EIGE Report “Gender Equality and Climate Change”, 2012:30)

1. Introduction

Climate change is a multifaceted and multidimensional issue: it has many layers and dimensions, and it involves a great variety of actors and interests. That is why the global climate change policy negotiations have been so lengthy and complex. We are all involved in the issue one way or another. We all contribute to climate change, and we all have varying capacities for its mitigation. People are also affected by it in different ways, depending on their geographical location, social status, society and the type of livelihood. The same can be said about climate change mitigation policy – it does not affect everyone in the same way, nor does everyone have the same mitigation capacities. The impacts of policies depend greatly on the context and social differences within societies, including gender. Studies show that men and women have different climate change adaptation and mitigation capacities, mostly determined by the roles that are assigned to them.

Social research exposes the tendency for positive correlation between status of women and relatively lower CO₂ emissions of countries, and that working towards gender equality and social justice is likely to help curtailing climate change at the same time (Ergas & York, 2011; McKinney & Fulkerson, 2015). The importance of the gender perspective in climate governance has been identified as well as the fact that equitable and inclusive climate governance is likely to be more effective (Kronsell, 2013). Research also shows differentiated responsibilities of both genders for human-induced climate change, women historically having had less impact than men, mostly because of their lower average incomes and social status. Those with higher incomes and higher levels of education tend to have a relatively bigger impact on climate change, but relatively lower climate change mitigation and adaptation capacities (Denton, 2002; Lambrou & Piana, 2006). If the facts above are truth, it only seems logical that the current climate change policy debate should include gender considerations, on both global and local levels. This is important for gender equality as well as policy efficiency considerations.

Aurora-Jonsson (2011) highlights two reoccurring themes related to gender within the current global climate change debate: vulnerability of women in the global South towards climate change, and strong environmental values of women in the global North. These generalizations take the attention away from gender inequalities in both contexts within the climate change debate. Pre-assumptions about any social sub-group, including gender, only hampers policy efficiency (ibid; Ostrom, 2010). The context should be taken into consideration when formulating and implementing policies: different social groups affected, the way they are affected, how they contribute to the problems and solutions. In the case of environmental policy, especially on the global level, business-like approach is often applied to policy-making in order to achieve tangible results. It is often the case in the global climate change policy, where the problem is so overwhelming and so urgent that social and equality considerations are put aside. This approach, however, has a potential to make policies ineffective, as is argued below.

A few would disagree by this point that climate change is one of the biggest threats for human life on Earth as we know it. Anthropogenic greenhouse gases' (GHGs) emissions elevate their concentration in the atmosphere causing "greenhouse effect", which results in warming Earth's climate, increasingly extreme weather events, ocean acidification, melting of glacial ice, consequential sea level rise, loss of biodiversity, and other devastating effects on ecosystems (Field for IPCC, 2014). The human cost of climate change is difficult to predict and estimations vary, but, for example, Sir Nicholas Stern (2006), the Head of the UK Government Economic Services at the time, estimated a yearly loss between 5% and 20% of the World's GDP, if no action against climate change is taken (Stern, 2006). This is not an uncontested estimation, but it serves as a projection of economic costs of the changing climate. The clear message here is that taking no action against climate change is much more costly than taking immediate action. Other human costs, such as loss of livelihoods due to extreme climatic events and sea level rise, are already witnessed around the World, for example in low-laying islands and areas susceptible to tsunamis, hurricanes and floods (IPCC, 2015).

In its early stages global and regional climate change mitigation policy formation was largely gender-neutral, or even gender-blind. There were no gender considerations included in the Kyoto Protocol, and only with the development of the instruments established by it, gender issues began to emerge and some gender analysis in the developing countries were conducted (Hemmati, 2005; Röhr, 2006). During the following decade, gender perspective on climate change became more

prominent and its advocates more active in the following Conferences of Parties (COPs) to the United Nations Framework Convention on Climate Change (UNFCCC). This resulted in the emergence of strong gender advocacy in the global climate change negotiations (Hemmati, 2005; Brody et al., 2008). An important breakthrough came at the COP18 in Doha in 2012, where a decision focusing specifically on promoting gender representation in the UNFCCC negotiations and Parties was adopted. Until then, gender issues were side-lined to the “Other matters” section of the agenda (Pouffary & Rogers, 2014; UNFCCC, 2015). After gaining official space for discussion at the UNFCCC in Doha, gender perspectives on climate change adaptation, finance, mitigation, technology and capacity-building have been addressed in the following COPs in Lima in 2014 and Paris in 2015 (ibid; WGC, 2015).

Most of the research linking climate change and gender equality has focused on the “vulnerable” women in developing countries, where causal effects are the most pronounced and women often bear non-proportionate burdens of climate change (Brody, Demetriades & Esplen, 2008; EIGE 2012; Lambrou & Piana, 2006; Röhr et al., 2009). The differentiated effects of climate change on both genders have been especially pronounced in the least developed countries, where, according to some estimations, women account for around 80% of agricultural production and for around 70% of the world’s poorest. This means that women’s livelihoods in the developing world depend heavily on climate conditions. Due to marginalization and limited access to resources they lack resilience to climatic changes. This suggests that women in developing countries are a high risk group and that they need special consideration in climate policy design and implementation (Chukwukere & Onyenechere, 2015; Dankleman, 2010; Denton, 2002; Röhr & Hemmati, 2008; WEDO, 2007). The topic has been much less explored in the context of the developed countries. Clancy and Röhr (2003) suggest that this may be due to the general perception that effects of climate change and climate policies have limited gendered impacts in the Global North¹, since gender equality has been largely achieved there. This, however, is far from truth, as has been demonstrated in studies linking climate change and gender in the developed countries, such as gender-sensitive survey in the area of transport in Sweden (Carlsson-Kanyama & Linden, 1999), gendered attitudes towards sustainable consumption in Germany (Schultz & Stieß, 2009) and energy consumption in one-person households in some European countries (Räty & Carlsson-

¹ Global North here refers to the developed countries, and the Global South – to the developing.

Kanyama, 2010). Despite these attempts, there is an obvious gap in the research linking climate policy and gender equality in the developed countries (ibid; EIGE, 2012).

The 1995 Beijing Declaration and the Beijing Platform for Action (BPfA) drafted in the Fourth World Conference on Women is considered to be a landmark document for global gender equality policy guidance. Its Section K called “Women and Environment” among the its main objectives includes involving women in all levels of environmental decision-making, integrating gender aspects into all environmental and sustainable development policies and establishing mechanisms for assessing gender impacts of environmental policies (Beijing Declaration, 1995). Commitment to the Beijing Declaration calls for incorporating gender aspects at all levels and stages of climate policy formation and implementation, also known as gender mainstreaming (EIGE, 2012). It is important for two main reasons: firstly, climate change and climate policies might exacerbate existing gender inequalities, if not assessed and modified accordingly; and, secondly, climate policies are likely to be less effective if their effects on relevant social groups are not taken into consideration (Alber, 2011; EIGE, 2012; Heimmelweit, 2001; Nordic Council of Ministers, 2009; Röhr et al., 2008; Skinner, 2011).

This research aims to contribute to an advanced understanding of the issue in the context of the developed world. It takes the study case of Lithuania and examines the gender aspects of the climate change mitigation policy. Lithuania is a small Central European state with around 3 million inhabitants and it can be defined as a transition economy (from planned to market economy after the Soviet occupation that lasted from 1945 to 1990). Lithuania became a Member State of the European Union (EU) in 2004, and as such defines as a developed country in the Global North. The EU, however, is far from being homogeneous with large cultural, social and economic gaps between its members. This fact is very important when placing Lithuania in the European climate and gender equality policy contexts because the country is only characteristic of a part of the EU – mostly the transition economies that joined the Union in 2004². They are, in general, less advanced in the areas of climate policy and gender equality than the oldest members of the EU, also known as EU-15³. Although this research is generally concerned with the links between these

² 10 countries which joined the EU on May 1, 2004 are Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovak Republic and Slovenia.

³ EU-15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

two policy areas in the developed countries, the case-specific context is very important here, especially when drawing any general conclusions and policy recommendations.

Lithuania ratified the UNFCCC Kyoto Protocol in 2002, and has been coordinating its climate change policy with the EU since 2004, adopting its emission reduction targets and goals. The newest climate change policy document in Lithuania is the National Strategy for Climate Change Management Policy (NSCCMP), which was drafted by the Parliament in 2012 and came into force in 2013. It is worth noting that in the 80 pages of the Strategy gender is not mentioned once. Lithuania makes an interesting study case for this research because the existing research on gendered impacts of climate policy in transition economies is close to none, and, at the same time, profound changes have taken place in climate and gender equality policy areas in these countries after the fall of the Soviet bloc. This study aims to assess the gendered impacts of climate change mitigation policy measures in Lithuania, and its main objectives are to:

- a) identify gender aspects of Lithuanian climate change mitigation policy;*
- b) identify whether there are differences between their effects on men and women;*
- c) examine what these differences and their implications are, and draw some policy recommendations.*

In what follows, the research methodology and design are outlined, Lithuanian climate change mitigation and gender equality policy contexts provided, gender impact assessment results presented and discussed, and some policy recommendations drawn.

2. Methodology

2.1. Methodology background and some theoretical issues

The rationale for gender-based policy analysis is, firstly, human rights and equity considerations, and, secondly, policy efficiency. Gender inequalities may be perpetuated by badly designed policies, and, at the same time, policy efficiency may be limited by its differentiated impacts on women and men. The optimal approach to analyse a policy through a gender lens is a subject to debate. When seeking the most appropriate gender analysis framework, existing literature on gender-based policy analysis was consulted and real-life examples sought out. The most common method, especially in the context of the developed countries, but also UN, USAID and other development agencies, is the policy analysis tool called Gender Impact Assessment (further – GIA). This study follows the guidance of the GIA policy impact analysis tool. It is an integral part of gender mainstreaming, which is an officially adopted gender equality strategy tool in the EU. The tool originates in the Netherlands in the 1990s, and is considered to be the best-developed gender analysis instrument for policies so far. GIA application has been relatively successful and used more in practice than similar tools in Canada, New Zealand and Belgium (Bacchi, 2003; Bacchi and Eveline, 2005; Roggeband & Verloo, 2006; USAID, 2011).

The GIA method is embedded in the theory of social constructionism in social science. Constructionism in epistemology considers knowledge and truth to be created, not discovered, by the mind (Schwandt, 2003). Social constructionism is concerned with how knowledge is constructed and understood. It views knowledge as created by interactions of individuals in a society, but accepts the existence of both, subjective and objective, reality. The social reality is brought about through interactions in the social sphere, and it influences individuals through routinisation and habitualization. Frequently repeated actions turn into societal patterns and become general knowledge, which is institutionalized by society. Change in social concepts is brought about by human activity, and reality is socially defined, but it is individuals who define it (Berger & Luckmann, 1991). So, according to the theory of social constructivism, knowledge is not something a mind receives from the objective reality, but rather something that it constructs about that reality in certain societal conditions. This is important for policy design in terms of how we understand social issues and the role of policies that are designed to address them. According to social constructionism in policy science, they must correspond to each other, and policies

should be designed according to the social realities of societies, in which they operate (Schneider & Ingram, 1997). Gender impact assessment fits into the theory of social constructionism because it analyses differentiated impacts of policies on subgroups of their target populations, providing suggestions for more effective policies in a given socio-economic context.

2.2. Gender Impact Assessment framework

The Gender Impact Assessment policy analysis tool was developed by Mieke Verloo and Connie Roggeband in 1996 in the Netherlands. It was initially designed as “an instrument designed to analyse potential effects of new government policies on the gender relations in Dutch society” (Verloo & Roggeband, 1996:3). GIA stems from an empirical observation that policies, projects and programs that appear gender-neutral often have unforeseen and unintended differentiated impacts on men and women. Preferably, GIA should be an *ex-ante* method used to prevent the negative and prompt the positive gender equality outcomes, but it can also serve as an *ex-post* policy evaluation tool for assessing intended or unintended gendered effects of existing policies, as is done in this research (EC, 1998; Sauer, 2013). GIA consists in identifying, listing and analysing gender aspects of policies, and investigating political-institutional conditions of the policy environment (Schultz & Stieß, 2009). The legal mandate to conduct GIA was laid out in the international strategy for gender mainstreaming introduced by the Beijing Platform for Action at the 4th Women’s World Conference (Beijing Declaration, 1995). In 1996, the European Commission adopted the communication on "Incorporating equal opportunities for women and men into all Community policies and activities", which outlined the framework for implementing gender mainstreaming and its accompanying tool GIA for the purpose of promoting gender equality “in all activities and policies at all levels” (EC, 1996). The Treaty of Amsterdam (1997), followed by the Treaty of Lisbon (2008), officially prescribed gender mainstreaming, which calls for the cross-cutting implementation of GIA in all impact and policy areas. GIA is therefore not limited to social impact areas, but is also applicable to economic and environmental impact areas (EC, 1998; Sauer, 2013:2).

The original GIA theoretical framework and the five step design for policy analysis outlined by Verloo and Roggeband (1996) have been modified over time by different users of the tool, such as German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and European Commission (EC, 1998; ISOE, 2000; Life e.V., 2004). Classification of impacts is another subject to debate, and is not always consistent among the practitioners of GIA. In some examples

from Germany three gender dimensions are used (gendered division of labour; social organization of human reproduction and health; shaping power of women and men in technology, science and politics), in gender analysis guide by USAID, six dimensions are mentioned (access; knowledge, beliefs and perception; practices and participation; time and space; legal rights and status; power and decision making) (Hayn & Schultz, 2002; ISOE, 2000; Life e.V., 2004:11; USAID, 2011). The European Commission (1998) suggests a modified version of the GIA, which is used in this research. This version of GIA consists in two parts: **i) checking gender relevance of a policy** and **ii) gender impact assessment according to four gender impact areas** (Table 1 and Table 2 below).

Table 1. Checking Gender Relevance (Source: European Commission, 1998:4).

CHECKING GENDER RELEVANCE
<p>The first step in a gender mainstreaming process is to establish whether gender is relevant to the policy on which you are working. In order to check gender relevance, you need to obtain and study sex-disaggregated data and to ask the right questions:</p> <ul style="list-style-type: none"> * Does the proposal concern one or more target groups? Will it affect the daily life of part(s) of the population? * Are there differences between women and men in this policy field (with regard to rights, resources, participation, values and norms related to gender)? <p>If the answer to any of these two questions is positive, gender is relevant to your issue. An assessment should be made of the potential gender impact of the policy proposal.</p>

First of all, the two-step framework requires that policy measures under consideration are put through a gender relevance test before conducting the analysis in order to see if GIA is plausible in this case. The GIA relevance test is simple and consists of two questions given in Table 1:

- 1) *Do measures concern more than one target group and will they affect the daily life of a part(s) of population?*
- 2) *Are there differences between women and men in this policy field regarding rights, resources, participation, values and norms related to gender?*

Let us look at a climate policy measure listed in the Lithuanian Climate Change Management Strategy, e.g. participation in the European Union Emissions Trading System (EU ETS). According to the staff of the Ministry of Environment specializing in the field of EU ETS, by raising the price of ton of CO₂ in the European Union Emissions Trading System (EU ETS) by €1, electricity price for consumers increases by 0.05%. Manipulation of electricity prices will have an effect on people's

everyday lives, since they use electricity for daily activities at home, work, for leisure, etc. Men and women have different roles in households in Lithuania; therefore genders are likely to be affected differently by the changes in electricity prices; these effects also depend on their social background and status. For example, women do most of the unpaid work in households and earn less on average; therefore they are likely to be using more electricity for household activities than men and have less money to pay for it. Men, on the other hand, tend to have a bigger carbon footprint than women and use more energy for traveling and entertainment (Räty & Carlsson-Kanyama, 2010; Ergas & York, 2012). Moreover, more women than men are subjected to energy poverty because of their lower average income and assumed responsibility for the care sector. It is clear from these simple observations that there is gender relevance in the way electricity price changes affect energy consumers. Similar results could be drawn from a relevance test of Renewable Energy Sources' (RES) development, which also affects the price of electricity. To give another example, women tend to use public transport more than men, and men tend to drive more than women, so any changes in transport infrastructure and prices are likely to have differentiated impacts on women and men in terms of income, time and mobility options (EIGE, 2012; Carlsson-Kanyama et al., 1999). The list could be long, but since these climate change mitigation policy measures already passed the gender relevance test, according to the GIA framework, all climate policy should be analysed (EC, 1998).

Table 2. Criteria for Gender Impact Assessment (Source: European Commission, 1998:5).

CRITERIA FOR GENDER IMPACT ASSESSMENT:	
1.	<p>Differences between women and men in the policy field, such as:</p> <ul style="list-style-type: none"> * participation (sex-composition of the target/population group(s), representation of women and men in decision-making positions) * resources (distribution of crucial resources such as time, space, information and money, political and economic power, education and training, job and professional career, new technologies, health care services, housing, means of transport, leisure) * norms and values which influence gender roles, division of labour by gender, the attitudes and behaviour of women and men respectively, and inequalities in the value attached to men and women or to masculine and feminine characteristics * rights pertaining to direct or indirect sex-discrimination, human rights (including freedom from sexual violence and degradation), and access to justice, in the legal, political or socio-economic environment
2.	<p>How can European policies contribute to the <i>elimination of existing inequalities and promote equality between women and men</i> (in compliance with Articles 2 and 3 of the Treaty of Amsterdam); in participation rates, in the distribution of resources, benefits, tasks and responsibilities in private and public life, in the value and attention accorded to male and female, to masculine and feminine characteristics, behaviour and priorities?</p>

When conducting GIA, it is necessary to define the target population that is (potentially) affected by the policies in question (MNCPE, 2012). Climate change mitigation policy measures outlined in the previous chapter are likely to affect the most of Lithuanian population, to a greater or a lesser extent. Some of the groups that are likely to be affected by the climate change mitigation policies in Lithuania are: energy consumers (more or less the whole population), employees of the industry sector participating in the EU ETS, buyers and suppliers in the industry sector, users of public transport and transport infrastructure, stakeholders in the agricultural and forestry sectors, consumers of production from these sectors, users of municipal waste management services, etc. It seems that all citizens of Lithuania are affected by the climate change mitigation policy in one way or another; therefore, the target population in this research is all inhabitants of Lithuania. However, social groups are affected more than others, and this research concentrates on differentiated effects on both genders. It should be noted that gender effects should never be looked at in isolation from other social factors and differences: they are often interlinked with and reinforced by other structural differences in society, such as ethnicity/race, class, disability, sexual orientation, etc. (EC, 1998).

GIA is a qualitative question-based policy analysis tool. The gendered impacts of policies identified are classified into four categories that are listed in Table 2 and explained in more detail in Table 3. They include: **participation**, **resources**, **norms and values** and **rights**. These four gender impact areas are central to this research because this entire policy analysis is based on them.

Table 3. Four Impact Areas of Gender Impact Assessment.

Impact Area	Definition	Importance	Keywords
Participation	Extent and quality of participation of women and men in policy making and implementation at all levels, and how concrete policies affect the ability of both genders to participate in these processes.	Direct and indirect participation in all levels of policy making and related processes enables participants to influence those processes and outcomes and represent their interests and concerns.	participation, power, governance, instruments, policy-mix, empowerment, representation

Resources	Availability and distribution of resources that may be affected by policy measures, e.g. economic disparities may lead to differences in the capacity to mitigate climate change, time-use structures may result in unequal additional burdens resulting from policy measures.	Gendered division of labour leads to differences in the effects of climate change and in requirements for low-carbon development. E.g. time-use studies show that women spend more time on family and household-related work than men. Economic disparities lead to differences in capacity to mitigate climate change.	gendered division of labour, risk of poverty, access and distribution of resources, e.g. income, education, time-use, health services, transport, etc.
Norms and values	Existing attitudes towards gender roles in family and society, and differing values that are assigned to women and men. Also, how the policies in question may reinforce or change the existing norms and values.	All areas of social life have entrenched cultural patterns and stereotypes about the role of man and woman in society and family as well as expectations about their behaviour, choice of career, family life, etc. They determine climate change mitigation capacities and strategies of both genders.	cultural/societal patterns and norms, religion, gender stereotypes, gender identity, gendered division of labour
Rights	Legal (<i>de jure</i>) and actual (<i>de facto</i>) rights of women and men, and how they may be affected by policies. In the context of the developed countries, the legal base for equal opportunities for both genders is usually in place, but there are inconsistencies between the <i>de jure</i> and <i>de facto</i> rights.	The fact that the legal rights in the EU are gender-neutral does not mean that all forms of gender discriminations are automatically removed. E.g. gender income gaps and gendered division of labour and employment opportunities may influence gendered impacts of policies.	anti-discrimination, legal rights, human rights, property rights, <i>de jure</i> and <i>de facto</i> rights

2.3. Research design

This is a deductive (top-down) research, where an assumption based on experiences and observations in other countries that climate policy may have differentiated effects on genders is tested using the case study of Lithuania. Independent variables here are the climate change mitigation policy measures currently in place in Lithuania, and the dependent variables are the impacts of the policies on both genders. The National Strategy for Climate Change Management Policy 2012, which is the main climate policy document in Lithuania and the subject of this study,

focuses on six main areas of climate change mitigation policy and financial/economic instruments (LRS, 2012). The climate change policy areas analysed in this research are as follows:

- 1) financial and economic instruments
- 2) energy
- 3) transport
- 4) industry
- 5) waste management
- 6) agriculture
- 7) forestry.

