

# Chapter 60

## Energy and Sustainability in the European Region: The Russian Factor

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### ABSTRACT

*This chapter examines European energy security in the EU-Russian context. Europe is extremely dependent on Russian energy imports. This dependency requires sustainable energy solutions. Russian economy is characterized by high energy consumption and intensity. Russian energy sector needs massive investments, technological and management improvements. They become problematic due to the nation's poor investment climate, stagnating economy, and isolationist foreign policy. These, along with Russia's emerging reorientation of its energy exports toward Asia tend to worsen European energy security. The chapter explores trends in the global energy and analyses the dynamics and outlook for sustainable energy security in Europe in the context of import dependency in energy. It looks at the drivers, constraints and trends in the Russian energy sector in the Eurasian regional context. Despite technological advances, policies toward sustainable development and renewable energy, in the next two decades Europe will predominantly depend on fossil fuels and Russian energy imports.*

### INTRODUCTION

Globalization, economic growth, and growing political-economic interdependency among nations after WWII have changed an easy access to energy and the whole energy security equation. There is an increasing realization of limited mineral resources and environmental capacity to absorb the consequences of human economic activity in sustainable development. Economic pressures, social and environmental concerns, and development goals set energy access as key priority and subject of acute competition.

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Emerging global players like China and India have dramatically boosted their energy demand over the past few decades adding urgency to sustainable energy development worldwide.

European region critically depends on imported fossil energy. The region's chronic energy dependency is fraught with complex relationships between energy suppliers, transit countries, and recipients. This complexity is often amplified by political-economic relationships on cross-national and regional level – current Russian-Ukrainian standoff and its strategic implications is the case in point. Ensuring European energy security and sustainable growth by simply switching from importing oil and gas to nuclear energy or local coal is problematic due to environmental, nuclear security, economic constraints, and public concerns. Renewable sources of energy, although growing at robust rates, will still be playing relatively limited long-term role in the overall energy supply.

The chapter opens by the exploration of trends and dynamics in the global energy sector. The long-term global energy demand will continue to rise with the developing nations, notably China and India, playing increasingly prominent role in global energy consumption. Despite robust rates of growth in renewable sources of energy, fossils, specifically oil and natural gas, will continue to dominate the global energy mix. Recent advances in global shale oil and gas exploration may signify a new paradigm for global energy. That may create a potential ground for mitigating European energy import dependency and erode Russian monopoly as the region's critical energy supplier. Meantime, Russian domestic energy sector itself faces the growth and development challenges that require technological innovations, capital investment, large-scale social and environmental policies and improvements in management. By extension, it implies large-scale international cooperation, while Russia's current policies of self-isolation are heading in the opposite direction.

After introducing and deliberating the concept of sustainable energy development framework by Mun-singhe (2004) the discussion focuses on how the dynamics in the global energy sector impact European energy sector and energy security. In particular, the forces and dynamics of demand and supply, energy intensity, and renewable energy perspectives are explored in the sustainability context. Although OECD Europe demonstrates patterns of high energy efficiency compared to many other regions and countries, the absolute levels of energy consumption in Europe remain among the highest in the world propagating energy security as top political priority. Under limited access to own fossil energy, high energy import dependency, particularly acute with the Russian oil and gas imports, as well as limited share of renewable energy now and in three decades to come, European regional energy security and dependency on Russia imports of oil and gas will remain a critical strategic issue. To a degree these political-economic factors form political dilemmas for sustainable development and growth in the European region.

Russian domestic energy sector and its role in the overall domestic and foreign policy exert critical impacts on European energy security. In this context, the chapter discusses trends, driving forces and dynamics in the Russian domestic energy sector. Under these drivers and constraints Russian energy sector is facing its own strategic development challenges. One of them is renewable energy: it plays very limited current role in the overall energy supply that is not going to change in the long-term perspective. Addressing those sectorial challenges, meeting energy commitments fulfilling the needs of domestic economic growth as well as sizeable export commitments may prove paramount for both European energy security and Russian energy sector. One relatively new strategic geo-regional trend discussed in the chapter is Russia's latest energy doctrine envisioning a large scale shift in oil and natural gas shipments from Europe to Asian region.

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