программ, позволяющих разнообразить теоретическую составляющую системы школьного образования, тем самым, улучшить качество и усвояемость знания, приобретения новых навыков. ■

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Application of quality management system tools in the school education: quality of education — quality of life

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This article summarizes the results of the analysis of the quality management system in the field of education, models are studied and presented, which can subsequently find application in educational institutions. The article identifies the problems of the sphere, developed and proposed a number of measures to improve the functioning of educational institutions.

Keywords: education, tools, quality management system

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POLITICAL ECONOMY OF JUST TRANSITION TO A LOW CARBON ECONOMY

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The concept of climate justice is getting now increasing attention . In practice, pursuing climate justice will require addressing energy justice for almost two billion people worldwide who lack an access to electricity as well as energy injustice that is inherent to current global energy system. Going after just transition to a low-carbon economy is suggested to be a foundation for building energy justice. This paper explores the procedural and distributional dimensions of such transition and the relationships between them. In this context, the key political economy questions are 'who wins, who loses, how and why' as they relate to the existing energy system, who lives with the side effects of the sites of extraction, production and generation, and who will bear the social costs of decarbonising energy sources and economies.

Keywords: energy justice, low carbon economy, transition, decarbonization

The concept of climate justice is getting now increasing attention (Bond, 2012; Okereke, 2010). In practice, pursuing climate justice will require addressing energy justice for almost two billion people worldwide who lack an access to electricity (International Energy Agency (IEA), 2012) as well as energy injustice that is inherent to current global energy system. Following just transition to a low-carbon economy is suggested to be a foundation for building energy justice.

This paper explores the procedural and distributional dimensions of energy transition and the relationships between these two dimensions. In this context, the key political economy questions are 'who wins, who loses, how and why' as they relate to the existing energy system, who lives with the side effects of the extraction, and who will bear the social costs of energy and economy decarbonization (Newell et al., 2011).

The Just Transition

The term «transition» derives from an academic literature on socio-technical transition (Geels &Schot 2007, Geels 2005) that are also being applied to issues of energy policy (Scarse&Smith 2009; Kern&Smith 2008). The term «socio-technical transition» refers to deep structural changes in systems (e.g. energy) that involves long-term and complex reconfiguration of landscapes with technologies, policies, infrastructures, science as well as social and cultural practices (Newell&Mulvaney 2012). However, there are recognitions of the necessity to address the transition politics (Meadowcroft 2009) and to ensure that proposed transitions are socially just (Goldthau&Sovacool 2012). What is also important is that such transition is environmentally just ensuring that existing environmental injustices are not reproduced or exacerbated while making transition to a low carbon economy.

In policy term, the states are called for a just transition. Governments will have to play a crucial

enabling and steering role in increasing levels of support and ensuring fair access to clean energy. This raises an array of procedural issues about how decisions are made, options are assessed, and trade-offs are made. In 2010, at Cancun Conference of the Parties there were discussions on just transition: how to ensure transition to a low carbon economy is equitable, sustainable and legitimate.

The following cases demonstrate concrete examples of interventions and mobilizations aimed at realizing just transition. The Just Transition Alliance is a coalition of environmental justice and labour organizations located in California, US. This coalition's mission includes creation of healthy workplaces and communities. Its activity is focused on contaminated sites that should be remediated and on transition to sustainable economies and clean production. For example, in the campaign «Clean coal», the Just Transition Alliance voices objections based on local and global impacts of coal use: air pollution, working conditions and the environmental impacts of mining on water use and landscapes (Just Transition Alliance, 2011).

Located in South Africa, «Just Energy» is an innovative collaboration between Massachusets Technological Institute (MIT), Oxfam (non-governmental organization), Simmons &Simmons (legal firm), Arup (engineering firm), and consulting companies (McKinsey and Marmanie). The aim of this collaboration is to enable low-income communities to develop renewable energy (RE) enterprises and in this way generate revenue and increase employment opportunities. It has set the goals to be achieved by 2020: to develop twenty renewable energy enterprises of 10–80 MW of clean energy. Sites of development include wind farms in South Africa, different renewable energy enterprises across Africa, Asia and Latin America. It is envisioned to generate income flows of £3 million per year for socio-economic development in low income communities; to reduce greenhouse gases emissions (Just Energy, 2011).

Another case which demonstrates the co-benefits of clean energy interventions is retrofit of buildings in Los Angeles (US). The LA Appollo Alliance, a grassroots coalition of environmental groups, community-based organizations, trade-unions, campaigned to ensure that the city council programs on energy efficiency and renewable energy deployment also brought economic benefits to disadvantaged people. This included retrofit of public building in low-income communities, jobs for poor, support for business owned by women and minorities.

Other just transition experience is related with the city of Gelsenkirchen (Germany), which was once renowned as an industrial hub for glass, coal and steel industry. After relocation of heavy industry, local officials decided in 1990s to regenerate abandoned land and establish an energy technology park. With support of the European Union, the federal government and the utility RWE, solar energy became the focal point of development. In 2001, the city Gelsenkirchen adopted a voluntary target for carbon reduction which was aimed at transforming this city from «a city of thousand furnaces to a city of thousand suns».