Policy measures in each of the seven focus areas are listed in the Strategy. Some of them already passed the gender relevance test, which means that the Lithuanian climate change mitigation policy is a subject to gender impact assessment and it can be analysed according to the GIA framework. The relevant gendered impacts of each measure are listed and discussed according to the four impact areas, using the template outlined in Table 4. Some impacts are not straightforward and there is not sufficient gender-disaggregated data for assessing their full extent; therefore, only observed impacts are listed. Verloo and Roggeband (1996) in their original GIA checklist suggest looking at the current gender equality situation in the society where a policy is implemented, analysing the probable developments without the policy, and describing the policy itself before conducting GIA (EC 1998; EIGE 2012; ISOE, 2000; Röhr, 2015). Although this research does not follow the five-step checklist, it provides the gender equality and climate mitigation policy context in Lithuania in order to set a background for the GIA.

Table 4. GIA policy analysis template.

Climate change policy measures	Gender impact areas			
	Participation	Resources	Norms and Values	Rights
Finance				
Energy				
Transport				
Industry				
Waste				
Agriculture				
Forestry				

2.4. Data collection

In order to outline the policy and gender equality backgrounds in Lithuania and capture the gendered effects of policies, quantitative sex-disaggregated data was collected from secondary sources, including: Lithuanian State Department of Statistics (Statistics Lithuania), European Institute for Gender Equality (EIGE), Lithuanian Parliament (Seimas), Lithuanian Ministries of the Environment, Energy, Transport and Communications, Agriculture, Social Security and Labour, Lithuanian Environment Protection Agency, European Commission and various research publications. Most of the quantitative data was obtained via electronic databases of the organizations listed and academic search engines. It is often noted by researchers of gender equality issues that sex-disaggregated quantitative data is often not available or insufficient, and neither does it capture the complexity of gender relations and the impacts that certain policies may have on them, therefore in-depth qualitative analysis is usually needed for GIA (EIGE, 2012; Röhr, 2015; Schultz & Stieß, 2009; Verloo & Roggeband, 1996). Two types of qualitative data were used in this research: primary data consisting of semi-structured interviews, and secondary data consisting of scientific research articles, media publications, and relevant policy documents.

The collection of primary data was conducted in a form of fifteen semi-structured interviews that took place in Lithuania in July and August 2015. Seven of the interviewees were selected according to their field of expertise in climate policy or gender equality, and their availability to give an interview at the set time period. The policy experts and practitioners were interviewed in order to get their insights on climate change mitigation policy and gender equality implementation in Lithuania. Three of them are climate policy professionals from the Ministry of Environment, the Ministry of Energy and the Department of Forests; three members of the Inter-Ministerial Committee for Gender Equality, and one researcher from a non-governmental women's organization. The rest eight interviewees were selected to get as diverse sample as was possible for the researcher at a given time period and place in terms of gender, age and social background. They are all residents of Lithuania experiencing the effects of climate policy in one way or another, and they were interviewed in order to get a sample of views and experiences of stakeholders on the matter. All interviews were conducted in Lithuanian, most of them (except from one) were recorded, transcribed, translated into English and coded using the grounded theory method in qualitative analysis in order to get an in-depth understanding of the underlying issues and processes related to climate policy and gender issues in Lithuania (Glaser & Strauss, 2009; Weiss, 1995).

2.5. Limitations to the study

The first limitation to this study is the general lack of gender-disaggregated data. Gender-disaggregated data related to climate policy and its impacts on genders in Lithuania is either scarce or non-existent (EIGE, 2012). In order to present a general picture of the gender equality situation and identify the possible gendered impacts of climate change mitigation policies, some of the limited quantitative data that is currently available is used. The Lithuanian State Department of Statistics and Eurostat generate increasingly more sex-disaggregated data, but not all of it is relevant to this research. When assessing policy impacts, available and relevant data from other developed countries that are comparable to Lithuania was used to highlight the gender aspects. Other limitations relate to the general limitations attributed to qualitative research methods. Some of the gendered impacts of policies, such as resource distribution (e.g. time-use, participation in care work, healthcare, etc.) and norms and values (e. g. gender stereotypes, family structures, societal norms, etc.) are difficult to quantify, and therefore qualitative analysis of gendered impacts is necessary for GIA. The most common criticisms of qualitative research methods include: possible subjective bias by the researcher as well as lack of reproducibility and generalizability of qualitative research, which is due to a small and non-representative samples (Maxwell, 1992; Mays & Pope, 1995). The author attempts to overcome these limitations by putting narratives into context, searching for recurring themes, avoiding broad generalizations and combining qualitative and quantitative data. GIA is an analytical tool for identifying gender aspects of policies that are often difficult to quantify. The aim of this research is to identify the existing and potential effects and trends. Quantifying them is outside the scope of this research; there is a potential for a whole new research in this area. Policy impacts are identified using a set of questions listed in the analysis section (Table 14). This process is a subject to researcher bias, as many qualitative studies are. An additional limitation to this study is that gendered impacts are usually intertwined and dependent on each other, therefore the analysis becomes somewhat repetitive when listing similar effects of different policies. Other limitations (as well as strengths) of the GIA framework are listed in Table 5.

Table 5. Strengths and Limitations of GIA (Source: MNCPE, 2012).

Users of the GIA tool should be aware that it has a number of **strengths and limitations**.

Strengths	Limitations
When it is carried out at an early stage of policy development and eventually, throughout the entire policy implementation, then it may be considered to be a key and central tool to redesigning policies from a gender "lens".	It is a complex process and due to the fact that it is based on judgement, an element of uncertainty exists. However, this may be curtailed by using up to date and relevant statistics.
Departments can improve their efficiency and effectiveness by maximising human resource potential and identifying and addressing local needs more effectively.	Lack of knowledge of gender issues may lead to restrictions in using this tool.

3. Climate change mitigation policy in Lithuania

3.1. An overview and scope of the Lithuanian climate change mitigation policy

According to the latest National Greenhouse Gas (GHG) Inventory Report (2013), the total GHG emissions (excl. LULUF) in Lithuania amounted to 21611.7 Gg carbon dioxide equivalent (CO₂e) in 2011. As shown in Figure 1 below, the largest source of the CO₂ emissions is the energy sector accounting 80.6% of the total national CO₂ emissions (excl. LULUCF) in 2011. The most important GHG in 2011 was CO₂ accounting for 64.6% of the total GHG emissions, followed by nitrous oxide (N₂O) (20.2%) and methane (CH₄) (14.1%). The emissions have decreased by 55.7% compared to the base years (1990 for CO₂, CH₄, N₂O, and 1995 for F-gases HFC, PFC and SF₆) as a consequence of the decline in industrial production and the associated energy consumption that followed the collapse of the Soviet Union. Once the economy started to grow again, the amount of the emissions increased, but this was partly compensated by the reductions achieved through energy efficiency and other measures targeted at reduction of GHGs emissions.

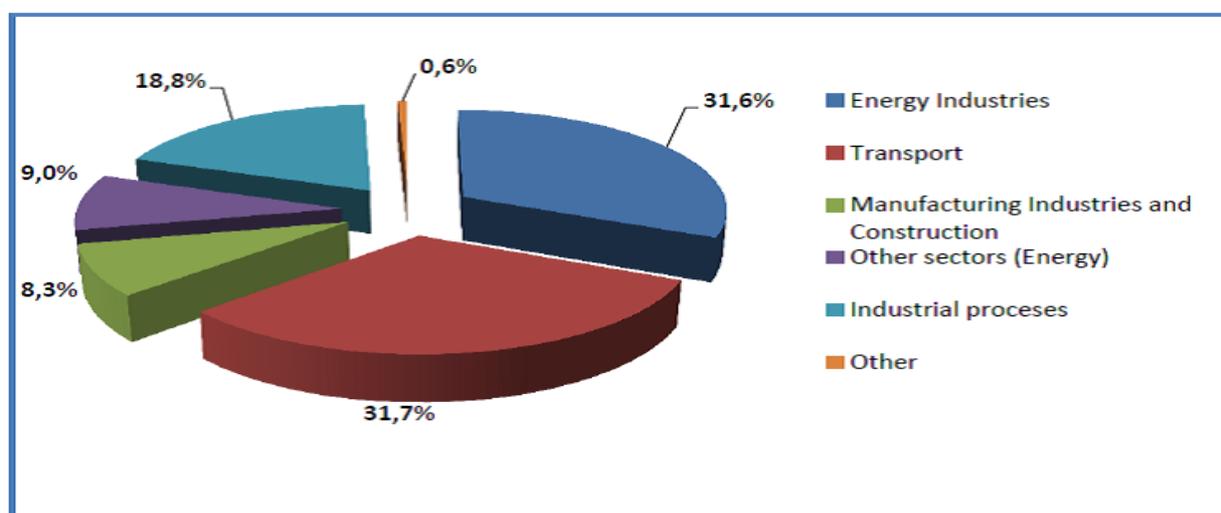


Figure 2-2. Distribution of CO₂ emissions by the main sectors and subsectors in 2011 (%)

Figure 1: Distribution of CO₂ emissions by sectors (Source: GHG Inventory Report, 2013)

The steep fall in GHG emissions in the 1990s does not mean that Lithuania is no longer concerned with climate change mitigation. The country ratified the UNFCCC in 1995, submitted the first National Communication on Climate Change in 1998, and the second – in 2002. The UNFCCC Kyoto Protocol was ratified by Lithuania in 2002, and National Strategy for Implementation of the UNFCCC until 2012 was adopted in 2008. Becoming a Member of the EU in 2004 was a particularly

important step for the development of Lithuanian climate policy: the country is now obliged to meet the EU targets that are among the most ambitious in the World. Lithuania has the access to financial support and expertise from the EU for this purpose. According to the Climate Change Policy Division at the Lithuanian Ministry of the Environment, the climate change policy in Lithuania is formulated in accordance with international UNFCCC agreements and the goals and objectives of the EU climate policy strategy. In the second phase of the UNFCCC Kyoto Protocol 2013-2020, all the members of the EU, including Lithuania, committed to reduce their GHG emissions by 20% compared to the 1990s levels by 2020. Moreover, the EU together with some of other developed countries aim to reduce their GHG emissions by 80-90% by 2050.

In order to reach these targets, the Parliament of Lithuania (Seimas) approved the National Strategy for Climate Change Management Policy (further – Strategy) in 2012, which establishes:

- the compulsory GHG emission reduction goals until 2020 – that the GHGs emissions from the sectors participating in the EU-ETS should not exceed 8,53 million t CO₂e, and from the non EU-ETS sectors it should not exceed 15,46 million t CO₂e;
- indicative medium-term goal – to reduce GHG emissions by 40% before 2030, and by 60% before 2040, compared to the 1990 level;
- indicative long-term goal – to reduce GHGs emissions by 80% compared to the 1990 level by 2050.

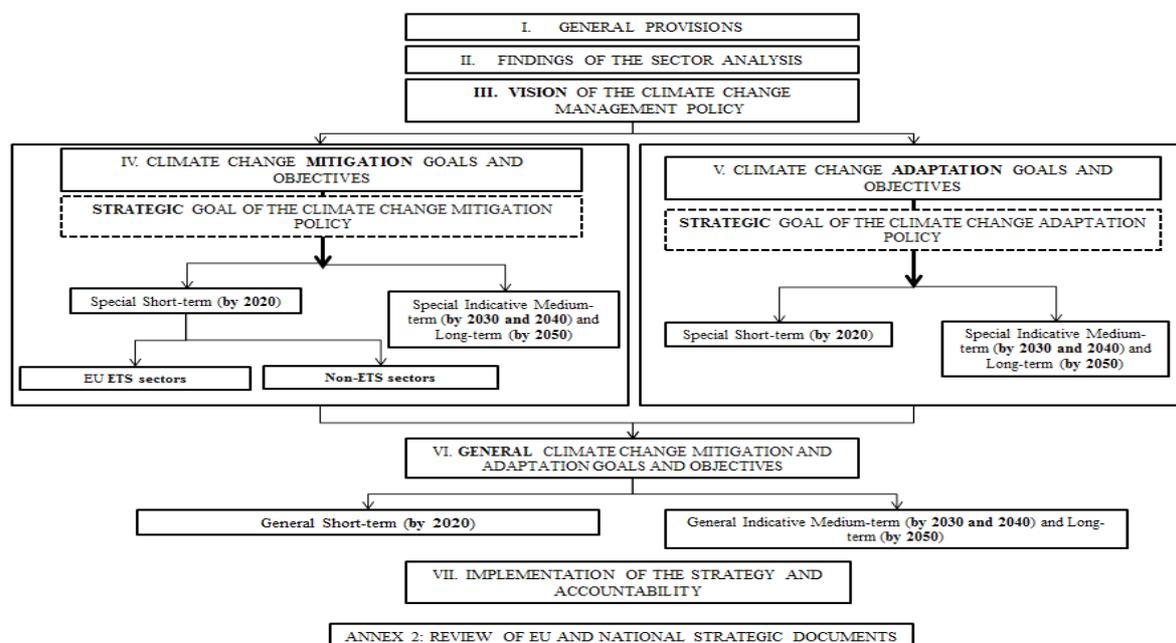


Figure 2: Structure of the National Strategy for Climate Change Management Policy Strategy 2012 (Source: NSCCMP, 2012)

The current Strategy revises the previous one, and is consistent with the EU laws and regulations regarding climate change mitigation and adaptation. Since the document is rather extensive, and this study is concerned with the way concrete policy measures affect both genders, it is only concerned with the Special Short-term (by 2020) climate change mitigation policy described in the Section IV of the Strategy (Figure 2). The policy measures analysed are short-term because they are the ones that are currently implemented, and their direct and indirect impacts can be analysed. Sectors, such as territorial planning and regional policy, science and education, public information and international cooperation, are also mentioned in the document, but, as already mentioned in the methodology section, the most important policy areas in the field of climate change mitigation are:

- 1) economic and financial instruments
- 2) energy
- 3) transport
- 4) industry
- 5) waste management
- 6) agriculture
- 7) forestry.

3.2. Economic and financial instruments

Economic and financial instruments are different from other policy areas discussed in this chapter because they do not have a defined policy area, but affects them all. The scheme of this group of climate change mitigation policy instruments is provided in Figure 3 below.

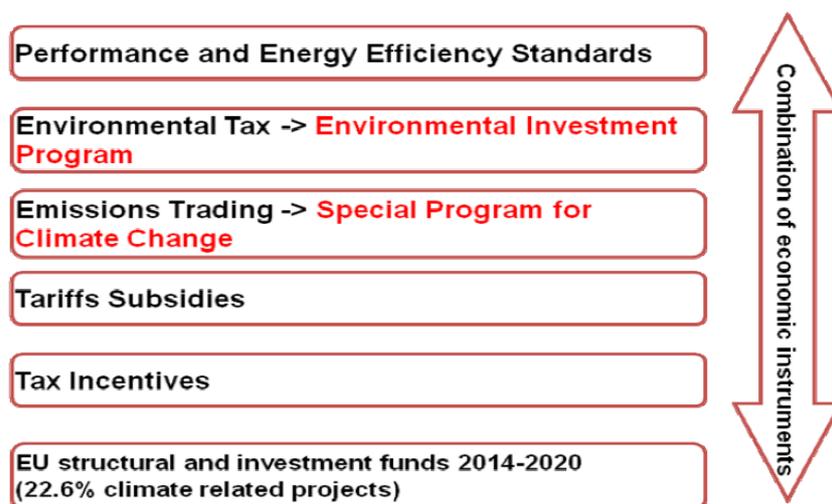


Figure 3: Economic and financial support instruments contributing to management of climate change (Source: Ministry of Environment, 2015:22)

3.2.1. EU ETS

According to the Ministry of Environment (2015:23), there were 94 installations and 4 aircrafts operators actively participating in the EU ETS in Lithuania in 2014. The EU ETS applies to combustion plants of more than 20 MW (in boilers and power plants, cement and lime, crude oil processing, ceramics, glass, wood and paper, bricks and tiles and rock wool production plants). Since 2012, the EU ETS includes aviation and chemical production plants. Industrial producers that are considered to be susceptible to “carbon leakages”, such as cement and lime production, petroleum product processing, ammonia and nitric acid production, receive free allocation of emission allowances. The variation of the emissions from the EU ETS sectors (except GHG emissions from aircrafts) and allocated EUAs in 2005-2014 are illustrated in Figure 4 below.

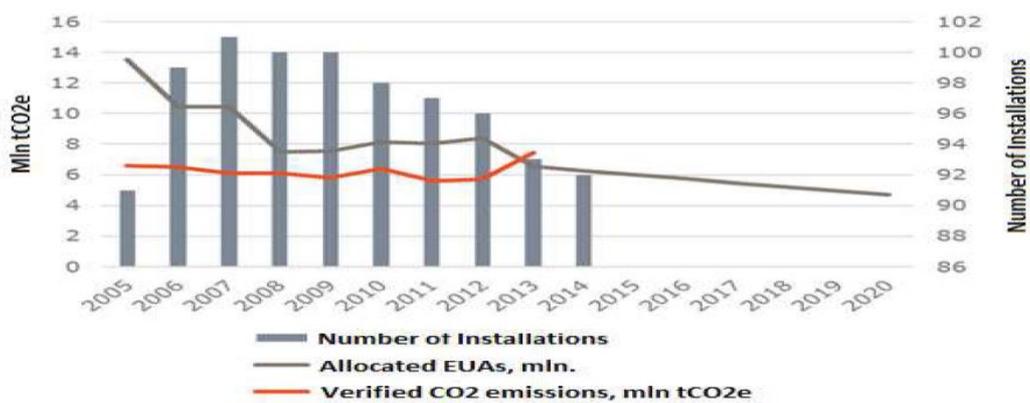


Figure 4: Variation in verified GHG emissions, number of installations in 2005-2014 and a number of current and projected EUAs allocations in Lithuania. (Source: Ministry of the Environment, 2015:22)

3.2.2. Other economic and financial instruments

In 2009, the Parliament of Lithuania adopted the Law on Financial Instruments for Climate Change Management, which stipulates “the rights, duties and liabilities of persons engaged in the economic activities resulting in greenhouse gas emissions as well as the sphere of competence of state institutions/authorities and bodies” (LRS, 2009). The Law also established the Special Program for Climate Change, which generates revenues from the EU Assigned Amount Units (AAUs) of CO₂ surplus sales and European Union Allowances (EUAs) auctions. Its funds are used for Green Investment Scheme’s (GIS) emission reduction projects (Streimikienė et al., 2012). In 2001, the National Climate Change Committee was established by the Minister of Environment at the time. Its main function is to coordinate the national climate change policy formation and its implementation (Ministry of Environment, 2015).

Climate change policy measures are financed with the European structural funds and the Special Program for Climate Change. The EU requires that no less than 20% of its structural funds are used for measures related to climate change (in 2015 Lithuania plan to use 22.6%, or 1.9 billion EUR). The Environmental Pollution Tax has been in place in Lithuania since 1999, and 30% of its revenues go to the Environmental Investment Program (State Tax Inspectorate, 2015). These funds are used for subsidizing environmental investment projects that reduce negative effects and ensure lasting positive effects of economy on the environment. Other financial instruments include subsidies, e.g. renewable energy production, and tax incentives, e.g. reduction of excise duties for biofuels (Dybiec, 2013; LAAIF, 2015).

