Chapter 2

Building a Diversified and Sustainable Economy in Kazakhstan: Towards the Green Economy Through a Triple Helix Approach

Cinzia Colapinto

https://orcid.org/0000-0003-1211-8033
Ca’ Foscari University of Venice, Italy

ABSTRACT

Due to globalization, entrepreneurship has become fundamental for the competitiveness of countries, and as shown by the Triple Helix Framework enterprises, universities and governments must create synergies to their mutual advantage. In Kazakhstan, a Post-Soviet transition economy, gross domestic product has doubled over the past decade thanks to the extractive and heavy industries and on an intensive use of electricity produced from coal. The authors present a goal programming model for environmental policy analysis involving criteria such as economic development, electricity consumption, greenhouse gas emissions, and the total number of employees to determine the optimal labour allocation across different economic sectors. The purpose is to provide empirical evidence and policy recommendations to decision makers in developing the optimal strategy able to simultaneously satisfy energy demand, decrease GHG emissions, increase economic growth, and foster labour development by 2050. The analysis will allow to compare Kazakhstan with similar economies.

DOI: 10.4018/978-1-7998-2239-4.ch002

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.
INTRODUCTION

Due to globalization, entrepreneurship has become fundamental for the economic growth of territories and countries, and for policy management. In order to support the local economy, interactions and alliances with universities and governments is a must to emerge. As shown by the Triple Helix Framework (Etzkowitz & Leydesdorff, 2000) and its variants, enterprises, universities and governments have to create synergies and spill-overs to their mutual advantage. In Kazakhstan, a Post-Soviet transition economy, the stimulation of private-sector entrepreneurship has been a key public policy objective for at least a decade. The country’s gross domestic product (GDP) has doubled over the past decade; however, much of this growth has depended on the extractive and heavy industries and on an intensive use of electricity produced from coal (IEA, 2016).

Kazakh energy intensity has not improved and the country is still one of the most energy-intensive countries in the world. The environmental damage and high pollution pose serious challenges to the policy-makers. The steps towards a more sustainable model of development are presented in two main documents: The 2012 “Kazakhstan 2050 strategy” and the 2013 “Green economy concept” (GEC). The 2012 “Kazakhstan 2050 strategy” aims at developing a sustainable growth in the long-run in Kazakhstan. This strategy relies on the use of electricity generated by renewable and alternative sources to create the “Green Economy”, decreasing greenhouse gas emissions. This process will concern the development of agricultural and waste management sectors along with the economic growth of Kazakhstan. The GEC outlines the path to ensure long-term growth based on climate-friendly technologies, energy efficiency measures, and a wise management of natural resources.

In the last decade, researchers (e.g., André, 2009; San Cristóbal, 2012) have focused on the development of adequate quantitative models for environmental policy analysis, to understand the effects of environmental policies and the roles of all different players/actors. This chapter presents a Goal Programming (GP) model involving criteria such as economic development (GDP), electricity consumption, greenhouse gas emissions, and the total number of employees to determine the optimal labour allocation across different economic sectors. The purpose is to provide empirical evidence and policy recommendations to decision makers in developing the optimal strategy that will allow to simultaneously satisfy energy demand, decrease greenhouse gas emissions, increase economic growth, and foster labour development by 2050. The analysis will allow to compare Kazakhstan with similar economies, i.e. the United Arab Emirates.

This chapter is structured as follows. In the next paragraph we better explain the multi-criteria nature of a sustainable growth and present a literature review of previous works dealing with long-run sustainable growth in different countries or
Related Content

Tourism and Encroachment Activities at the Lame Bura Game Reserve, Bauchi State, Nigeria
[www.igi-global.com/article/tourism-and-encroachment-activities-at-the-lame-bura-game-reserve-bauchi-state-nigeria/231524?camid=4v1a](www.igi-global.com/article/tourism-and-encroachment-activities-at-the-lame-bura-game-reserve-bauchi-state-nigeria/231524?camid=4v1a)

Publication Analysis of (E-)Tourism
[www.igi-global.com/chapter/publication-analysis-of-e-tourism/133021?camid=4v1a](www.igi-global.com/chapter/publication-analysis-of-e-tourism/133021?camid=4v1a)
Isle of the Dead: A Study of Trunyan Cemetery (Bali)
[www.igi-global.com/chapter/isle-of-the-dead/192774?camid=4v1a](www.igi-global.com/chapter/isle-of-the-dead/192774?camid=4v1a)

The Web of Data and the Tourism Industry
Diego Berrueta, Antonio Campos, Emilio Rubiera, Carlos Tejo and José E. Labra (2011). *Digital Culture and E-Tourism: Technologies, Applications and Management Approaches* (pp. 75-89).
[www.igi-global.com/chapter/web-data-tourism-industry/49621?camid=4v1a](www.igi-global.com/chapter/web-data-tourism-industry/49621?camid=4v1a)