

ABSTRACT

The development of the renewable energy industry is high on the global agenda due to reasons like the reduction of carbon emissions, additional economic benefits, and added value to the strengthening of energy security. Being a long-standing adherent of hydrocarbon-based energy generation motivated by abundant domestic reserves, Azerbaijan has to take a big step forward in order to catch up with the global trend. Recent developments, agreements on different green projects demonstrate the will to improve the industry. Surely, the transition will come with implications on many spheres. This thesis studies the potential role of renewables in providing the energy security of Azerbaijan, keeping in mind its implications on the economy.

The prove the hypotheses that the *Development of the renewable energy industry accompanied with the increasing share of carbon-free electricity in total consumption can significantly increase the energy security of Azerbaijan and positively impact the economy*, thorough analyses of experiences of specially selected countries, estimated added value to the economy, the present stage of energy security and implications of green energy on it have been carried out.

The assessment of the energy security of Azerbaijan and the potential impact of renewables has been carried out based on the following methods: 1) the International Energy Agency's (the IEA) Model of Short-term Energy Security (MOSES) methodology; 2) International Institute for Applied System Analysis' (IIASA) Global Energy Assessment (GEA); and 3) Winzer's methodology. Estimation of added value to the economy was carried out in line with the findings and schemes produced by the International Renewable Energy Agency combined with calculations made with the figures provided locally.

The findings reveal the positive impact of renewables on energy security and added value to the economy. Despite serious shortcomings in terms of the legal framework, expertise, and experience, there is a strong momentum demonstrated with an increasing number of debates and projects on green energy. Recommendations made after analysis of findings are aimed to boost the effectiveness and efficiency of the transition to carbon-zero energy generation.