3.3. Policy measures in the energy sector

According to the Strategy, the total GHG emissions in the energy sector, including transport, amounted to 12.848 million tons of CO₂e, or approximately 61.7% of the total volume of Lithuania's GHG emissions (excluding the LULUCF⁴) in 2010 (Strategy Art. 71, 2012). The climate change mitigation measures in energy sector listed in the Strategy are:

- increased efficiency of energy use;
- development of renewable energy sources (RES);
- construction and exploitation of the new nuclear plant (possible).

3.3.1. Energy efficiency measures

The Action Plan for Energy Efficiency adopted by the Minister of Economy in 2007 includes voluntary agreements with energy companies, Lithuanian Environmental Investment Fund subsidies for measures reducing negative impact on the environment, requirement to purchase energy-efficient goods and National Green Procurement Implementation Program, Energy Star labelling for office equipment, Energy efficiency labelling for household appliances, and modernization and development of the existing district heating systems subsidized via the EU structural funds (Ministry of Environment, 2015). In February 2015, the Ministries of Finance and Energy together with the Public Investment Development Agency established the Energy Efficiency Fund. It was established to provide loans for modernization of government buildings and guarantees from commercial banks for the modernization of street lighting projects. The Program for Public Building Renovation approved by the government in 2014 aims to renovate 700,000 sq.

⁴ CO₂e emissions from the land use, land use change and forestry (LULUCF) sector.

m. of public buildings, reaching the class C of energy utility, and in this way save 60 GWh of the annual primary energy reducing GHG emissions by 14,000 kt (Ministry of Environment, 2015:33).

An important part of energy efficiency policy is increasing energy efficiency in the household and service sectors. JESSICA Holding Fund was established by the Lithuanian Government in order to present an attractive financing scheme to support the energy efficiency improvements in multi-apartment buildings that were built prior to 1993. Later the scheme was extended to cover student dormitories and other buildings under the jurisdiction of the Ministry of Education and Science. According to the Housing Energy Efficiency Agency (2015), 398 energy-inefficient apartment blocks have been renovated since 2013, 1656 are currently being renovated, and 3658 investment plans have been coordinated for upcoming renovations. The target is renovation of no less than 4000 apartment blocks before 2020. In July 2015, around 5% of all apartment blocks under consideration for energy efficiency improvements (around 34,000 in total) had been renovated (semi-structured interview with an employee of the Ministry of Environment). The process is slow because renovation requires initial investments that are often unattainable to the poorer part of the Lithuanian population that tends to reside in the old buildings that are subjects to energy efficiency measures. All the residents of a building need to agree on renovation for a project to be carried out, and that is difficult to achieve. Some of the resisting pensioners have been dealt with by taking away their energy subsidies if they do not sign up for renovations, so they end up paying the same amount for electricity as they would have paid with renovation loans added, but without the benefits of renovation, such as an increase in property value.

3.3.2. Development and promotion of renewable energy sources (RES)

The use of RES has increased in the recent years and the target of 23% has been reached already, mostly through increasing the use of biofuels for energy (heat and electricity) production. Other RES sources that took off since the introduction of the Renewable Energy Sources Law in 2011 are wind turbines and solar panels. The fact that the 2020 target has been reached does not mean that the progress in RES development has halted – firstly, 23% of all energy consumption today will not account for the same percentage in a few years' time because of the current economic growth, and, secondly, the 23% target was not very ambitious to begin with, as was noted by the RES policy professional interviewed. She also argued that having big share of RES electricity in country's electricity grid also has its costs, such as supply fluctuations, and that more ambitious targets have to be considered carefully. New electricity links with Sweden (NordBalt) and with

Poland (LitPol) are expected to start operation in 2016, enabling a constant electricity current between the countries and integrating Lithuania into the European electricity grid (Ministry of Environment, 2015). This is important in terms of energy imports and exports – some experts suggest that it could be cheaper to buy excess RES energy from other European countries than produce it locally.

The respondent from the Ministry of Energy RES Department implied that the subsidies gave the major impetus for the RES development in Lithuania: the limit of applications for the time being has been reached. Although there are some people that install solar panels or start wind turbine energy production businesses motivated by environmental concerns, the majority participate in RES development for economic gains. Increasing RES share in the Lithuanian energy grid is not only important for the climate change mitigation, but also for increasing the country's energy independence. Lithuania currently imports most of its energy in the form of gas from its Eastern neighbours, Russia and Belarus. This has often been problematic due to political tensions and unsustainable in terms of decreasing the use of fossil fuels.

3.4. Policy measures in the transport sector

GHG emissions from the transport sector amounted to 4,435,000 tons of CO₂e in 2010, accounting for around 22% of the total GHG emissions of the country, with about 36% of GHG emissions produced by fuel combustion and around 31.6% of GHG emissions of the non- EU ETS sectors (Strategy, 2012). The National Communication Program for 2014-2022 was adopted by the Lithuanian Government in 2013 with the general strategic objective to develop a modern, sustainable and competitive transport and communications system in Lithuania. The Program objectives 3 and 4 are specifically concerned with climate change mitigation: promoting sustainable mobility and public transport development, increasing energy efficiency and reducing the negative impact on the environment (Ministry of Environment, 2015:34). The policy measures for reducing GHG emissions from the transport sector listed in the Strategy are:

- promotion of sustainable driving;
- implementation of multimodal/intermodal systems;
- use of alternative fuels and increasing efficiency in the transport sector;
- development of transport infrastructure and clean urban logistics;
- promoting cycling and use of public transport.

3.4.1. Promoting sustainable driving

The promotion of sustainable driving consists in would-be drivers being provided with basic training in economical car driving, emphasizing that this mode of driving is the safest and most environmentally friendly.

3.4.2. Intermodal (multimodal) transport systems

Intermodal (multimodal) transport is the type of transportation of goods when they are transported in one transport unit but using at least two modes of transport: rail, inland waterways, sea, air and road. In this type of logistics individual reloading is not required – containers are put on/in other vehicles at intermodal terminals and are carried on to the final destination. This type of transportation is considered to be more efficient and less polluting than traditional logistics because the energy for re-loading is saved, and the most suitable/efficient modes of transport are used at each stage. Two intermodal terminals started operation in Vilnius and Kaunas in May 2015, and they are expected to become important logistic centres in Central Europe connecting the Western and Eastern Europe (Intermodal Terminal, 2015).

3.4.3. Development of transport infrastructure and clean urban logistics

Railway electrification is expected to contribute to the reduction of GHG emissions significantly, since it allows for a reduction of energy use and increasing of the capacity of means of traction. Currently, there is only 122 km of electrified railway route Naujoji Vilnia - Kaunas (7% of the national railway network). By 2030 the full electrification of the route Kena (Belarus) – Klaipeda (western port in Lithuania) is planned, which would result in 459.3 km (26% of the railway network) of electrified railways in Lithuania with more than 75% of all freight and passengers transported using electric traction. Moreover, Lithuania is implementing the international transport project RAIL BALTICA – the railway line that will connect Warsaw, Kaunas, Riga, Tallinn and, through a railway ferry, Helsinki. After its planned completion in 2030, the country is expected to have an additional 360 km of fully electrified railway line allowing transportation of cargo and passengers on the South-North axis (LitRail, 2014; Ministry of Environment, 2015:35; Ministry of Transport and Communications, 2015). „Lithuanian Railways” is in the process of modernizing the Lithuanian railway system, making it more energy-efficient and environmentally-friendly through modernization of electricity supply and railway infrastructure (Lithuanian

Railways, 2014). Other policy measures in this area include the development of transport infrastructure in the biggest cities by building bypasses around city centres, construction of bridges and tunnels in busy junctions, and further developing national and regional roads (Ministry of Transport and Communications, 2014).

3.4.4. Use of alternative fuels and increased energy efficiency

The National Renewable Energy Resources Development Strategy (2011) sets the target to increase use of renewable energy resources in transport sector from 4.3% in 2008 to 10% in 2020. A part of raw materials for biofuels is compensated under a state aid scheme. The production of biofuels in Lithuania started in 2004 with around 4 kt of biodiesel, increasing to around 117 kt in 2013 with additional 24 kt of bio-ethanol. Similar scale of biofuel production was maintained in 2014. An additional measure of blending biofuels into mineral fuels became effective in 2013 (Ministry of Environment, 2015). In 2009, Lithuania adopted the energy efficiency and environmental protection requirements for the purchasing of road vehicles, transposing a European Parliament directive on the promotion of clean and energy-efficient road transport vehicles.

The interviewed climate change policy professionals point out that the transport system in Lithuania has a lot of climate change mitigation potential. Most of vehicles in Lithuania, both publicly and privately owned, are old and fuel-inefficient, so replacing them with more efficient vehicles that use less and/or alternative fuels has a big potential for GHG emission reduction. In May 2015, 104 electric and 1942 hybrid (petrol/electric) cars were registered in Lithuania. For comparison, there were 59 electric cars registered the country in 2014 (Regitra, 2015). Some additional benefits were granted to owners of electric cars in 2012 by the updated traffic rules, such as a permission to drive on lanes dedicated to public transport and taxis in cities, free of charge parking and free charging of electric vehicles in designated points. The popularity, however, remains low due to high prices of vehicles, lack of infrastructure, and the lack of interest by consumers (Ministry of Environment, 2015).

3.4.5. Promoting cycling and the use of public transport

Promotion of public and alternative means of transportation is among the priorities of the National Transport and Communications Programme 2014-2020. Since 2010, support schemes for environmentally friendly public transport have been implemented in the biggest cities. The

measures include renewal of public transport fleet (buses and trolleybuses), park and ride lots, and deployment of bus lanes, cycle tracks, and bike-sharing schemes. The changes in traffic rules in 2012 introduced a new road sign marked “4+” that allows access to certain lanes of busy streets for cars with 4 or more passengers. This measure was designed to encourage carpooling (Ministry of Environment, 2015). In terms of encouraging cycling and use of public transport, there are campaigns, such as “Cycle to Work” and “A Day without a Car”, new cycling paths are continuously being built and refurbished in the major cities. Cycling in cities, however, remains difficult: more infrastructure is needed, the developments have been sporadic; there is a need for a more coordinated and continuous approach (semi-structured interview with an employee of the Ministry of Transport and Communications).

Some of the income from the sales of the AAUs is used to acquire “ecological” buses powered by electricity and compressed natural gas through the Green Investment Scheme. In 2014, almost 100 such vehicles were purchased and are operating in the streets of the major Lithuanian cities – Vilnius, Kaunas, Klaipėda, Panevėžys, Telšiai, Ukmergė, Marijampolė, Elektrėnai and Šiauliai (Lietuvos Rytas, 2014). The interviewees from the Ministry of Environment mentioned that buying more low-GHG-emitting vehicles with the funds from the Special Programme for Climate Change is a priority with big climate change mitigation potential. The rates for using public transport have increased significantly during the last few years becoming less affordable for those with modest economic means. The public transportation system, however, has developed significantly with the introduction of modern vehicles, simplified payment methods and rapidly developing infrastructure, attracting more people to commute by public transport. It should be noted, however, that the best-off part of the population still prefers to travel by private vehicles because it is a sign of social status.

3.5. Policy measures in industry

The GHG emissions from the Lithuanian industry sector dropped by around 60% from 1990 to 2010, mainly as a result of decline in production, which followed the collapse of the Soviet Union. In 2010, GHG emissions of the industrial sector accounted for 24.3% of the total volume of the country’s GHG emissions (excl. LULUCF). The implementation of measures in the industrial sector is important in terms for both EU ETS and non- EU ETS emission reduction goals (Strategy, 2012). Climate change mitigation policy objectives in the industry sector listed in the Strategy are:

- participation in EU ETS;
- transition to low carbon technologies;
- carbon capture and storage;
- reduction of fluoridated gases.

3.5.1. EU-ETS

According to the Strategy, the participation in the renewed EU ETS system starting 2013 has had a great impact on the Lithuanian industry sector, since the concerned producers need to invest in low-carbon technologies or find the funds to buy more emission permits. As already discussed, Lithuania is committed to the short term goal that the GHGs emissions from the sectors participating in the EU ETS should not exceed 8.53 million tons of CO₂e in 2020. According to the interviewee from the Ministry of Environment, EU ETS has the most GHG reduction potential of all current climate change mitigation policies. Emissions permits issued for the installations participating in the EU ETS are consistent part of the IPCC pollution permits. In January 2013, Lithuania adopted the EU document on the Best Available Technologies (BAT) as a reference point, on which the GHG emission limits are based. BAT refers to both the technology used and the way in which the installations are designed and maintained. The techniques are developed on the scale that allows for implementation under technically and economically viable conditions, and ensures the most effective way of reducing GHG emissions (Ministry of Environment, 2015). The progress in the industry sector in the area of energy efficiency is being made quickly because of economic incentives for the firms participating in the EU ETS. It should be kept in mind, however, that Lithuania “inherited” very energy-intensive production plants from the Soviet Union, therefore, Lithuanian industrial plants have a disadvantage against Western Europe and other developed countries, and generally emit much more GHG for the same types of production (semi-structured interview with a climate policy professional).

3.5.2. Transition to low carbon technologies

Transition to low carbon technologies and eco-innovation in non- EU ETS industrial installations refers to the same process of cutting GHG emissions through increasing energy efficiency and innovation, but without the participation in ETS. The motivation for producers here is increased production efficiency, better public image and, in many cases, available support from the state and EU structural funds. The Program for Investment Incentives and Industry Development for 2014-2020 was approved in 2014 with an objective to encourage industrial firms to increase energy efficiency and the use of RES in production processes. These measures are expected to reduce the use of energy in the manufacturing industry from 222.9 kg (in 2012) to 182.9 kg (in 2020) of oil equivalent for creation of 1000 EUR value added. A study called “The potential of energy use efficiency increase in industry enterprises and determination of measures which encourage the use of different types of energy” is being carried out by the Ministry of Economy in order to facilitate these reductions (Ministry of Environment, 2015:37).

3.5.3. Carbon capture and storage

Carbon capture and storage in Lithuania is still at its infancy; its potential in Lithuanian and the Baltic region is currently being researched, but no major projects have been implemented yet.

3.5.4. Reduction of fluoridated gases

The European regulation on reduction of fluoridated gases was adopted by Lithuania in 2014. Its main goals are to ensure the most cost-effective reduction of these gases in favour of energy-efficient and safe alternatives, and to actively participate in international agreements for phasing out hydrofluorocarbons (HFCs), the most relevant group of F-gases, under the Montreal Protocol. Measures against the use of fluoridated gases are further facilitated by the latest law amendment by the Minister of Environment at the end of 2014 on “Enforcement of requirements regarding containment, use, recovery and destruction of fluoridated greenhouse gases”. It reinforces the procedures of control, regulation and information provision on fluoridated GHGs in Lithuania (Ministry of Environment, 2015:39).

3.6. Policy measures in waste management

In 2010, GHG emissions from waste management sector accounted for 1.262 million tons or 5.58% of all GHG emissions in Lithuania, the most of which was methane (Strategy, 2012). There is a big potential to reduce GHG emissions from the waste sector, especially by implementation of waste incineration plants for energy production. Just until recently, almost all of the organic waste was disposed of together with the rest of municipal waste in landfills, which remains the cheapest waste management method. According to the Strategy, building organic waste processing plants, putting a cap on the amount of organic household waste, and terminating disposal of sewage sludge in landfills and storage sites have a potential to reduce the GHG emissions from the waste management sector by more than a half. Interestingly, waste sorting and management is considered by many to be the focal point of environmental policy, including climate policy. When asked about what they do in order to help reduce their impact on climate change, the majority of the interviewees (stakeholders) referred to waste sorting. This shows the lack of understanding of the climate change processes by the general public, but also the fact that waste management is the most visible part of human impacts on the environment. The policy objectives in the waste management sector listed in the Strategy are:

- increased number of waste disposal and recycling stations;
- building of sludge processing plants;
- using waste for energy production.

3.6.1 Increased number of recycling stations

In May 2015, there were 48 organic waste collection points in all regions of Lithuania (LEPA, 2015). There are organic waste composting sites in all municipalities, or they are being installed. Research on the management of municipal biodegradable waste has been carried out, and new projects have received funding. Biodegradable waste is composted or used for alternative fuels (Grynas.lt, 2014). Since the introduction of recycling containers for household waste a decade ago, public awareness about recycling and waste management has increased considerably. The share of those who recycle all of their household waste is around 40%, the main reason for not recycling being far distances to recycling facilities, according to a population survey conveyed in June 2015 (Rait Group, 2015). The new landfill tax introduced in 2016, which is charged per ton of not recycled waste is expected to encourage waste reduction and recycling, since the price of waste management for individual households may double, if the amount of waste in landfills is not reduced. The landfill tax is designed to increase each year, e. g. for non-hazardous waste it starts at 21.72 EUR per ton in 2016 and will increase annually until 2020, until it becomes 44.89 EUR per ton (LRS, 2014).

3.6.2. Sludge processing plants

In 2013, there were 12 modern wastewater treatment plants that collect sewage sludge, 1 drying plant and 9 composting sites. Since installation of such plants is supported by the EU structural and investment funds, the number is likely to increase and more sewage sludge collected per capita in the near future. Another question is utilization of the collected sewage sludge: it can be used as a fertilizer or for making biofuel. Research is currently being carried out on the most efficient ways of using sewage sludge. Today the plants operate at a loss due to high operating costs, lack of infrastructure for drying the sludge and lack of its utilization, however, the situation is improving (Ramoškevičiūtė, 2013; Grynas.lt, 2014).

3.6.3. Energy production from waste

In 2014, 8.86% of municipal waste was incinerated for energy production in the three waste incineration plants that presently operate Lithuania (LEPA, 2015a). The short-term goal stated in

the Strategy is no less than 30% of the annual waste usage for energy production in 2020. Some impacts of the policy measures in the waste management sector are listed in Table 6.

Table 6. Waste sector policy impact on GHG emissions (Source: Ministry of Environment, 2015:45).

Name of policy measure	Objective and/or activity affected	GHG affected	Type of instrument	Status	Implementing entity or entities	Estimate of mitigation impact, by gas in CO ₂ eq Gg	
						2015	2020
Biodegradable municipal waste handling	Lowered amounts of landfilled of biodegradable municipal waste ensuring that biodegradable municipal waste would make not more than 50 % until 2013 and not more than 35 % until 2020, if compared with the year 2000 quantities of the biodegradable municipal waste.	CH ₄	Regulatory	Under implementation	Ministries of Energy and Environment	359*	538*
Biodegradable municipal waste handling	Collection and use of methane from all existing and new landfills	CH ₄	Regulatory	Under implementation	Ministries of Energy and Environment	1 440	1 940
						1 799	2 478

*Only reduction of methane emissions due to the lowered amounts of landfilled biodegradable municipal waste was evaluated. Increase of CO₂ emissions due to increased waste incineration was not calculated.

3.7. Policy measures in agriculture

The agricultural sector accounted for 4.458 m tones of CO₂e, or around 21.4% of all GHG emissions in Lithuania in 2010. For the country to achieve the compulsory annual GHG emissions' reduction goals by 2020, the agricultural sector is allowed a maximum 2% annual increase in emissions compared to 2010 (Strategy, 2012). The policy goals in the field of agriculture are more general than in other sectors and include:

- promoting sustainable agriculture;
- switching agricultural activities;
- biogas plant implementation.

3.7.1. Promoting sustainable agriculture and switching agricultural activities

Among the most important measures for GHG reduction in agriculture, the Strategy lists the development of sustainable agricultural practices, alternation of activities (e.g. grassland farming where no agriculture takes place), alternation of animal species, organic and environmentally friendly agriculture, change of time of pasture, and replacement of manure management systems. The environmental requirements for manure management adopted 2005 set the rules for the use of manure for fertilizing croplands and its storage in order to protect waters against nitrate

pollution and reduce nitrogenous GHG emissions (Ministry of Environment, 2015). They are expected to reduce the GHG emissions from the agricultural sector by the total of 200 Gg CO₂ e by 2020, as shown in Table 7.

Table 7. The GHG emissions mitigation measures in the agriculture sector (Source: Ministry of Environment, 2015:43).

Name of policy or measure	Objective and/or targeted activities	Related GHG	Type of instrument	State	Implementing agency or institution	Mitigating the impact by setting GHG CO ₂ eq. Gg	
						2015	2020
Implementation of Nitrates directive	Reduced water pollution and the emissions of N ₂ O	N ₂ O	Regulatory, control and monitoring	Implementing	Ministry of Agriculture	100	100

The amended Lithuania’s Rural Development Programme for 2014-2020 aims to further enhance the existing policy framework for sustainable management of natural resources in the agricultural sector. Support to the planting of short rotation coppices and production of biogas from agricultural waste was granted by the previous Programme 2007-2013, and a continuation of support is foreseen in the new one. Additional support for growing protein crops, which are crucial in sustaining the nitrogen in the soil, is available for farmers under the voluntary coupled support scheme (Ministry of Environment, 2015; Ministry of Agriculture, 2007 and 2014). Another form of promotion of sustainable agriculture is training and educational campaigns. Applicants for the EU structural and other grants for agricultural activities are obliged to attend courses on environmental protection, sustainable use of natural resources and sustainable agricultural practices. Courses and programs on various subjects, including ecological farming, are also offered for those who are interested. The courses are organized by the Ministry of Agriculture Centre for LEADER Programme and Agricultural Training Methodology. The training happens in local municipalities for higher accessibility, and the attendance was counted in thousands for the period of the last Rural Development Programme 2007-2013. There are different training programmes and courses organized by the Centre, but it is not separately stated how many people have completed training in sustainable agriculture or ecological farming. For example, a project called “Young Farmer’s Economic Competence and Organic Farming Development” that took place between 2012 and 2014 was supposed to provide training for 2786 individuals (LEADER Programme, 2015). According the new Rural Development Programme 2013-2020, educational campaigns on ecological farming and sustainable agriculture are continued to be carried out.

3.7.2. Biogas plant implementation

The biogas plant implementation has not yet taken off in Lithuania, but is in the plans of the Ministry of Environment, according to the Strategy and semi-structured interviews with the employees of the Ministry. Instalment of biogas plants is costly initially, but the gains for farmers are obvious: the gas from waste can be used for energy production in farms and households. The main obstacles for biogas plant implementation are lack of funds, limited use of thermal energy generated, small average size of farms, and restricted connection to natural gas, electricity and heat supply infrastructure.

3.8. Policy measures in forestry

According to the Lithuanian Forest Service (2015), on the 1 January 2014, the forest land area in Lithuania was 2177, 000 ha and occupied 33.3% of the country's territory. The area has increased by 131, 000 ha, or 2.0%, since 2003. One of the most relevant to climate change mitigation objectives of the National Programme of Forest Development for 2012-2020 is to increase forest cover by afforesting unused land and land that is barely suitable for agriculture. The main policies for climate change mitigation in the forestry sector listed in the Strategy are:

- increasing forest cover on unused land;
- using forestry waste for biofuel.

3.8.1. Afforestation of unused land

The climate change mitigation measures in the forestry sector, namely afforesting unused/unsuitable for agriculture land and collection of logging waste, are being implemented successfully. The grants for afforestation projects are relatively large and encourage many land owners to plant forests in their unused land, and the short-term target of 30, 000 ha is very likely to be reached, since there were more applications than funds available. The Department of Forestry even had to make the criteria stricter so that the forests are planted where they are the most desirable and the kinds of forests that are most valuable (semi-structured interview with the Director of the Department of Forests).

3.8.2. Forestry waste collection

The 500,000 m³ target of collected logging waste for biofuel production has also been reached, and the interviewee from the Department of Forests expressed a belief that there is a potential to collect much bigger volumes of logging waste, e.g. 1 million m³ for the next period. The suggestions for increasing this amount have already been made. Other forest waste, such as old unproductive trees and removed young trees in the forestry projects, could also be utilized. Table 8 lists the GHG offsets by the forestry sector.

Table 8. The mitigation measures for minimization of the GHG emissions in forestry sector (Source: Ministry of Environment, 2015).

Name of policy or measure	Objective and / or targeted activities	Related GHG	Type of instrument	State	Implementing agency or institution	Mitigating the impact by setting GHG CO ₂ e. Gg	
						2015	2020
Afforestation of the poorly fertile soils	To increase forest area by 3% until 2020.	Mostly CO ₂	Various	Implementing	Ministries of Environment, Agriculture	-840	-1680

4. Gender equality in Lithuania

4.1. Historical background and overview of the gender equality situation in Lithuania

Table 9. Historical Gender Equality Context in Lithuania.

Historical Gender Equality Context in Lithuania	
Time Period/Year	Events/ historical periods important for gender equality development in Lithuania
10,000 BC - 5th Century AD	Baltic prehistory, matriarchal tribe society. Women and men had similar social status prehistorical Baltic tribe societies.
4th - 7th Centuries BC	The Great Migration Period, arrival/mixing of nations. Baltic tribes mix with other tribes; women's status diminishes.
1529	The First Statute of Lithuania ensures women's right to property and protecting them against violence, which was unusual at the time.
1864 - 1904	Ban of Lithuanian language by the Russian Tsar. Underground Lithuanian schools run mostly by women.
1918-1919	Establishment of Independence of the Republic of Lithuania. The right to vote was granted to women in 1919.
1944 - 1991	Soviet Occupation. Formal gender equality, gender quotas and compulsory full-time employment for both genders established.
1991	Re-establishment of Lithuanian Independence. Gender quotas abolished, women encouraged to "return to family values".
1992	Constitution of the Republic of Lithuania (Article 29) grants equal legal rights for all persons, regardless of gender, race, nationality, religious affiliations, social status and views.
1995	Ratification of The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and Beijing Declaration.
1998	Law on Equal Opportunities for Women and Men adopted.
2002	Law of Equal Opportunities extended to the consumers' rights and employee selection procedures.
2004	Accession to the EU, followed by the adoption of its gender equality objectives and legislation.
2007	Establishment of the European Institute for Gender Equality (EIGE) in Vilnius.

In order to explain some of the realities of Lithuanian women and men today, it is necessary to look at the broader historical context of gender equality, which is outlined in Table 9. The

archaeological findings from burial sites across Lithuania and surrounding areas that were inhabited by Baltic tribes from the III to XII centuries A. D. indicate that the status of both genders were much more equitable in the settled non-martial Baltic societies than in the martial societies that came to dominate the area after the Great Migration Period in the IV-VII centuries (Banytė-Rowell, 2014; Gimbutas, 1991; Kurila et al., 2009). Much later, in the First Statute of Lithuania in 1529, the main legal code at the time, gentry's women's inheritance and property rights were ensured, which was very unusual even in the most advanced European countries at the time. The Statute also contained a separate provision on protecting women against violence. Three centuries later, when the Lithuanian language and press was banned by the Russian Tsar from 1864 to 1904, it was the Lithuanian women that kept the language alive by running underground Lithuanian schools in their homes (LaFont, 1998).

More recently, Lithuania was a part of Soviet Union for almost a half century from 1944 to 1990. The gender roles in the USSR differed somewhat from those in Western Europe. Women's emancipation under the Soviet regime was a rule, and both genders were supposed to be treated equally in the political, civic and work environments. It was compulsory for both genders to work full time, and quotas for female civil servants were in place. One thing that had not changed since the pre-Soviet times was the patriarchal structure of the Lithuanian society, which meant that while women went to work along with men in the public sphere, men did not do the same in the domestic sphere. Women carried multiple burdens at the expense of their leisure time, health and quality of life. Therefore, it could be stated that women under the communist regime got "facade" equality, and often carried even bigger burdens than women in the West (Einhorn 1993; LaFont 2001; Purvaneckienė, 1998). Since women were "taken away" from their homes and families during the Soviet occupation, the regaining of independence was seen by some as an opportunity for them to "get back to their womanly duties". Even before the fall of the Soviet Union, during the time of "perestroika" ("reconstruction") Mikhail Gorbachev (in)famously stated in 1987 that communism had taken women away from their families causing wide-spread social issues and "broken family ties", and encouraged policies that would "bring women back to their families and real duties" (LaFont, 2001; Stankevičius, 2012; Simai, 2006). Nationalist and religious Catholic sentiments for a woman as a home-maker prevailed after the collapse of communism, and this caused some setbacks in the overall gender equality in Lithuania during the 1990s.

4.2. General overview of the gender equality situation in Lithuania

The general principle of gender equality and equal opportunities is enshrined in the Constitution of the Republic of Lithuania (Article 29), as well as other Lithuanian laws, such as Law on Elections, Law on Referendum, Law on Public Service, Labour Code, Law on Support for the Unemployed, Law on Safety and Health of Workers and laws concerning issues of employment and social protection. The main national legislation concerned with gender equality in Lithuania, the Law on Equal Opportunities for Women and Men, was adopted in 1998. The Law prohibits direct and indirect discrimination against men and women and obliges all state institutions to deal with gender issues in all relevant areas, forbids discrimination by sex in employment and education as well as sexual harassment and discriminatory advertisements. In 2002, the scope of the Equal Opportunities Law was extended to the consumers' rights and employer selection procedures. The Law on Equal Opportunities for Women and Men is not applied to family and private life (Office of Lithuanian Equal Opportunities Ombudsman, 2006). Since joining the EU in 2004 Lithuanian gender equality legislation was harmonized with the EU legal base, and the principle of gender equality that is central to the European legislation has been transposed in a number of national laws.

According to the Official Statistics Portal of Lithuania (2015a), in the beginning of 2015 there were 2 921 262 inhabitants in Lithuania, of which 1 575 005 women and 1 346 257 men, with 1170 women per 1000 men. Women made up 54% of the Lithuanian population. Median population age is currently 42; 45 for women and 39 for men. Average life expectancy at the end of 2014 was 74.59 years: 79.45 for women and 68.49 for men. 46% of women and 53% of men aged 20 and older were married in the beginning of 2015. Every third man of age 15 and older and every fourth woman in the same age group have never been married. The number of divorced women was 1.8 times, that of widowed women – as much as 7.5 times – higher than that of men. Crude population change rate in Lithuania was -3.4 per 1000 people in 2014. From these statistics it is clear that, firstly, there are more women than men in Lithuania, secondly, they live longer, and, thirdly, they live alone more often than men do. Moreover, Lithuania is experiencing negative population growth, which results in aging population.

Gender Equality Index (GEI) is a composite indicator for gender equality developed and used in the EU. GEI assesses the impact of gender equality policies in the Union and individual Member States over time. It is built around six core domains – work, money, knowledge, time, power and health – and two satellite domains – violence against women and intersecting inequalities. The GEI is

formed by combining these gender indicators into a single summary measure (EIGE, 2015). According to the latest estimations in 2012, Lithuania's GEI was 40.2 (100 being the highest possible ranking), which puts the country in the 22nd place out of 28 EU Member States. For a point of reference, Sweden ranked the highest with GEI of 74.2, and Romania – the lowest with 33.7. It is interesting to break the Index into impact domains in order to see in which areas countries are doing better or worse. Table 10 demonstrates the fact that while in domains of “work” and “knowledge” Lithuania is doing relatively well in terms of gender equality, it scores very low in the domains of “power” and “time”. This is likely to be at least partly due to the fact that women do most of unpaid work in the domestic sphere that is not accounted for in any economic accounts, but is treated as women's free time (Krinickienė, 2014; Rakauskienė & Krinickienė, 2009).

Table 10. Gender equality index by domain, 2012 (Source: Statistics Lithuania, 2015:87).

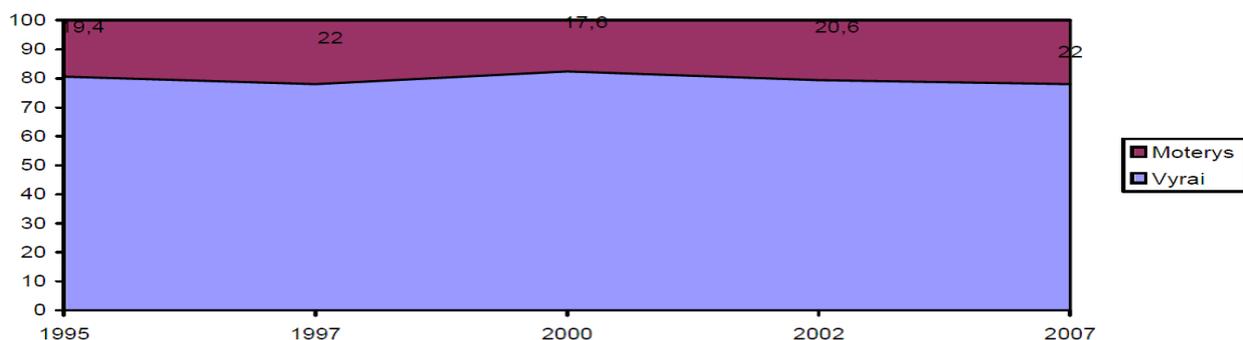
<i>Gender equality index by domain, 2012</i>							
	Darbas <i>Work</i>	Pinigai <i>Money</i>	Žinios <i>Knowledge</i>	Laikas <i>Time</i>	Galia <i>Power</i>	Sveikata <i>Health</i>	
ES 28	69,0	68,9	48,9	38,8	38,0	90,1	EU 28
Airija	65,8	79,0	54,3	52,0	31,4	95,2	<i>Ireland</i>
Austrija	66,5	77,6	44,5	38,6	27,1	92,7	<i>Austria</i>
Belgija	59,5	79,6	51,0	44,1	49,5	93,6	<i>Belgium</i>
Bulgarija	58,7	40,3	31,8	17,0	36,8	86,0	<i>Bulgaria</i>
Čekija	54,2	60,4	42,0	23,5	31,8	89,5	<i>Czech Republic</i>
Danija	76,8	76,4	73,2	64,5	55,7	91,4	<i>Denmark</i>
Estija	62,0	48,4	55,4	49,8	27,9	82,0	<i>Estonia</i>
Graikija	56,9	56,4	37,6	17,9	21,9	90,8	<i>Greece</i>
Ispanija	59,6	59,7	53,4	33,5	47,8	92,2	<i>Spain</i>
Italija	53,8	68,0	32,5	32,4	21,8	89,5	<i>Italy</i>
Jungtinė Karalystė	69,5	74,6	67,5	41,8	33,2	94,4	<i>United Kingdom</i>
Kipras	74,0	74,6	51,5	24,4	16,9	92,4	<i>Cyprus</i>
Kroatija	53,6	52,0	31,0	25,9	29,7	85,3	<i>Croatia</i>
Latvija	63,3	43,2	40,3	35,2	42,5	75,6	<i>Latvia</i>
Lenkija	55,5	54,2	41,8	20,8	38,5	83,6	<i>Poland</i>
Lietuva	55,6	45,6	47,6	22,8	22,8	82,3	<i>Lithuania</i>
Liuksemburgas	63,6	92,3	64,6	47,1	22,6	94,6	<i>Luxembourg</i>
Malta	60,7	71,4	36,3	36,7	28,3	95,6	<i>Malta</i>
Nyderlandai	69,0	83,6	64,6	71,2	51,3	93,6	<i>Netherlands</i>
Portugalija	59,1	56,0	37,8	22,4	17,6	83,3	<i>Portugal</i>
Prancūzija	61,3	76,9	50,7	34,5	48,8	90,6	<i>France</i>
Rumunija	61,6	38,4	28,2	17,4	20,7	84,4	<i>Romania</i>
Slovakija	52,8	56,7	34,0	17,7	21,1	86,7	<i>Slovakia</i>
Slovėnija	63,6	71,3	49,4	46,6	47,2	90,1	<i>Slovenia</i>
Suomija	72,6	79,9	67,3	61,3	75,7	89,0	<i>Finland</i>
Švedija	81,0	80,6	67,6	61,9	71,7	93,3	<i>Sweden</i>
Vengrija	60,7	53,8	35,3	31,9	23,5	85,2	<i>Hungary</i>
Vokietija	62,2	78,4	46,7	39,7	45,1	90,0	<i>Germany</i>

 Europos lyčių lygybės institutas.
European Institute for Gender Equality.

As mentioned in the methodology section, GIA results are usually classified according to the four policy impact areas: **participation, resources, norms and values**, and **rights**. The gender equality situation in Lithuania is described below according to these four areas in order to set up a background for the gender impact assessment of climate change mitigation policies in the next chapter.

4.3. Gender participation in decision-making

Currently, 33 out of 141, or 23.4%, members of Lithuanian Parliament (Seimas) are women. That is up from 18.4% in the previous parliament in 2008-2012. It ranks average by the World standards, since the global average percentage of women in parliaments are 22.1%, but compares poorly with the neighbouring Nordic countries, where the average is 41.3%, and the EU with an average of 35.2% (IPU, 2015). 1 female and 10 male Lithuanian representatives were elected to the European Parliament in 2014. There are 4 (29%) female ministers in the sixteenth Government of the Republic of Lithuania: out of 32 vice-ministers 8 (25%), and out of 14 ministry chancellors – 6 (43%) – are women. In the Government of the Republic of Lithuania, female officials make up around 30% of all ministers, vice-ministers and advisors to ministers (Statistics Lithuania, 2015:75). Women are also underrepresented in local governments, as can be seen in Figure 5 below. In 2011 municipal elections, 22% of the members of municipal councils elected country-wide were female (Statistics Lithuania, 2013). In the most recent municipal elections in 2015 from 60 mayors' posts 4 went to female candidates (Lygus.lt, 2015; Statistics Lithuania, 2015).



3.2 pav. Moterų ir vyrų dalis savivaldybių tarybose 1995-2008 m., % (Rinkimai..., 2009)

Figure 5: Proportion of men (vyrai) and women (moterys) in municipal councils in Lithuania 1995-2008 (Source: Women's Information Centre, 2009)

According to the Labour Force Survey data, in 2014 39% of all leaders (legislators, senior officers and managers) were women (Statistics Lithuania, 2015). There are fewer women than men leaders in business in all age groups. Legally, women and men are provided the same conditions and opportunities for starting business; however, there are societal barriers for women to start their own business, such as gender stereotypes and unequal participation in care economy by men and women (LSIF, 2014). In 2013, there were 33 companies listed in the Lithuanian stock exchange. Among the six listed companies (mostly energy production and infrastructure) the percentage of women in management boards was on average 10%, and in supervisory boards –

28%, making up an average of 18.75% in total. Among all of the listed Lithuanian companies the average percentage of women in supervisory boards was 22.7%, in management boards – 12.6%, with an overall percentage in management bodies being 17.4%. It is worth noting that in 15 out of 29 listed companies surveyed, there were no women in the management boards (Baltic Legal Solutions Lietuva, 2013). According to the interviewees from the Ministries of Environment, Energy, Defence and Transport and Communications, overall, there are more women than men working in these institutions, but there are mostly men in the highest decision-making posts. Women usually constitute the majority of administrative, support, service and bookkeeping staff. The fact that there are more women than men working in the institutions responsible for climate policy formation and implementation does not mean that both genders participate equally in decision-making because it depends on which positions they occupy.

4.4. Gendered access and distribution of resources

The Table 11, taken from the latest 2015 annual report by the Lithuanian Department of Statistics on men and women in Lithuania, provides the basic gender equality indicators and some information on distribution of basic resources between the genders in Lithuania, including education, income, employment and health.

Table 11. Gender Equality Indicators (Source: Statistics Lithuania, 2015:5).

GENDER EQUALITY INDICATORS¹

	2013		2014		
	moterys women	vyr'ai men	moterys women	vyr'ai men	
Vidutinė tikėtina gyvenimo trukmė, metais	79,4	68,5	79,9	69,1	Life expectancy at birth, years
Vidutinė tikėtina sveiko žmogaus gyvenimo trukmė, metais	61,6	56,8	Healthy life years
Turintys išsilavinimą (25–64 metų amžiaus), tūkst.					Educational attainment (aged 25–64), thousand
aukštąjį	299,0	193,1	310,7	206,9	Higher
aukštesnįjį	45,9	20,2	40,3	19,8	Post-secondary tertiary
specialųjį vidurinį	123,2	88,4	122,0	86,4	Special upper secondary
vidurinį su profesine kvalifikacija	136,3	206,6	130,0	198,2	Vocational upper secondary
vidurinį	173,6	154,5	170,4	151,8	General upper secondary
pagrindinį su profesine kvalifikacija	9,7	31,3	7,6	27,7	Vocational lower secondary
pagrindinį	39,8	51,1	39,5	52,3	General lower secondary
pradinį (be / su profesine kvalifikacija), neturi pradinio	4,3	8,8	4,0	7,8	Primary (with / without vocational qualification), no primary
Darbo jėgos aktyvumo lygis (15–64 metų amžiaus), %	70,3	74,7	71,6	76,0	Labour force activity rate (aged 15–64), %
Užimtumo lygis (15–64 metų amžiaus), %	62,8	64,7	64,9	66,5	Employment rate (aged 15–64), %
Nedarbo lygis (15–74 metų amžiaus), %	10,5	13,1	9,2	12,2	Unemployment rate (aged 15–74), %
Savarankiškai dirbantys asmenys, %	39,3	60,7	41,8	58,2	Self-employed persons, %
Vidutinis mėnesinis bruto darbo užmokestis, Eurais	597,7	697,6	623,7	733,6	Average gross monthly earning, EUR
Moterų ir vyrų darbo užmokesčio atotrūkis, %	12,6		13,6		Gender pay gap, %
Skurdo rizikos lygis, %	21,6	19,4	At-risk-of poverty rate, %

¹ Eurostato lyčių lygybės statistikos rodikliai.
Eurostat's Gender equality indicators.

4.4.1. Time/leisure

GEI shows that Lithuania scores pretty poorly in terms of distribution of time between genders. The gender equality experts interviewed highlight the fact that women are expected to do much larger share of work in the informal sector, in addition to increasing participation in paid employment, while men's contribution to the reproductive economy is not increasing at the same rate (semi-structured interviews with gender equality experts; Rakauskienė & Krinickienė, 2009). The indicators used for GEI are time spent caring for and education children, doing cooking and housework, participation in sporting, cultural and leisure activities and voluntary/charity activities (EIGE, 2013). Since the care sector is not accounted for in the formal market economy, and women do most of work there, their time is less appreciated than men's who participate in the paid economy generating GDP to a greater extent (Einhorn, 1993; Krinickienė, 2014; Purvaneckienė, 1998; Rakauskienė, 2005).

4.4.2. Income

According to annual earnings' statistics, the average gross monthly earnings of women made up around 85% of those of men in 2014. The gender pay gap in the whole economy in Lithuania in 2014 was 14.8%: 15.6% gap in the public and 16.4% in the private sector. The gender pay gap varied between sectors from as much as 40% in financial and insurance activities, to -0.7% in education in 2012 (Statistics Lithuania, 2014). Women on average earn less than men throughout their lives, their old age pensions are on average smaller and the likelihood of experiencing poverty in old age is higher. The term to describe this common phenomenon is "feminization of poverty". According to Statistics Lithuania (2014), the average state pension received by women was almost 20% lower than that received by men. Elderly women living on their own have been described as "the poorest of the poor" and their pensions are often not even enough to cover cost of household utilities and basic food needs (LaFont, 2001; semi-structured interviews). Due to high divorce rates, there are significantly more women-led than men-led single parent households in Lithuania, many of which are on the verge of poverty with insufficient support for combining childcare and work responsibilities (LaFont, 2001; Social Innovation Fund, 2014). The reasons for the gender pay gap are many: difficulty of reconciling work and family life, participation in part-time employment, gendered employment segregation across sectors ("glass wall" effect) and positions ("glass ceiling" effect). Even though the Law of Employment ensures equal pay for the same type of work for everyone, 58% of women who participated in the survey organized by the Lithuanian Social Innovation Fund in 2009 stated that they get less pay than men for the same type of work. The worrying fact is that women agree to work for less pay because they often feel that they have no other choice (Lithuanian Social Innovation Fund, 2014).

4.4.3. Public finance

The gender experts interviewed for this research and the literature on gender budgeting suggest that female-dominated sectors of economy are financed by the "leftover" principle, which means that resources are allocated to these sectors only after the "priority" sectors are taken care of (semi-structured interviews with gender equality experts). Chlivickas & Rakauskienė (2010) after an investigation of Lithuanian public finance distribution, came to a conclusion that in the state budget financing the priority is given to "male" sectors, such as heavy industry, defence, energy and economy, while sectors perceived as "female", such as education, healthcare, social security and culture, are financed using the finance which is left over. Rakauskienė (2005) claims that the

so-called “reproductive economics” is not considered at all in fiscal policy, and this has negative consequences for women as a social group in terms of career choices, position in the labour market, and socio-economic well-being, but also for the Lithuanian society as a whole.

4.4.4. Employment

According to the Labour Force Survey data in 2014, the activity rate of women aged 15-64 stood at 71.6%, and that of men – at 76%. The employment rate of women aged 15–64 was at 64.9%, and of men – at 66.5%. Women working part-time made up 11.1% of employed women, and around 7% of employed men worked part-time. The female unemployment rate was 9.2%, while the male - 12.2%. An interesting thing to note is that in 2014 among the unemployed women, 18.8% had a university degree, as supposed to 9.5% of men. This could be an indication that there are fewer career opportunities for educated women than men in Lithuania, causing women to emigrate and preventing them from fulfilling their full career potential (Rakauskienė, 2005). Women made up 85.5% of workforce in the sectors of human health and social work, 80.9% in accommodation and food service activities sector, and 79.3% in the education sector. Construction and transportation and storage remain the most masculine fields of activity, with 90.8% and 76.1% of male workforce respectively (Statistics Lithuania, 2015). The gap between urban and rural areas in terms of economic and social development is widening because most of qualified and educated people, especially women, move to urban areas to seek employment and education opportunities. The female unemployment rate in rural areas in 2013 was 18% and male unemployment rate was 14.8%. The persisting problems in rural areas are low levels of education of residents, reluctance to innovation and change, as well as poorly targeted rural policies (LSIF, 2014).

4.4.5. Education and science

Table 12 summarises the education levels of Lithuanian men and women, according to the 2014 labour force survey.

Table 12. Educational Attainment of Women and Men (Source: Statistics Lithuania, 2015:27).

Educational attainment of women and men

Gyventojų užimtumo statistinio tyrimo duomenys, 25–64 metų amžiaus
Labour Force Survey data, aged 25–64

	2013		2014		
	moterys <i>women</i>	vyrų <i>men</i>	moterys <i>women</i>	vyrų <i>men</i>	
Iš viso, turinčių išsilavinimą, tūkst.					Total, thousand
aukštąjį	299,0	193,1	310,7	206,9	<i>Higher</i>
aukštesnįjį	45,9	20,2	40,3	19,8	<i>Post-secondary tertiary</i>
specialųjį vidurinį	123,2	88,4	122,0	86,4	<i>Special upper secondary</i>
vidurinį su profesine kvalifikacija	136,3	206,6	130,0	198,2	<i>Vocational upper secondary</i>
vidurinį	173,6	154,5	170,4	151,8	<i>General upper secondary</i>
pagrindinį su profesine kvalifikacija	9,7	31,3	7,6	27,7	<i>Vocational lower secondary</i>
pagrindinį	39,8	51,1	39,5	52,3	<i>General lower secondary</i>
pradinį (be / su profesine kvalifikacija), neturi pradinio	4,3	8,8	4,0	7,8	<i>Primary (with / without vocational qualification), no primary</i>
1 tūkst. 25–64 metų amžiaus moterų ir vyrų tenka turinčiųjų išsilavinimą					Per 1000 women and men aged 25–64
aukštąjį	359	256	377	276	<i>Higher</i>
aukštesnįjį	55	27	49	26	<i>Post-secondary tertiary</i>
specialųjį vidurinį	148	117	148	115	<i>Special upper secondary</i>
vidurinį su profesine kvalifikacija	164	274	158	264	<i>Vocational upper secondary</i>
vidurinį	209	205	207	202	<i>General upper secondary</i>
pagrindinį su profesine kvalifikacija	12	42	9	37	<i>Vocational lower secondary</i>
pagrindinį	48	68	48	70	<i>General lower secondary</i>
pradinį (be / su profesine kvalifikacija), neturi pradinio	5	12	5	10	<i>Primary (with / without vocational qualification), no primary</i>

In 2014, 93% of women and 90% of men aged 20–24 had at least upper secondary education. 33 thousand specialists graduated from higher education institutions, of which 63% were women. Most (87%) of the teaching staff in secondary schools in 2014 were women. In colleges and vocational schools women made up 69%, at universities – 52% of the academic staff. In 2014, according to a survey on research and development (R&D), the number of women with a scientific degree engaging in R&D for government and higher education sectors was 3.9 thousand (49.5% of all researchers with a scientific degree), that of men – 4 thousand (50.5%). Male researchers with a scientific degree had a larger proportion in technical (69.8%) and physical (66.4%) sciences, while female researchers with a scientific degree – in social and sciences humanities (61% and 59.1% respectively) and other biomedical (natural) sciences (55.9%). This data is listed in Table 13 below. Most women with a scientific degree were aged 35-44 (36.4%), men – 35-44 and 55-64 (27% in each) (Statistics Lithuania, 2015).

Table 13. Men and women researchers by field of science (Source: Statistics Lithuania, 2015:38).

Researchers with a scientific degree by field of science, 2014¹

	Moterys Women		Vyrų Men		Procentais Per cent		
	iš viso total	%	iš viso total	%	moterys women	vyrų men	
Iš viso	3905	100	3976	100	49,5	50,5	Total
Humanitariniai mokslai	753	19,3	522	13,1	59,1	40,9	Humanities
Socialiniai mokslai	1186	30,4	759	19,1	61,0	39,0	Social sciences
Technologijos mokslai	403	10,3	932	23,4	30,2	69,8	Technical sciences
Fiziniai mokslai	433	11,1	855	21,5	33,6	66,4	Physical sciences
Žemės ūkio mokslai	194	4,9	156	4,0	55,4	44,6	Agricultural sciences
Biomedicinos mokslai	936	24,0	752	18,9	55,5	44,5	Biomedical sciences
medicinos mokslai	623	66,6	505	67,2	55,2	44,8	medical sciences
kiti biomedicinos (gamtos) mokslai	313	33,4	247	32,8	55,9	44,1	other biomedical (natural) sciences

In Lithuania, academia is still associated with male leadership and is often perceived as not a family-friendly profession. Since women take the larger share of family responsibilities, gender asymmetry in academia prevails with most of leading academic staff and researchers being men (Social Innovation Fund, 2014; Statistics Lithuania, 2015). Lithuania remains one of the few EU Member countries that do not have a university level study programme in gender studies. This reflects the marginalization of the issue in Lithuanian academia as well as the lack of interest by the public (Lygus.lt, 2015; semi-structured interviews). There are, however, gender studies' centres in Vilnius, Kaunas and Šiauliai.

4.4.6. Childcare

The average age of at first marriage in 2013 was 27 for women and 29.3 for men. The average age of women when giving birth to the first child was 28.8 years (Statistics Lithuania, 2014). In 2014, 17.9 thousand persons were on maternity/paternity leave until the child reaches 1 year of age, and 18.3 thousand – from 1 year of age until the child reaches 2 years of age. 13.5 thousand men (or around 1/3) to whom a child was born in 2014 went on paternity leave until the child was 1 month of age. This is a very significant increase from just 1.7% in 2009, and, according to the gender equality professionals, this change is due to the changing gender roles and successful public information campaigns. The main obstacle for more fathers to use their right to paternity leave remains the fact that men in Lithuania earn on average more than women, and most families cannot afford to lose the bigger part of family income. This is an example of how gender

gaps are intertwined and dependent on each other: in the countries with small gender pay gaps it is easier for men to take paternity leave.

4.4.7. Health

42% of women and 52% of men evaluated their health as good or very good, 36% of women evaluated their health as average, and 21% – as bad or very bad in the survey organized by the Lithuanian Department of Statistics in 2013. More than half (54%) of women and 40% of men aged 65 and older evaluated their health as bad or very bad. The male mortality rate was 2 times higher for men than for women in 2014. The female mortality rate (the number of deaths per 100 000 female population) caused by external causes of death stood at 48.5, the male one – at 190.3, of which due to suicides – at 10.2 and 56.9 respectively. 50 women and 192 men died from accidental poisoning by alcohol (Statistics Lithuania, 2015:56). Male alcoholism and suicide rates in Lithuania are among the highest in Europe and the World. Lithuania ranks second (after Greenland) in the World male suicide rates and third in the World according to alcohol consumption per capita (WHO, 2014 and 2015). At the end of 2014, 6 985 women were treated from chronic alcoholism and 39 567 men, almost sevenfold more than women (Statistics Lithuania, 2015). Male alcoholism and suicide rates in Lithuania can be traced back to the patriarchal model of society, where men are expected to succeed professionally and provide for their families, and those that fail often face psychological problems. Since it is not accepted for men in patriarchal society to be “weak” and seek help, many develop a substance abuse and severe psychological problems that cause premature deaths and illnesses (Kublickienė, 2003; semi-structured interviews with gender equality experts). Men and women in Lithuania have equal access to healthcare, however, since the larger part of elderly population that tends to have more health problems than young people are women. They are also more likely than men to seek medical help and take prevention actions and tend to evaluate their health as poorer on average than men do (Social Innovation Fund, 2014).

4.4.8. Transport

According to the survey conveyed in 2014 with a sample of 1800 Lithuanians aged 15-74, almost half of Lithuanian men own a private car (48.3%) compared to just over one fifth of women (23.1%). Women tend to use public transport more often than men: 31% of them use buses, trolleybuses and minibuses for commuting at least few times a week, compared to 21% of men

(TNS Atlas in Verslo Žinios, 2014). The findings indicate that Lithuanian men use private cars more often than women, which coincides with surveys conveyed in other developed countries, such as the U.K., Sweden and the U.S. In these countries a bigger percentage of population uses private cars, but women are usually more prone to using public transport than men (Carlsson-Kanyama & Lindén, 1999; Hamilton & Jenkins, 2000).

4.4.9. Agricultural holdings

Women constitute around 40% of registered farmers in Lithuania, according to the Ministry of Agriculture (2015). Figures 6 and 7 below show that while there are more male farmers and owner of agricultural land among the younger age groups under 40 and under 60, there are considerably more female agricultural land owners in the oldest group over 60 years of age. This is due to the differences between life expectancy of women and men, and the fact that more women survived the World War II and the Soviet occupation.

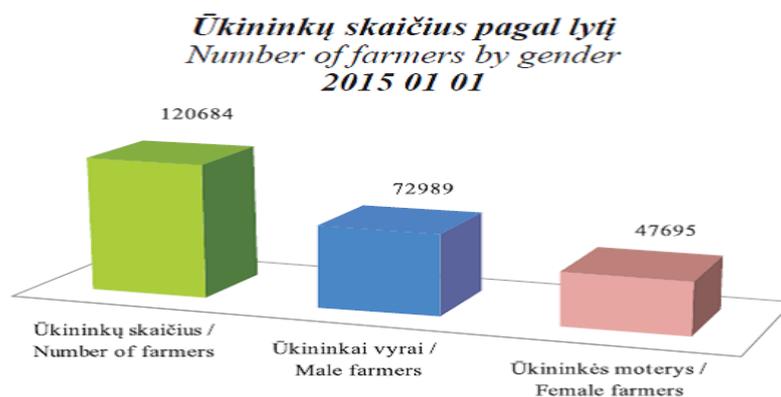


Figure 6: Number of farmers in Lithuania by gender (Source: AIRBC, 2015:20)

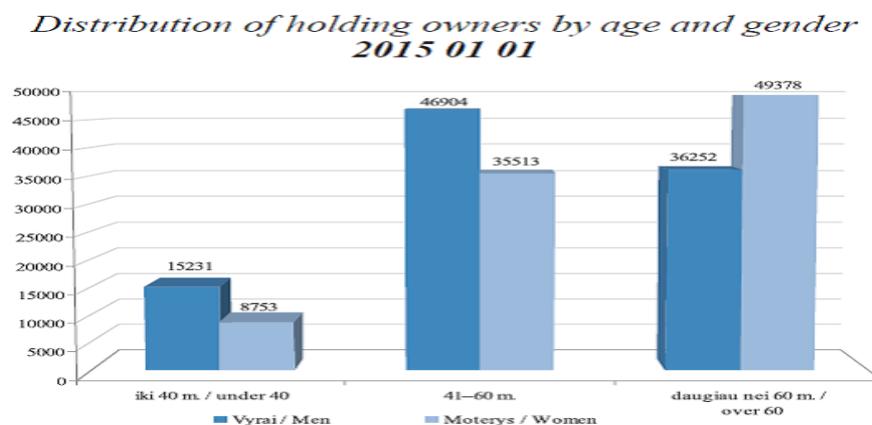


Figure 7: Distribution of agricultural holdings by age and gender in Lithuania (Source: AIRBC, 2015:11)

4.5. Norms and values related to gender equality

Norms and values are often problematic to define and quantify, and it is a relatively difficult to assess the impacts that policies may have on them. In order to structure the presentation of gender-related norms and values in Lithuania, they are classified into four broad areas, according to the original GIA framework by Verloo and Roggeband (1996), and the themes emerging from the qualitative analysis of secondary and primary data. They are: *traditional gender roles, traditional division of labour, attitudes and behaviour characteristic to men and women, and gender stereotypes.*

4.5.1. Traditional gender roles

In Lithuania, like most of the World, the domestic sphere and care work is traditionally assigned to women, while the public sphere and providing for family – to men. The scope of this research does not allow for a detailed description of the processes that caused this division, but, in the case of Lithuania, confining women to the domestic sphere is deeply rooted in patriarchal family and society model of pagan tribes, which was further reinforced by the arrival of Christianity (Gimbutas, 1991; Purvaneckienė, 1998). Childcare, domestic chores, organizing family activities and other duties in the private sphere that are usually unpaid for are assigned to women. Lithuanian men, in turn, are expected to be the main providers, responsible for most political and economic activity in the public sphere, despite the narrowing income and employment gaps between genders. The persistence of these traditional gender roles was confirmed by the survey and report “Men and Women in Lithuanian Society 2014” by the Lithuanian Social Innovation Fund. The survey shows, however, that the gender roles in Lithuanian society are slowly changing with young men and women shifting towards the symmetrical family model where both partners pursue careers while sharing domestic and financial duties equally (LSIF, 2014). Despite this tendency, the traditional gender role division persists in Lithuania, according to the interviewed gender experts and stakeholders.

4.5.2. Division of labour

Reingardienė and Tereškinas (2006) in their research on gender equality and reconciliation of work and family life conclude that traditional patriarchal attitudes prevail in the division of tasks, space and resources along gender lines in Lithuania. Public attitudes towards gendered division of labour, especially towards working life/family balance, have been very “traditional” just a decade

ago, with majority of men and women agreeing that men should be considered for jobs first, so they can provide for their families, and women should give the priority to bringing up children and household-related duties (Juraitė & Zdanevičius 2004; Daukantienė, 2006). Another important theme when talking about the gendered division of labour is the unpaid labour in the so-called “reproductive” or “care” sector. While men and women work similar amounts of time (though GEI show that women on average have less leisure time than men), their labour is valued differently, depending on whether it is paid or not. Labour in the formal economy adds to GDP and its added value can be quantified. Unpaid labour in informal economy is not accounted for in any official accounts, and therefore is not visible in the society or taken into consideration when making political decisions. It has been estimated that the unpaid labour in the “care” economy accounts for 6-8% of GDP in Lithuania annually (Krinickienė, 2014; Rakauskienė & Krinickienė 2009; Chlivickas & Rakauskienė, 2010). Unpaid work in Lithuania was very important during the Soviet era when for many the government provisions were simply not enough to sustain themselves. For example, women working long shifts in collective farms did not get enough food for their family needs, and even if the little money they got would have been enough to purchase the rest, there was often shortage of supply of goods, especially in rural areas, so they had to grow their own food in the little patches of land that they had left after the collectivization of private property. This unpaid work became a big part of local economies and still plays an important role in country’s economic life.

Overall, stereotypes about “masculine” and “feminine” professions have subsided considerably, presenting another problem: an apparent absence of stereotypes makes structural and societal barriers that men and women still face less visible. The general opinion is that there is no one stopping women and men from choosing any field of studies or employment; however, barriers, such as gendered norms and stereotypes, biological and physical differences, participation in reproductive economy and a lack of confidence are stopping both genders from choosing “non-traditional” careers for their gender (Clancy & Röhr, 2003; Daukantienė, 2006; LSIF, 2014; semi-structured interviews with gender experts).

4.5.3. Gender-based attitudes and behaviour

According to population surveys, the most important traditional values for both genders in Lithuania are family and work, family being somewhat more important for women than men across all age and education groups (Women's Information Centre, 2009). Three out of four interviewees that work in the area of gender equality in Lithuania expressed the opinion that women are generally more concerned with environmental issues and climate change than men, and that the rhetoric used in presenting these issues to the society have greater impact on women. This is because it includes concerns about the future generations, and as one of the interviewees working in the area of gender equality expressed it, "where there are women, there are children". Moreover, individual actions against climate change – recycling, nutrition and consumption choices, energy saving and others - usually take place in the domestic sphere, which is women's domain. Research in other developed countries indicate gender differences in risk perception, willingness to adapt lifestyle changes, sustainable consumption patterns, preferences to energy choices and environmental policy measures (EIGE, 2012; Schultz & Stieß, 2009).

4.5.4. Gender stereotypes

Patriarchal ideology is still an important influence on gender equality situation in Lithuania, since it is enshrined in all areas of social, economic, cultural and political life in Lithuania (Women's Information Centre, 2009). Gender stereotypes, obvious or subtle, affect people's everyday lives as well as lifetime choices like employment, education and family. Prioritizing family values over all other areas of life is characteristic of Lithuanian women (Purvaneckienė & Purvancekas, 2001). Woman's image is based on the looks and the ability to take care of her family, while man's – on financial security. It has changed somewhat with some women succeeding in business and politics, but to this day they are portrayed in the popular media as women that have achieved a lot, but, even more importantly, remain feminine and capable of taking care of their families. This sort of characteristics are rarely attributed to men leaders, who are portrayed in the media as successful professionals without the necessity to mention their family situation or looks.

The prevailing stereotype of a Lithuanian man remains the traditional patriarchal "earner/caretaker" able to support his family financially and do some repair work in the household (Kubilickienė, 2003). Men failing to fulfil this role often feel inadequate and often likely to fall into depression and substance abuse. Over the last few years since the recession in 2009, the gender

pay and unemployment gaps in Lithuania have dropped significantly, implying stronger position of women in employment and income. This, however, is due to the increase of male unemployment and decrease in men's income due to economic recession as supposed to improved conditions for women (LSIF, 2014). Men experience poverty differently from women, who have better support networks, are more accustomed to low incomes and better equipped in dealing with them in the care economy.

Women's movements in Lithuania gained momentum after the regaining of independence; however, feminist discourse is not very strong there compared to Western European countries. This can be partly explained by a negative meaning of the term "feminism" in many transition countries, where it is associated with communist ideology, radical feminism and hate of men. Other reasons include the lack of Lithuanian feminist tradition in the Soviet era, lack of centralization of the movement, and a lack of clear meaning and implementation of gender mainstreaming. Interestingly, even female advocates of equal rights and opportunities for both genders are reluctant to call themselves feminists due to negative connotations in the Lithuanian society (Stankevičius, 2012; Taljūnaitė, 2005).

4.6. Gender rights

In the policy impact area of rights, GIA framework highlights three main indicators: direct and indirect *sex discrimination*, *human rights*, such as freedom from violence and degradation, and *access to justice* in legal, political and socio-environmental environments.

4.6.1. Direct and indirect sex discrimination

Direct and indirect sex discrimination in Lithuania is forbidden by the Law on Equal Opportunities for Women and Men. It was adopted in 1998 with the purpose to "ensure the implementation of equal rights of men and women in the Lithuanian Constitution, and prohibit any discrimination on grounds of sex, particularly when it comes to family or marital status" (LRS, 1998). Since 2002, the law also regulates equality between women and men in access to and supply of goods and services. Another important piece of legislation concerning gender equality in Lithuania is the ratification of the United Nations Convention on the Elimination of Discrimination against Women in 1995, and its amendments in 2004 (LRS, 2004). As already mentioned, the principle of gender equality is reflected in most relevant Lithuanian laws. The accession to the EU gave a powerful impetus to further improvement of gender legislation. The Law on Equal Opportunities for Women

and Men was further improved: the definition of discrimination was specified introducing definitions of direct and indirect discrimination; harassment and discrimination on the grounds of sex were forbidden; provision on the burden of proof was introduced. EU directives on equality between women and men were transposed to the number of relevant laws, such as Labour Code, Law on Safety of Workers and Social Insurance, and in the areas of employment, equal pay, social security matters, protection of pregnant women etc.

Despite the fact that the legal base for gender equality is present in Lithuania, gender equality experts draw attention to the large gap between the legal base and practice. *De facto* implementation of gender equality legislation is slow, and there are inconsistencies between *de jure* and *de facto* rights, especially in the private sphere. A lot of gender equality legislation was created in order to align it with the European law without any real change taking place (Rakauskienė & Krinickienė, 2009; Taljūnaitė 2005; semi-structured interviews with gender experts). For example, almost half of women in a survey conducted in 2000s claimed that they experienced direct and indirect discrimination at their work place. Until very recently, sex discrimination was a reality in the Lithuanian labour market: jobs were advertised specifically for men or women, women did not feel as encouraged at their work place as men, and sexual harassment is still common. Older women find it particularly difficult to find employment because of gender and age discrimination (LaFont 2001; Daukantienė, 2006).

4.6.2. Human rights (violence against women)

Examples of inconsistencies between *de jure* and *de facto* rights are labour market segregation and violence against women. It seems that no one is stopping women from fulfilling their potential in any area; however, gender stereotypes, sex discrimination, unequal pay and unequal sharing of duties between family members in the care sector often pose obstacles that many women find impossible to overcome, or do so at expense of their health and family life, unlike men. The same goes for domestic violence: it is a human right to be treated with dignity; however, many women find themselves in situations where they suffer physical and emotional violence from their partners or other close family members. Many of them are unable to exercise their legal rights because the law does not protect them financially, and in some cases even physically. 5.3 thousand women and 303 men were recorded as victims of domestic violence (i.e. family members – a spouse, a cohabitant) in 2014. In the same year, 195 women and 24 men were recorded as victims of sexual abuse (Statistics Lithuania, 2015:69). Violence against women in the

immediate environment is a persistent issue in the Lithuanian society, and considerable efforts have been put to tackle this problem. It is a multi-faceted issue affecting a large part of the Lithuanian society, and its roots have many dimensions that are out of scope of this research.

4.6.3. Access to justice in legal, political and socio-economic environment

Since the legislation and practice of gender equality in Lithuania do not match up, it has been acknowledged that, in order to ensure adequate access to justice for both genders in political and socio-economic environments, additional tools are needed. Gender Impact Assessment was officially incorporated into Lithuanian national law as a gender mainstreaming tool in 2003, by the government resolution on the Methods and Procedures of Implementation of Impact Assessment. It requires all strategic policy documents that are likely to have significant impact on society's social, political and economic life to undergo GIA. Assessment is in the jurisdiction of The Ministry of Justice, the Ministry of Internal affairs and the institution of the Prime Minister of Lithuania, and is executed by experienced law drafters with few exceptions when experts are consulted (EC, 2014). However, according to two interviewees working in the area of gender equality, in reality, very few programs and projects undergo GIA in Lithuania. It is noted in the evaluation of the implementation of the EU horizontal priority "Gender Equality and Non-Discrimination" through the EU structural funds that the implementation of gender equality in Lithuania was "fragmented and indirect", and demonstrated "gender blindness" in many strategic projects, e.g. in Lithuanian Labour Exchange (PPMI, 2014). It was concluded that there is: "an overall lack of a consistent intervention logic which could connect the strategic context, objectives and results of the projects". So, even though GIA and gender mainstreaming are legal requirements in Lithuania, their *de facto* implementation is still at its infancy and not a priority. This fact can be demonstrated by the absence of gender concerns in strategic policy documents, such as the National Strategy for Climate Change Management Policy, which is the focus of this study (Krinickienė, 2014; Rakauskienė, 2005; Taljūnaitė, 2005; semi-structured interviews with gender equality experts).

4.7. Summing up on gender in Lithuania

As one of the interviewees expressed it, numbers say more than words, and in order to evaluate the gender equality situation in Lithuania it is useful to look at the statistics and indicators. The fact that Lithuania is currently in the 22nd place out of 28 EU Members indicates that the country

still has a long way to go in terms of full gender equality. While the gender pay gap in Lithuania is below the European and the World average, women still do most of unpaid work and occupy very few high decision-making positions across all sectors of the Lithuanian economy. Gender stereotypes remain rather strong, and even supporters of equal gender rights are afraid to label themselves as feminists. The legal base for gender equality is in place, but its practical application is limited. The fact that gender inequalities in political decision-making, labour market, income and division of labour, especially in the care sector, persist is very important for the policy analysis in the following chapter, which looks at how climate policy affects the present gender equality situation in Lithuania which was described here.

5. Gender Impact Assessment of Lithuanian Climate Change Mitigation Policy

5.1. Analytical framework

Now that the relevant climate change mitigation policies have been identified, an account of their progress given, and the gender equality background in Lithuania provided, the interactions between them need to be analysed to find out whether there is a conflict between the climate change mitigation and gender equality objectives, or if they are complementary. For this purpose, the two backgrounds are synthesized in order to find intersections and gender aspects of the climate change mitigation policy. Its measures are analysed through the gender lens in this chapter. The gender impacts of the policies are assessed according to the four areas of analysis within the Gender Impact Assessment framework: **participation, resources, norms and values,** and **rights**. GIA policy analysis method is guided by questions, which are answered by the person performing GIA using the available information and own judgement. For this research, eight basic questions in the four gender impact areas were formed and listed in Table 14 below.

Table 14. Guiding questions for Gender Impact Assessment.

GIA Impact Area	Guiding Questions
Participation	<ol style="list-style-type: none">1. What is the gender composition of the institutions that make the policy decisions in the given area?2. What is the gender composition of entities participating in all stages of implementation of the policy measure?
Resources	<ol style="list-style-type: none">3. Which resources are (potentially) affected by the policy measure?4. Does the policy measure (have a potential to) affect the current gendered distribution of given resources?
Norms and Values	<ol style="list-style-type: none">5. What are the gender-related norms and values in this policy area?6. Does the policy measure have the potential to affect/change these norms and values and how?
Rights	<ol style="list-style-type: none">7. What is the gender equality legislation in the policy area concerned?8. What are the aspects of the policy measure in terms of gender discrimination, factual equality between men and women, human rights, and access to justice in the legal, political or socio-economic environments?

Using these questions the policy measures are analysed with the aim of identifying direct and indirect impacts on both genders. Some policy measures in the list have not been implemented yet, while in others no gender aspects have been identified and they have been left out of the analysis.

5.2. General overview of gendered impacts of Lithuanian climate policy

European Commission (1998) suggests that GIA method should not only capture the gendered effects of policies, but also the ways in which they contribute to or contradict the overall gender equality objectives. Gender-neutral and gender-blind policies have a potential to re-enforce existing gender inequalities; therefore, in GIA not only the impacts on both genders are listed, but also the absence of positive impacts and lack of promotion of gender equality, where appropriate.

Interview and statistical data shows that although women often make up the majority of the workforce in the institutions where the climate policy decisions are made (Ministries of the Environment, Energy, Transport and Communications, Forestry Department), the highest level decision-making posts in these institutions are usually held by men. This observation coincides with the official statistics that only 39% of management positions in all sectors in Lithuania are held by women (Lithuanian Social Innovation Fund, 2014; Statistics Lithuania, 2015), and suggests that men have more influence on climate policy formation on the national level than women.

Different policy measures affect different resources, but due to the lack of gender-disaggregated data, these effects are not easily quantifiable. It is difficult to generate this type of quantitative data that would capture the gendered effects of climate change mitigation policy, firstly because many of the resources affected, such as time, space and access to childcare, are distributed between genders within households, which are usually the units of quantitative surveys. There are not many examples of intra-household surveys, so there is a large gap in data on distribution of resources within households (semi-structured interviews with gender equality experts; EIGE, 2012). An attempt was made to study differences between use of resources by gender in single person households in various European countries, and the findings suggest that one-person male households use more energy for most activities than the same type of female households (Räty & Carlsson-Kanyama, 2010).

The effects of climate change mitigation policy on norms and values are even more problematic to quantify, not only because of lack of gender-disaggregated data, but also because this impact area is not easily tangible and requires some assumptions and generalisations. Women are more prone to taking up behavioural changes towards environment because they are communicated in ways that appeal to women's spheres of responsibility, e.g. children and family health. Therefore, when introduced to renewable energy options, recycling, sustainable consumption, agricultural practices or driving, women are likely to take up these practices and use them in their everyday lives. According to studies, men are bigger risk takers than women, and they are less susceptible to environmental information campaigns (EIGE, 2012; Schultz & Stieß, 2009). On the other hand, there is more room for behavioural change among men, and, if successful, promotion of low carbon emission choices may have significant effects in promoting their environmental awareness and behaviour.

Both genders have equal legal rights in Lithuania, which are ensured by the Law of Equal Opportunities. No climate change mitigation policy violates the *de jure* rights of men or women: no such policy would have been passed in the first place. However, there are many gender imbalances in most sectors of the Lithuanian economy related to climate change mitigation. For example, there are far fewer women than men in the energy and the industry sectors. This does not necessarily imply that their legal rights are violated, but these practical imbalances show that practical gender equality in Lithuania has not been reached. The very concept of equal opportunities implies that men and women should have the same opportunities in all areas of social, economic and cultural life. The fact that some employment spheres are subjects to gross gender imbalances poses the question of whether this is due to individual preferences alone, and how these preferences are shaped. Gender equality experts argue that these imbalances are determined by underlying gender stereotypes in the society, traditional division of labour and care responsibilities, and the lack of practical implementation of the Law of Equal Opportunities (semi-structured interviews; EIGE, 2012; Aboud, 2011). In what follows, more detailed gender analysis of separate climate change mitigation policy instruments is provided.

5.3. Gender aspects of financial and economic instruments

Market-based climate mitigation instruments *per se* may be gender-neutral, but their differentiated effects on genders arise due to imbalances of the market system. Aboud (2011) suggests that the economic and financial instruments applied to climate policy worldwide have

been mostly gender-blind, and therefore further marginalize women and fail to include them in the development of economic and financial climate solutions. Free market economy itself disadvantages women because, being the principal care-takers in the unpaid care sector, they have less time than men to engage in paid activities and generate monetary added value (Cardenas in Aboud, 2011).

When assessing the gender participation in decisions and implementation of financial and economic instruments, it is useful to look at gender composition of the institutions and firms concerned. In Lithuania, heavy industrial plants that are subjects to the EU ETS have been historically managed and run by men. According to the interviewee from the Ministry of the Environment responsible for the EU ETS policy implementation in the country, mostly men come to the regular meetings of designated representatives from the industry firms concerned. This means that men make the most of technical and economic decisions related to emissions trading and efficiency, and that women generally have less decision-making power in the heavy industry sector than men, and the same is true for the energy sector. The very development of EU ETS involved very few women, and this has led to the marginalization of issues linked to their livelihoods (Schultz & Stieß, 2007).

The interviewed climate policy professional working with the EU ETS noted that a rise in the price of the ton of CO₂ by 1 EUR in the European carbon market results in 0.05% increase in the price of electricity for the consumers. This results in higher energy prices, which is known to affect poor households disproportionately (Röhr & Hemmati, 2008; Schultz & Stieß, 2007). Krinickienė (2014) in her doctoral dissertation claims that in the times of economic downturn or crisis aftermath and during macro-economic stabilisation process women tend to take the role of buffer: in order to compensate for the lost household income due to increased taxes, decreased public spending and rises utility prices (that make up a significant part of household expenditure in Lithuania) they increase their share of unpaid work in the informal sector.

5.4. Gender-specific impacts of policy measures in the field of energy

The energy sector in Lithuania has been historically led by men. It is a general perception, which was confirmed by the respondent from the Ministry of Energy: 43 out of all 79 employees of the Ministry are female, but out of the 5 main decision-makers (the minister, 3 vice-ministers and the chancellor) only 1 is female. Energy efficiency measures in privately-owned buildings are decided

on at the national level, where the most of decision-makers are male. However, when implementing these measures municipalities, homeowners' communities and individual households play crucial roles because it is the local institutions and property owners who make the decisions about renovations in their homes. Generally, women are more active in their local home-owners' communities than men and they tend to be more active in mobilising them (semi-structured interviews, Röhr, 2006).

It is the poorer and older part of the Lithuanian population that usually resides in the Soviet-built energy-inefficient buildings that are subjects to the climate change mitigation measures related to energy efficiency improvement. Many of the residents are pensioners and low income earners. Since women in Lithuania live on average 11 years longer than men and earn on average 15% less, there are likely to be more female owners of these energy inefficient apartments, and their participation in energy efficiency programmes is required (Statistics Lithuania, 2015). In fact, the participation is strongly encouraged by the state, e.g. by taking away energy subsidies from those who refuse to renovate their apartments even with the subsidised loans provided. These economic incentives are not always welcomed by the actors concerned, and are likely to affect more women than men.

When it comes to saving energy in households and purchasing energy-efficient household equipment, women generally do more of the former, and men – the latter (OECD, 2008; Schultz & Stieß, 2009). Men are still considered to be mainly responsible for large technical purchases, such as heating boilers, cars and washing machines. Women, on the other hand, take care of everyday activities in households and make the most of everyday consumption decisions. There is no accessible quantitative data that can confirm this for Lithuania, but studies show that women are responsible for around 80% of consumption decisions in comparable OECD countries (OECD, 2008).

RES development-related measures consist in subsidies and feed-in-tariffs. Solar panels are the most popular RES installations among individual households, while wind turbine installations tend to be bigger and more market-oriented. According to the interviewees that work in the RES sector, there have been more men applying for RES development subsidies, especially among the big RES producers, while women are more often involved in making decisions about installations of RES plants in private homes. Since most of applicants and beneficiaries from the subsidies are men, it

could be stated that the gender-neutral approach to the subsidy distribution deepens the gender imbalances in the sector and further excludes women from the RES development in Lithuania.

Burning of biofuel, mainly firewood and wood waste, for heating is also counted as RES in Lithuania. It is a traditional heating fuel accounting for around 40% of total household energy consumption in the country (Statistics Lithuania, 2011). Traditionally, it is a man's responsibility to provide firewood, and women's job to store and use it in a household. From the semi-structured interviews with climate professionals and stakeholders it is clear that providers of biofuels are almost only men, while it is common for both men and women make decisions about purchasing, storing and using of biofuels in individual households. Gender-neutral approach to RES development in the area of biofuels is likely to contribute to the *status quo*.

Energy efficiency measures in the industry sector are beneficial to industrial companies because they enable them to improve their production efficiency, competitiveness, and public image. Since the most of stakeholders within the industry sector are men, they are likely to gain the most from the energy efficiency measures. This may further widen the income gap between men and women in Lithuania. Energy efficiency measures in public buildings, such as municipalities, educational institutions and government offices, directly affect more women than men because there are more of women working in the public sector institutions. Firstly, lower heating bills result in additional income (yet the real effects depend on how those savings are spent). Secondly, low-energy-use buildings that offer good lighting and natural ventilation are known promote health of those living and working in these buildings – in the case of Lithuania – mostly women. Similarly, cleaner production processes in industry and energy sectors reduce negative impacts on the health of employees, which are mostly men (WHO, 2015a).

Energy efficiency measures in private housing affect the part of the population with low incomes to a greater extent than those with high incomes because they are more likely to reside in energy-inefficient apartment blocks. Women are on average poorer and tend to reside in this type of housing more often than men. Despite large state subsidies, significant amounts of money (relative to the average income of the apartment owners) are required for renovation. Some of the interviewed stakeholders noted that they simply do not have the resources necessary for renovation, and that taking away their energy subsidies will negatively impact their quality of life. It could therefore be concluded that since women make up a larger part of population affected by this measure, their income is more likely to be affected negatively by the energy efficiency

measures than that of men. On the other hand, renovated buildings enable residents to save on heating and electricity bills, and this has positive effects on the income of those who are responsible for paying utility bills (usually women). Reducing household energy consumption usually falls under the responsibility of those who do the most of the domestic work – in Lithuania that is currently women. Some energy efficiency measures, such as purchasing new electric equipment, may save time and effort of its users, while others, like using less energy for the same type of work, may increase time-use and labour (e.g. using lower temperatures for washing and drying laundry may increase the time spent on doing these chores). If women remain responsible for the most of household work, their time use will be more affected by energy efficiency measures in this area than that of men.

RES subsidies are not equally distributed between genders. According to the interviewee from the Ministry of Energy, more men than women apply for RES subsidies, and they tend to apply for bigger scale projects. This means that, generally, men enjoy a greater access and benefits from the RES subsidies. The financial support for RES is paid for by energy consumers and that is reflected in prices. Since industrial companies are among the largest energy users, and men make up the majority of the stakeholders in this sector, they will be more affected by energy price fluctuations than women in terms of production costs and profits. Research shows (Himmelweit, 2002) and gender equality professionals interviewed confirm that when prices of utilities, including energy, rise, those responsible for the care economy sector tend to compensate for this reduction in income at the cost of their own consumption and rest. This affects their health, quality of participation in paid employment and results in reduced opportunities for self-fulfilment. Who takes the responsibility for unpaid care work does not depend on gender, but on socially constructed norms. An increase in energy price is likely to affect more women than men, firstly, because utility bills fall under jurisdiction of the domestic sphere, and, secondly, because women make up the bigger part of the low-income population, to whom utility bills account for a large fraction of total income. The fact that the part of the population with the lowest incomes is disproportionately affected by climate policy measures, means that it pays a bigger price for climate change mitigation than the rest of the population, which is better-off financially. This contradicts the very notion of social justice. Resistance from the owners of apartments that are subjects to subsidised home renovation implies that the efficiency measures do not suit their needs, and that they believe that they will lose out in any case. It could be looked at as a sort of infringement of the freedom of choice when making decisions about one's private property.

Research in developed countries shows that men's and women's preferences for the types of energy production differ significantly, men being more in favour of "hard" energy sources, such as nuclear and fossil fuels, and women – more in favour of "soft" energy sources, such as renewables. Moreover, women tend to be more concerned about the safety aspects of nuclear energy production, and therefore to oppose it more often than men (Clancy & Röhr, 2003). Climate policy measures aimed at the promotion of RES development are targeted at energy producers and home owners that want to benefit from RES subsidies. These gender-neutral policy measures are not likely to change the gender composition of the sector. Women are more involved in using RES, such as biomass and solar panels, in their homes, while men constitute the majority of big scale RES producers (semi-structured interview with employee from the Ministry of Energy). There may be no legal barriers for women to become active RES developers, but there are less apparent reasons for their limited participation, e.g. gender stereotyping and dominant masculine culture in the sector that makes women feel unwelcome and insecure. Germany's experience shows that women often feel that they do not fit in the male-dominated RES sector, and chose to create female cooperatives that develop and produce energy from RES (Clancy & Röhr, 2003). The fact that the majority of those who benefit from the RES subsidies are men could mean that women are simply less interested in RES development, or that there are some barriers for them to access the subsidies, which are not reflected in legislation. Further unequal distribution of RES support among genders is likely to let these barriers persist or grow.

5.5. Gender aspects of climate policy related to transport

Similarly to energy, the Lithuanian transport sector is considered to be a male domain. The respondent from the Ministry of Transport and Communications admitted that although there are more women than men working at the Ministry, most important decisions are made by men in the top positions. The most of the strategic state-owned transport enterprises, such as the Lithuanian Railways and the State Road Transport Inspectorate, are also managed mostly by men. One of the climate change mitigation policy measures in the transport sector mentioned in the 2012 Strategy is promotion of sustainable driving. There are currently around 1.5 million drivers in Lithuania, of whom around 40% are women and 60% are men. On average, there are now more women than men seeking driver's license in Lithuania (Regitra, 2013). Studies show that women are in general more susceptible to environmental education and are more willing to adopt new environmentally sound personal habits than men (OECD, 2008; EIGE, 2012; Schultz & Stieß, 2009). Therefore, it

could be stated that educating new drivers about sustainable driving affect more women, since there are more women than men seeking driver's license, and it is likely to have more impact on women because they are more susceptible to environmental education and adopting environmentally sound behaviour. Those who practice sustainable driving receive benefits in forms of reduced expenditure on fuel and increased driving safety.

Another important step in reducing GHG emissions from the transport sector was the establishment of two new intermodal logistics' centres in Vilnius and Kaunas. The two centres are managed by the state-owned Lithuanian Railways. All five members of its senior management team are men, there are also mostly men working in the transport and logistics sector (LitRail, 2015; semi-structured interview with employee from the Ministry of Transport and Communications). That allows for an assumption that more men than women are directly involved in the decision-making about intermodal and multimodal transport development in Lithuania and transport policy implementation in this area. Gender-neutral approach here is likely to further exclude women from these processes. The same could be said about improving transport infrastructure and promoting of clean urban logistics. Projects that involve development of transport infrastructure, e.g. building bypasses around the biggest cities, electrification of railways, etc., are mostly managed by men, since this area of economy is historically male-dominated, as it used to be physical labour-intensive. When it comes to the user's side, transport infrastructure improvements benefit all members of society. However, if we take into consideration the facts that 60% of drivers in Lithuania are men and that women are more active users of public transport, genders are affected in different ways (Rait Group, 2012; Verslo Žinios, 2014).

The management boards of the entities responsible for policy decisions about public and alternative means of transportation are consist mostly of men. For example, all seats in the management boards of strategic public transport companies, such as Lithuanian Railways and Vilnius Public Transport, are occupied by men; almost all senior managing posts of the Lithuanian National Road Carriers' Association are also held by men, with a few women occupying leading positions in some regional offices, divisions of finance, public relations and administrative matters (LitRail, 2015; Vilnius Public Transport, 2015; LINAFA, 2015). The directors of the transport departments responsible for urban transport infrastructure planning in the major cities of Vilnius, Kaunas and Klaipėda are also men, while women take secondary roles and account for around half

of the junior level staff. The policy measures for increasing the number of energy-efficient vehicles that use alternative fuels generally consist in purchasing modern eco-friendly buses, trolleybuses and trains, promoting these vehicles in the market and increasing the production of biofuels. These instruments are decided on and implemented by the Ministries of Transport and Communication and Energy, where the most important decisions are made and implemented by men, as was already discussed. Lithuanian transport sector is a subject to vertical and horizontal gendered employment segregation. The small share of women in the management boards of the biggest transport companies implies indirect gender discrimination in the sector and the lack of practical implementation of the gender equality and equal opportunities legislation in Lithuania. This has negative effects on overall gender equality and the effectiveness of climate policy in the transport sector.

Intermodal and multimodal transportation modes, besides reducing GHG emissions, are known to save costs, increase security, flexibility and reliability (DRT International, 2015). Overall, this has positive effects on transportation efficiency and costs. Since the two intermodal logistics centres in Vilnius and Kaunas are managed by Lithuanian Railways, where most of stakeholders are men, the direct positive effects will be felt by more men than women. Moreover, their establishment created employment opportunities, the most of which were occupied by men, deepening horizontal labour segregation even further. The same goes for other climate change mitigation policy measures in other areas of transport, e.g. improvement of transport infrastructure, increasing efficiency and use of alternative fuels, because the research, expertise and skills required in this area are mostly held by men.

Transport infrastructure improvements and increased energy efficiency in the transport sector benefit both genders, but in different ways. Men may benefit more from reduced traffic congestion and reduced driving time, while more women are likely to benefit from increased convenience of the public transport system that also saves them time and income. Both genders benefit from reduced air pollution in terms of health. However, since men on average travel more and longer distances, they are likely to benefit from development of transport infrastructure and efficiency more than women (Carlsson-Kanyama & Lindén, 1999). The connection between employment and transport options have been made by those studying gender aspects of transport because transport options can impact person's ability to take up employment. This effect is more significant for women because their place of residence is often determined by the workplace of

their male partner, and it is common that women lose employment bargaining position after having children due to restricted time and transport options (Hamilton, 2002).

Since women use public transport more often than men, its expansion is likely to have more direct effects on their time use. Faster and more accessible transport may save women's time, so they have more time for rest and self-fulfilment. On the other hand, if the price of using public transport increases, it will have negative effects on their incomes, which is comparable to the effects of increase in utility prices because it hits the care sector, for which women are responsible (semi-structured interviews with gender equality professionals; Himmelweit, 2002; Rakauskienė & Krinickienė, 2009). The public transportation fares in Lithuania have been steadily increasing since the re-establishment of independence. This has negatively affected the part of population which uses public transport – low and medium income earners (Rait Group, 2012). However, according to the Ministry of Environment, the improvements of public transportation system are paid for from the Special Fund for Climate Change and other financial mechanisms, so buying eco-friendly buses and improving service should not affect public transport fares. The price changes are likely to be determined by other factors, such as price of fuel and inflation.

Switching away from using fossil fuel-powered private transport to walking, cycling and using public transport increases physical activity rate of commuters and provides associated health benefits. Who gets the benefits associated with alternative transportation depends on who takes up these practices: women are known to travel more by public transportation and spend more time outside while commuting, so reduced air pollution will benefit them more. On the other hand, since more men than women currently commute by car, there is more room for them to change their travel patterns to more sustainable ones, and getting the respective health effects from it.

The fact that men drive more and women use public transportation more often in Lithuania has to do with the differences in incomes as well as the norms about which mode of transport is more “masculine” or “feminine”. For example, gender equality experts interviewed for this study suggest that it is not only the income that determines men's higher rate of private car ownership, but also its association with status and masculinity. It is widely known that automobiles are a popular hobby among men around the World, and Lithuania is not an exception. In many cases, a man can still be judged by his car, and it is often a statement of a man's status rather than just means to get around by. The qualitative data from the semi-structured interviews suggests that

the current gendered division between uses of different means of transportation are mostly due to the differences in access to resources, such as income, time, knowledge and vehicle ownership. If promotion of alternative means of transportation would affect people's mentality, so that both men and women use car less for environmental rather than financial reasons, it would have a positive on gender roles and stereotypes related to traditional "masculine" and "feminine" means of transportation. As it has already happened in some Western societies, it may become socially accepted and encouraged to use public transportation, walk and cycle because of environmental, health and financial reasons as well as peer pressure. This way, it becomes a new "status thing".

5.6. Gender aspects of climate change mitigation policy in the industry sector

Heavy industry installations that are subjects to the EU ETS historically have been managed by men. This means that men make most of technical and economic decisions related to EU ETS emissions trading and efficiency, and that women have less influence in the industry sector compared to them. Moreover, men make up the majority of the workforce in the EU ETS sectors, and therefore are affected by changes in them to a greater extent than women. If men continue to make the most of the energy efficiency-related decisions in the industry sector, and if measures for increased participation of women are not introduced, this may further exacerbate gender imbalances in this sector of economy.

Transition to low carbon technologies is a rather abstract measure, which is difficult to quantify because, unlike in the case of EU ETS, there are no strictly defined objectives. The Strategy 2012 states two goals of "achieving efficient and cost-effective reduction of GHG emissions in industrial installations" (short term) and "implementing eco-innovative measures increasing energy efficiency and using RES in order to achieve cost-effective GHG emissions reduction in non-ETS industrial installations" (long-term). Decisions related to the transition to low carbon and energy-efficient technologies in the industry sector are made at the Ministries of Environment, Energy and Economy, where the majority of leading positions are occupied by men, and the majority of junior managers and support staff are women.

Low carbon technology development is largely based on physical and technical sciences, where (in Lithuania) men constitute 69.8% and 66.4% respectively, and there are also more men than women leaders of scientific research groups (Statistics Lithuania, 2015; semi-structured interviews). Therefore, it can be assumed that men have more impact on research and

development of low carbon technologies in Lithuania than women. Gender imbalances in the industry sector and low carbon R&D allows for an assumption that men are more active participants in all the processes from research to decision-making and implementation than women, simply because there are more of them.

Participation of industrial companies in the EU ETS have effects (though modest) on added value, employment and profit margins (Abrell et al., 2011). The effects depend on the initial distribution of emission permits and a variety of other factors, with some firms benefiting and some losing out. Since the majority of management boards and employees of the firms concerned are men, they experience more direct effects from GHG emission trading than women. Among the resources affected are income, employment opportunities, technological advance, new business opportunities and profits. All members of society benefit from cleaner industrial production; however some groups are more directly affected than others. Namely there are more male stakeholders in the industry sector than women, therefore, they will benefit or lose more from the transition. One of the more tangible effects the is felt by workers in industry sector are the immediate health benefits from cleaner production technologies. Another “by-product” of the transition to low-carbon economy is creation of “green jobs”. According to the European Commission (2015) the EU climate policy facilitates fast development of “green” sectors, such as renewable energy, sustainable transport technologies and low carbon technology development, and creates jobs in the fields of engineering, construction and research and development. It has been shown that these sectors in Lithuania are male-dominated, so the new jobs mainly go to men, if horizontal gendered employment segregation persists.

Gendered employment segregation is a symptom of gendered stereotypes related to career patterns, where there are typical men’s and women’s professions. Male participation and expertise is dominant in the Lithuanian industry sector because of the traditional gendered division of labour in employment sectors. Women are more willing to accept environmental measures and change their behaviour than men, yet they constitute a minority in industry. However, norms and values are not static things, and transition to low carbon production and positive effects associated with it may increase awareness and involvement of men in climate change debate. Gender equality professionals interviewed for this research suggest that environmental objectives could potentially benefit not only from involving more environmentally aware women into male-dominated sectors of economy, but also shifting attitudes of both genders towards environmental and equality issues. The dominant neoliberal paradigm associated

with power, money and economic liberty is responsible for a large part of environmental problems and gender inequalities. A paradigm shift from “masculine” towards more “feminine” values would be a welcome development in the climate policy environment. As one of the gender equality experts interviewed expressed it, “it is not about women becoming like men or vice versa; it is about breaking stereotypes and changing societal norms and behaviour that contradict equity and environmental objectives” (semi-structured interviews with gender equality experts).

We can see that the process of transition to low carbon technologies in Lithuanian industry sector is led by men, leaving women to “deal with the consequences” rather than actively participate in all processes related to the transition. This is mainly due to the lack of interest of women themselves in participating, yet this lack must be questioned, as it is a result of many simultaneous historical and societal processes and gender stereotypes, which are supposed to be abolished with the help of legal instruments, such as equal opportunities law and gender mainstreaming. So, the lack of gender mainstreaming in policies and projects in the industry sector has a potential to deepen the gender division between the economic sectors in Lithuania.

5.7. Gender aspects of waste management policy

The director of the Waste Management Department and at the Ministry of the Environment and around one third of its employees are men (Ministry of Environment, 2015a). The waste management sector is less associated with masculine leadership than energy, transport and industry sector, so participation in decision-making is more gender-balanced in this sector. Since the measures in the waste management mainly consist in installation of recycling stations, sludge processing and waste incineration plants, their implementation involves building and construction companies, where the majority of employees are men – around 90% in 2014 (Statistics Lithuania, 2015). The part of waste management policy measures that involve most women is utilising the recycling stations and other activities associated with it. Waste sorting falls under the responsibility of women, since it is an everyday household chore in the domestic domain. Therefore, there are more women than men at the receiving end of the policy measures in the area of waste management in Lithuania. Other climate change mitigation policy measures in this area, namely the installation of sludge processing and waste incineration plants, are also decided on at the Department of Waste Management, where most of employees are women; yet the technical decisions and construction of plants are managed mostly by men in the construction sector.

Since women are usually responsible for managing and sorting household waste in Lithuania, it affects their time-use more than that of men (semi-structured interviews with gender equality professionals and stakeholders). Recycling can be labour-, time- and space- intensive, so if women continue to hold the main responsibilities waste sorting, these resources will be disproportionately affected between genders. Transport also comes into picture when discussing the impacts of waste management policy, since the recycling stations in question are distributed all across Lithuania, and their locations require that most of waste is transported from households to them. Since more men than women have access to private vehicles in Lithuania, they may be required to transport waste to recycling stations, which would have impacts on their time. Not having access to a private vehicle was named as an obstacle for sorting waste in the interviews. There is also an impact on the use of space within households associated with recycling that affects genders differently. When giving reasons for not sorting waste, women mention a lack of space (semi-structured interviews with stakeholders). That shows that recycling affects distribution of space between genders because women, on average, spend more time in the kitchen, where most of the household waste sorting takes place.

In 2012, there were 110 registered providers of municipal waste collection services, and 102 complementary municipal waste management systems operated by individual municipalities (Kuisytė, 2012). The scope of this research does not allow for a detailed examination of gender representation in these enterprises; however, historically, most manual jobs in Lithuania have been occupied by men with low education levels. The expansion of waste management system mostly creates manual jobs for them.

Although the tax on waste that starts to be charged in 2016 is not listed among the measures targeted at climate change, it is likely to have an effect on overall climate change mitigation policy outcomes, even if just by decreasing the amount of waste in landfills. If disposal of unsorted waste in landfills is not reduced, the price of waste management services for households may double, affecting income of their users (LRS, 2014). Since around 97% of city dwellers and 79% of inhabitants of small towns and rural areas were using these services in 2012 (Kusaitė, 2012) and the number has increased since, price changes are likely to affect most of the Lithuanian population. Waste management services fall under the classification of utilities, and increase in their price has similar effects on household income as that of heating and energy, having significant effects on the the care sector.

There is a whole body of literature related to gender aspects of recycling (EIGE 2012; Schultz & Stieß, 2009). It is a general pattern that women are expected to put in more work in environmental household activities because of their assumed greater affinity for environment and the fact that they do most of unpaid work in the reproductive economies. Public education and information campaigns regarding waste management in households is seen by some researchers as a displacement of environmental problems, its causes and solutions, since by some estimations in the developed countries, it accounts for as little as 10% of all waste (Schultz & Stieß, 2009). According to the Lithuanian Environment Protection Agency's data, municipal waste accounted for 18% of total collected waste in Lithuania in 2014 (LEPA, 2015b), so the impact of sorting waste in individual households in the country is also questionable and could be considered as a displacement of the waste problem that puts an additional burden on women in the care sector.

5.8. Gender aspects of climate policy in agriculture

Lithuanian Minister of Agriculture is a woman as well as the chancellor and one out of four vice-ministers, so the senior management of the institution seems to be gender-balanced. According to Statistics Lithuania (2015), women and men make up 37.5% and 62.5% respectively in sectors of agriculture, forestry and fishing combined. Women make up more than a half of residents of rural areas, 40% of registered farmers, and 60% of rural communities' business owners (Ministry of Agriculture, 2015). The World's average is around 43% women workers in agriculture (FAO, 2015). The common model of an agricultural unit in Lithuania is a family-based farm where men and women work alongside each other. The gender equality professionals interviewed suggest that in Lithuanian agricultural sector women usually take a role secondary to men, being responsible for the household and assisting in farms, while men remain the main managers making the strategic decisions. Women's involvement is problematic to quantify because it depends on each individual case and factors, such as size of a farm, family situation, etc. Unlike concrete climate change mitigation policy measures with clear targets in the areas of energy and industry, agricultural policy is more complex and holistic with many intertwined objectives. Therefore, policy measures in the agricultural sector are not easily quantifiable, and neither are the gender relations within it.

As the climate change mitigation policy measures in the field of agriculture are rather broad and implemented over a long-term, their short-term effects are problematic to quantify. Among the resources affected are agricultural production, income, time-use, environmental and human health. Educational courses on sustainable agriculture are available for those interested, and basic

education on sustainable farming is provided and even compulsory for farmers applying for the EU structural support. How this resource is distributed among genders depends on who applies for financial support and participates in the training programmes. Unfortunately, gender disaggregated data in this area is not available. Research on gender and environmental information campaigns suggests women are more likely to take up sustainable agricultural practices than men (Sachs, 1996; semi-structured interviews). Despite the dominance of the traditional male-led model of farm, women are becoming increasingly pro-active and innovative farmers, entrepreneurs and leaders of their local rural communities (Ministry of Agriculture, 2015). Although there is no available gender-disaggregated data on participation in sustainable agricultural practices, e.g. crop rotation and organic farming, the general conception is that both genders participate in these practices, either in order to get the EU and state support, or for environmental and health concerns.

It is generally accepted in Lithuania that women and men are both responsible for agricultural production. Historically, they are responsible for different tasks, but help each other out, when needed. Subsistence farming, which has been an important part of Lithuanian culture and economy during the last half of century is mostly managed by women through unpaid labour, while men do more of “professional farming” for financial gains. The promotion of sustainable agricultural practices is oriented at bigger farms that sell their agricultural produce. If the majority of registered farmers continue to be men, as shown in Figure 6 in the previous chapter, the climate change mitigation policy measures in agricultural sector are likely to affect them to a greater extent when applying for structural funds and attending training courses, introducing them to sustainable agricultural practices that they implement in their farms together with women. If men became more environmentally aware due to these practices, the gap between gender-specific attitudes towards environment has a potential to narrow – men adopt values that are typically assigned to women. These include environmental pollution and health concerns, concerns about health and interests of the future generations.

Figure 7 in the previous chapter shows that there are more men than women owners of agricultural holdings in age groups under 60, but more women holding owners in the age group above 60. That has to do with the fact that women on average live longer than men, and that more older women were entitled to property rights after the re-establishment of independence because their higher survival rates during the World War II and Soviet occupation. It is often the

case that agricultural holdings of a married couple are managed and owned jointly. It depends on each individual case, but it has been noted by those working on women's issues that substance abuse, domestic violence and deeply rooted patriarchy in rural communities often put rural women in a difficult position. They feel that they are unable to leave because they simply have nowhere to go, as their property and livelihoods are joined with their partners' (Social Innovation Fund, 2004; semi-structured interviews with gender equality experts). Climate change mitigation policy in the field of agriculture does not violate gender equality rights directly, but the complex gender equality situation in rural areas needs to be taken into consideration, so that unintended indirect effects are avoided.

5.9. Gender aspects of climate policy in the area of forestry

Forestry is traditionally a "masculine" area of economy, and this fact can be traced back to the days when it was a physically demanding sector, requiring being away from home for long periods of time, which used to be unthinkable for a family woman. This conception persists, even though the physical labour intensity in the forestry sector has decreased considerably. The interviewee from the Department of Forests identified two most common types of applicants for the EU structural funds for afforestation projects in Lithuania. The first type is demographically older couples/families, "nature lovers" that have some spare time and want to plant some forest on their unused land. Scales of these projects tend to be relatively small; the gender composition of applicants is more or less balanced. The second type of applicant is a young or middle-aged businessman with a considerably larger afforestation project that makes sure the project pays off. This type of applicant usually buys all or additional land and hires workers. So, even though both men and women participate in afforestation, they do so on different scales and, in general, for different purposes. Since forest planting is a physical labour-intensive activity, the hired workers are mostly men. According to the interviewee from the Department of Forests, women in Lithuania have property rights to more forest than men do, yet the level of participation in afforestation projects depends on each individual case. Most applicants of the second category are male. This implies that although women have more property rights to forests than men in Lithuania, men, on average, get more subsidies for afforestation projects.

The decisions about how much forest waste should be collected and processed for biofuels are made at the Department of Forests, where the majority of decisions are made by men, while there are more women in lower management levels of the institution. Responsible for the collection of

forest waste are Lithuanian forest enterprises, where the majority of employees are male. Afforestation and burning of forest waste as such does not seem to have a lot of gender relevance, however, if gender imbalances in the sector persist, women will continue being left out of this part of the climate policy. The interviewee from the Department of Forests implied that the gender norms in the sector are changing, e.g. the first women director of a forest enterprise was appointed in 2014, despite the obvious dissatisfaction of her male peers, especially the representatives of older generations. According to the interviewee, this would not have been possible just a decade ago – this shows how perceptions and norms about gender change with time and generations. This change, however, is not promoted in the current climate policy in Lithuania. Since women have more land property rights in Lithuania and they are less active than men in applying for funds for afforestation projects, one could say that there is a gap there between *de facto* and *de jure* rights of women here. Moreover, the fact that the first female director of a forest enterprise was appointed in 2014 and that she faced a harsh resistance by the majority of other directors, indicates sex discrimination and unfavourable conditions for women aspiring to make a career in forestry.

Table 15. Summary of GIA policy analysis results.

Climate change policy measures	Gender impact areas			
	Participation	Resources	Norms and Values	Rights
Finance	Women further excluded due to low participation rate in market economy. Low participation of women in EU ETS and lack of women's perspective.	<i>Time</i> : more work in unpaid sector to compensate for income loss. <i>Income</i> : disproportionate effects on those with low incomes, often women-led poor households.	EU ETS sectors- man's domain; further exclusion of women.	Lack of gender mainstreaming in economics and finance- women and their issues ignored.
Energy	Men dominate high level decision-making. Low participation of women in the energy sector. More women residing in energy-inefficient buildings that require renovation. Women make more energy-related consumption choices.	<i>Time</i> : energy saving in households may be time-consuming for women. <i>RES subsidies</i> : mostly go to men. <i>Health</i> : more women benefit from efficiency measures in public buildings; more men in the industry sector. <i>Income</i> : increased energy prices affect genders disproportionately. <i>Income</i> : renovations too expensive for those with modest economic means (more often women). <i>Income</i> : reduced profits of industrial firms affect men disproportionately.	Failure to challenge gender roles and stereotypes. Deepening gendered employment segregation.	Poor women bear disproportionate negative effects. Informal barriers for women's participation in relevant sectors and access to RES subsidies.
Transport	Further exclusion of women from strategic decisions and senior management in the transport sector. More women than men introduced to sustainable driving. Mostly men participating in implementation.	<i>Income</i> : more women introduced to sustainable driving- reduced fuel costs. <i>New employment opportunities</i> : mostly go to men. <i>Time and income</i> : improved transport infrastructure is likely to benefit more men. <i>Time and income</i> : improved public transport saves women's time, but increased price of public transportation negatively affects income. <i>Health</i> : more potential health benefits for men from altering transport means.	Failure to address the norms related to "feminine" and "masculine" transport.	Further gendered employment segregation. Lack of gender responsiveness in policies.
Industry	Women further excluded from strategic and technical decisions in the sector.	<i>Income, employment and business opportunities, technological advance, health</i> : men benefit more because they constitute the	Women's environmental perspectives missing in the sector.	Further horizontal gendered employment segregation. Lack of gender

		majority in the sector.	Introducing men to green technologies can potentially shift their attitudes.	mainstreaming in the industry sector.
Waste	Technical and construction decisions are mostly made by men. Waste sorting in households is mostly done by women.	<i>Labour, time and space:</i> waste sorting affect more women in the domestic sphere. <i>Employment opportunities:</i> most of new manual jobs in waste management sector go to men. <i>Income:</i> potential rise in waste management prices would disproportionally affect women.	Promotion of waste sorting and recycling has a greater appeal to women; they also do the most of household work.	
Agriculture	Participation in the agricultural sector is more or less gender-balanced or difficult to quantify. Men tend to be the main decision-makers in family-based farms, but work together with women.	<i>Agricultural production, income, time-use, environmental and human health:</i> no data on how these resources are distributed between genders.	Gendered division of labour in agriculture unchallenged. Potential for men to adopt “feminine” values through sustainable farming.	Lack of gender considerations in agricultural policy may exacerbate the problems of rural women.
Forestry	Mostly men in the decision-making posts at the Department of Forests. Forestry is a male-dominated sector.	Afforestation grants: for bigger scale projects go mostly to men; for smaller scale more or less equally distributed between genders.	Historical exclusion of women from the forestry sector is not challenged.	Unfavourable conditions for women to pursue a career in the sector.

6. Conclusions and Policy Recommendations

The policy analysis of climate policy above reveals some gender-dependent impacts in all GIA impact areas: participation, resources, norms and values and rights. Most of the gendered effects arise not because of the policies themselves, but because of the pre-existing gender inequalities. The findings of this research confirm the results of previous studies that suggest gender relevance of climate change mitigation policy and the need for gender analysis of climate policy instruments, not only in the developing, but also in the developed countries (Clancy & Röhr, 2003; EIGE, 2012; Röhr, 2006). Improving the overall gender equality situation in Lithuania is likely to have a positive impact on the effectiveness of climate policy. However, since the path towards the full gender equality is known to be gradual and it has not been reached in any country so far, making policies more gender-responsive would be a welcome step forward.

The gender aspects of climate change mitigation policy that reoccur throughout this policy analysis coincide with the most pronounced gender inequalities in Lithuania. Firstly, unequal participation of both genders in decision-making is characteristic to most areas of economy, including the sectors that are central to climate policy. This aspect means that women are underrepresented or excluded from decision-making and implementation of climate policy. Secondly, men and women in Lithuania do not enjoy the same access to resources. Gender Equality Index indicates that Lithuanian women have less free time than men, their input in the care sector is not accounted for; they have weaker bargaining position in the labour market due to family commitments and earn less on average. Men, on the other hand, suffer from being overworked, more often fall into substance abuse and live on average 11 years shorter than women. This aspect means that climate policy measures that affect the resources of time, employment opportunities, income, health and others have differentiated effects on men and women. Thirdly, gender-based societal norms determine by a big part the differentiated impacts of policies on men and women. The aforementioned unequal distribution of resources is determined by gender stereotypes and norms. Division of labour along the gender lines also determines how men and women are affected: if a policy measure, e.g. requirement to sort household waste, increases the workload in the domestic sphere, women bear the larger effects. If, on the other hand, a climate policy increases the costs and workload in a male-dominated economic sector, men experience greater direct effects. It has also been noted that the way the issue of climate change is communicated to the public has a greater effect on women because of the rhetoric it uses that relies on sentiments

to family health and future generations. Finally, the lack of practical gender equality implementation in Lithuania translates into various problems, such as violation of human rights, persistent gender stereotypes and gendered employment segregation. The latter leaves women out of a large part of climate policy implementation, which, in turn, deepens gender inequalities even further.

The question remains about how could these differences between the identified impacts of policies on men and women be reduced. The overall lack of women's involvement in the processes related to climate policy in Lithuania hampers the climate policy efficiency and excludes women. The most well-known remedy for gender under-representation in government bodies as well as large strategic companies so far are the gender quotas, adopted in some developed and developing countries, e.g. recently Germany adopted gender quotas in large companies (Copley, 2015; Quota Project, 2015). This gender equality measure is advocated by many experts. In Lithuania, the women's parliamentary group has suggested introducing gender quotas in the boards of large companies, but their initiative has been fruitless so far. Public information campaigns on climate change and gender equality may also prove to be beneficial in terms of raising citizens' awareness and encouraging civil action. Information campaigns would help the Lithuanian people to get acquainted with gender equality issues and climate change concerns as well as make the connection between them. Another important factor to consider when discussing differentiated impacts of climate policy on both genders is unequal participation of men and women in paid and unpaid activities in market and care economies. Acknowledging the value of unpaid work in the care sector for the national economy instead of treating it as "leisure time" has a potential to reduce the non-proportional burden that falls on those working in this sector. Gender equality professionals advocate acknowledging the importance of the unpaid work in the care sector through income support and provision of social security. This would also ensure that the most vulnerable members of society do not bear non-proportional burdens of climate and other policies. Another general policy recommendation that applies to most policy areas is further implementation of gender mainstreaming. Gender concerns should be embedded in the design and implementation of all policies on all levels and encompass all gender aspects described here.

Although the policy recommendations above cover most of climate policy measures described in this paper, some of the policy areas require more specific policy recommendations to correct for non-proportionate impacts on genders. For example, the energy and industry sectors could

benefit from an inside women’s perspective and public image that is more accessible to women. That could be done by creating programs targeted at women, e.g. encouraging women to apply for large scale RES subsidies, providing grants for women researchers and engineers in the fields where they are under-represented, making industry firms more attractive and welcoming to women by addressing their specific physical and social needs. To compensate for increasing energy prices, energy subsidies should be provided for the social groups with modest economic means, including the elderly and single parents; the same goes for energy efficiency improvement subsidies for private households. In terms of agriculture, more gender disaggregated data is needed in order to get a better view of gender equality and climate policy progress in rural areas. Presently, there are vague objectives and some examples of good practices, yet the realities of rural men and women are far from being well-researched.

Table 16. Summary of policy recommendations.

Climate change policy measures	Policy recommendations according to the impact areas			
	Participation	Resources	Norms and Values	Rights
Finance	gender quotas	gender budgeting; compensation for low income earners	public information campaigns on gender equality	gender mainstreaming in economics and finance
Energy	gender quotas; public information campaigns	compensation to low income earners for increased energy prices and renovation; gender-sensitive RES subsidies; fighting gendered employment segregation	challenging gender norms through education campaigns	gender mainstreaming in energy policy; removing barriers for women to enter the energy sector through gender quotas and educational campaigns
Transport	gender quotas; public information campaigns	educational campaigns on sustainable driving and alternative transportation; compensation for increased public transport costs	challenge gender stereotypes through public information campaigns	gender mainstreaming in the transport sector
Industry	gender quotas	involving more women through gender quotas and education	employ women consultants; make industry sector more welcoming and appealing for women	gender mainstreaming; removing informal barriers for women to enter the sector

Waste	public information campaigns encouraging men to participate in sorting household waste	education campaigns about waste reduction and sorting; increasing accessibility of recycling stations; providing compact sorting bins for households	public information campaigns on waste management that appeal to men	gender mainstreaming; encouraging both genders to work in the sector
Agriculture	public information campaigns	conducting surveys and research on resource distribution between genders in agriculture	education campaigns on the benefits of sustainable agriculture for both genders	consulting rural women in policy design
Forestry	gender quotas; public information campaigns	gender-sensitive afforestation grant allocation system	breaking gender stereotypes through education	gender mainstreaming in forestry; removing informal barriers

Making the climate policy measures more gender-responsive is likely to improve the policy outcomes, but improvement of overall gender equality situation through all government policies is considered to be a more effective and preferred way by experts, such as Mary Robinson, the UN Secretary General’s Special Envoy on Climate Change. According to her, gender-equitable development of clean energy and other equitable climate change mitigation policies have a potential to achieve the GHG emission reduction and gender equality goals simultaneously (Robinson, 2015). Another scholar and policy expert that has been quoted extensively in this study, Ulrike Röhr (2006), suggests some points of entry for the integration of gender perspective in climate debate. They include conducting gender analysis of all climate policies and interventions, applying gender budgeting to climate change funds, and paying more attention to changing the individual behaviour rather than only concentrating on emissions trading and mechanical GHG emission reductions. These suggestions should be considered in the developing as well as developed countries, including Lithuania, where climate change mitigation and gender equality are pressing, yet overlooked issues. The findings of this study confirm that their goals are complimentary rather than conflicting and that they should be worked towards simultaneously.

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Annexes

Annex 1: List of Interviewees

Climate Policy Professionals (position; date of the interview)

- 1) Chief Desk Officer at the Pollution Prevention Department at the Division of Climate Change Policy at the Lithuanian Ministry of Environment; 29/7/2015
- 2) Head of Forestry Development Division in the Department of Forests at the Lithuanian Ministry of Environment; 30/7/2015
- 3) Chief Specialist at the Renewable Energy Division at the Lithuanian Ministry of Energy; 31/7/2015

Gender Equality Professionals (position; date of the interview)

- 1) Project Manager at the Equality Advancement Centre in Vilnius (gap.lt) for over 20 years; 31/7/2015
- 2) Researcher and Lecturer at the Mykolas Romeris University in Vilnius, Lithuania; recently defended a PhD thesis "Assessment of the Impact of the Gender Aspect on Economic Policy: Lithuania's Case"; 11/8/2015
- 3) Member of Lithuanian Inter-Ministerial Commission on Equal Opportunities for Women and Men, representing the Ministry of Transport and Communications, Head of the Personnel Administration Division at this Ministry; 05/8/2015
- 4) Member of of Lithuanian Inter-Ministerial Commission on Equal Opportunities for Women and Men, did not want to disclose which ministry she represents; 10/8/2015

Citizens/Stakeholders (age; marital status; occupation; place and type of residency; date of the interview)

- 1) 18 years old female single vocational school student living in a shared accommodation in a school dormitory in Vilnius; 5/8/2015
- 2) 52 years old female single currently unemployed living in a privately-owned energy-inefficient house living in Širvintos, a small town 50 km away from Vilnius; 4/8/2015
- 3) 54 years old female married microbiology laboratory assistant, living with her 23-year-old daughter, husband and old mother in a two bedroom flat in Kaunas, the second largest city in Lithuania; 14/8/2015
- 4) 50-something female divorced currently unemployed woman in a privately-owned two bedroom apartment on her own in Kaunas, the second biggest city in Lithuania; 14/8/2015
- 5) 50-something female married saleswoman, living in one bedroom apartment in the outskirts of Vilnius with her husband; 10/08/2015
- 6) 30 years old female Project Manager at a foreign IT firm, living in a newly-built one bedroom apartment in Vilnius with her partner, 7/8/2015
- 7) 33 years old male IT Specialist at a foreign bank, living in a newly-built one bedroom apartment in Vilnius with his partner; 7/8/2015
- 8) 25 years old male working in a printing house and living with his girlfriend and her parents in Širvintos, a small town 50 km away from Vilnius, in a private Soviet-built apartment, 5/8/2015

Annex 2: Semi-structured Interview Questions/Checklists

Set of questions for climate policy experts

1. Please introduce yourself and tell a little about your background in the area of climate change policy in Lithuania, please.
2. How and by whom are the climate change policies formed in Lithuania?
 - In your best knowledge, was the 2012 Strategy created taking into consideration Lithuanian society and its realities, or was it mostly taken from the EU without such considerations?
3. In your best knowledge, how are these particular policy objectives and measures being implemented?
 - How much progress has been made so far?
 - What are the concrete processes needed for achievement of the goals in your area (e.g. forestry, waste management, etc.)?
 - Who is managing the process on the national and local level?
 - Who implements the measures?
4. In the processes of policy formation and implementation, did you notice that any gender dimensions/gender-specific issues were taken into consideration at any point (e.g. gender of people most affected by policies, impact on gender equality, resource distribution, etc.)?
5. In the climate change mitigation policy formation and implementation, what is the approximate percentage/number of women involved in the decision making process? What is the percentage/number of women in the government bodies and organizations that are responsible for climate policy implementation (in your sector)?

Set of questions for gender equality experts

Introduction: I am trying to find out how particular climate change mitigation policies in Lithuania (give interviewee a list) affect men and women on these 4 dimensions: participation, access and distribution of resources, norms and values and rights.

1. Please introduce yourself and tell a little about your background in the area of gender issues in Lithuania.
2. General question: do you think that gender is taken into consideration when making and implementing climate policy in Lithuania (if you have knowledge) and, in general, social policy? Please elaborate: why and how?
3. In the area of your expertise, how would these selected policy measures affect the genders? Do these effects differ for women and men?

Example policies:

- increasing energy efficiency of private and public buildings
- development and use of RES
- increased energy prices
- green innovation and adaptation of new technologies
- increased in forest cover on unused land
- lowered number of private cars

- development of public and alternative transport infrastructure
- waste sorting and processing of bio-degradable waste
- promotion of sustainable/organic agriculture
- add another, if you wish

4. In terms of the 4 areas of analysis given at the beginning of the interview, and based on your knowledge of gender issues and climate policy in Lithuania, how do you think (your perception) it affects those dimensions? (How it used to be and how the policies are likely to affect it.)

- *Participation*: if both genders participate in decision-making, project management, all levels of implementation, how much power women have compared to men.
- *Resources*: how do you think the policy measures we discussed affect the resource distribution among men and women: e.g. time-use, employment, income (gender budgeting); education and knowledge, property, new technologies, health care, etc.)
- *Norms and values*: do you think that any of the policies that we discussed will affect the socially accepted norms and values about femininity and masculinity, the perceived roles and responsibilities of men and women and gendered division of labour, and if so, how?
- *Rights*: it is accepted by gender specialists that *de jure* and *de facto* equality and rights of genders differ in Lithuania, as it does in the most of the World. Can you think of any effects that the policies discussed could have on the legal and practical rights of men and women in Lithuania? E.g. would income gap be affected, would there be more or less gender discrimination, do both genders have the same access to loans for more efficient technologies, would property rights be affected, etc.?

Set of questions for citizens/stakeholders about their experiences

1. Please tell your name, age, occupation and place of residency.
2. What do you know about climate change and what it is done to fight it in Lithuania?
 - Do you know any concrete policies? If yes, what are they? Do you think they will affect you personally?
3. Have you personally taken any action to reduce climate change? If yes, what kind of action (e.g. saving energy, recycling, using public transport, buying local/organic foods, renovating your household in order to make it more energy-efficient, composting organic waste, etc.)
4. How, in your opinion and understanding, will these policies affect you personally?
 - Do you think that your gender matters when considering the effects?

Example policies:

- increasing energy efficiency of private and public buildings
- development and use of RES
- increased energy prices
- green innovation and adaptation of new technologies
- increased in forest cover on unused land
- lowered number of private cars
- development of public and alternative transport infrastructure
- waste sorting and processing of bio-degradable waste

- promotion of sustainable/organic agriculture
- add another, if you wish

5. Do you think that the policies above are:

- made by men/women? why do you think so?
- will affect one gender more than the other? why and how?