In Hunter Valley (Australia), community upset about environmental and human health impacts of coal mines and power plants and concerns about climate change has given rise to social movement that is challenging the priority of goal and demanding clean energy transition (Evans, 2010).

In summary, it should be noted that key aspects of a just transition include, as Bird and Lawton (2009) confirm, increasing resilience and adaptive capacity, public investment in clean energy industries and alliances between the climate justice, environment and labour movements.

The Global Just Transition

Bradshaw (2010) writes «The fabric of our economy, and some would argue our political system ('carbon democracy') is dependent upon the plentiful and relatively inexpensive supply of fossil fuels» (Bradshaw, 2010, p. 276). Cheap energy is the locomotive of contemporary industrial economies and the basis of consumer culture. But people and places unevenly experience the benefits and costs of energy extraction, generation, distribution, consumption, and financing (Practical Action, 2010). The energy injustice is shaped by an array of institutions, actors, and interests whose actions affect flows of energy provision and consumption. The governance of energy shapes issues of distributive justice. At the same time, patterns of development pose key governance challenges such as providing energy to the poor and vulnerable people (energy access); supplying energy in a regular and fair manner (energy security); and minimising the environmental impacts and unequal burdens related with energy extraction, provision and consumption (energy and climate justice).

Exploring energy justice forces questions of security, violence, structures of production into the centre of debates about environmental justice. Since energy plays an important role for economic development, it assumes a prominent place in economic strategies of governments. It has implications for the distributions of impacts (Who benefits from energy production? Who experiences burdens?) and how this relates to decision making process (who participates in and influences decision making?)

Along with distributive struggles, issues of participation and recognition are also important. Moreover, procedural justice is critical to energy governance. Decisions concerning energy allocation and consumption are often made out of public attention. Public participation in energy governance has traditionally been quite weak. Even when public participation is encouraged, it is done more for legitimacy purposes than really involving stakeholders in shaping decisions. Where energy injustices occur, it is even more difficult to hold parties accountable since energy is provided by the private sector.

Decarbonisation strategies may also be characterized by similar patterns of injustices that characterize current

energy system based on fossil fuels unless potential social and environmental consequences get serious attention during transition to a low carbon economy. Innovations and the search for new sites of accumulation can produce injustices in unexpected and unpredictable ways (Zehner, 2012).

There is a tendency to perceive all clean technologies as completely «green». Meantime, solar photovoltaic technologies rely upon semiconductor technologies that utilize hazardous chemicals, require complexity of global supply chains, and contract manufacturing (Silicon Valley Toxics Coalition 2009). The existing toxic sites, health problems of immigrant women — environmental injustice legacies — remind us that all product materials come at unequal costs (Pellow&Park 2002).

The other example of injustice is related with biofuels. In Brazil, programs to increase sugarcane ethanol production were initiated in the 1970s. Today Brazil is self-reliant in ethanol for cars. But ethanol producing industry is continually accused for inadequate working conditions, slave and child labour (Dos Santos 2007). In the United States, mandated increases in corn ethanol production raised concerns about trade-offs between energy transition and food security.

Thus, justice issues will be intrinsic to energy transition, and they need to be better realized and addressed with efforts to secure just transition.

Climate Justice

Mitigating climate change will require significant changes in energy production and consumption. The decision to reduce atmospheric concentration of CO2 to 350 parts per million may put some communities at risk. How energy is used raises issues of energy justice in the form of responsibility (current vs historical) and

entitlement (whose needs are most urgent, who makes decisions on who can emit and how much) (Newell&Mulvaney 2012) . Many climate change policies have been proposed to address these issues, each of them trying to balance issues of equity and efficiency. An idea of «contraction and convergence» was promoted by the Global Commons Institute and supported by many developing countries. This framework aims to «contract» carbon emission below a threshold which would limit warming. Simultaneously, per capita carbon emissions would «converge» by means of redistribution of emissions entitlements. Other frameworks seek to adjust the right to development with the need to reduce greenhouse gas emissions. Pursuing a just transition means not only handling trade-off between competing interests, but also addressing issues about historical responsibility. How should contemporary generations be held accountable for the emissions generated by previous generations? One the one hand, prior generations did not know about consequences of these emissions. On the other hand, contemporary generations have benefitted from old energy system, i.e. from emissions done.

Injustices can also be produced through existing market-based mechanisms to address climate change. Pursuits of clean energy through projects under Clean Development Mechanism have also led to tensions over land and the revenue distribution from the carbon credits in countries where they are hosted (Newell& Bumpus 2012).

The development of solar, wind, and biomass power projects have intensified land pressures, leading to claims that peoples' rights over land are being violated and affected groups have not get adequate consultation (Böhm&Dabhi 2009). Hence, climate actions can entrench procedural inequalities and affect access to land and livelihoods.

Employment of nuclear power to produce low carbon energy is advocated as a response to the climate challenge. But the Fukushima accident reminds us that using nuclear power is not completely safe and can produce severe crisis. While making decision of the use of nuclear power as a solution to climate crisis, it should be paid serious attention to environmental injustices associated with uranium mining nuclear waste storage problems. One conclusion can be clearly derived from these examples: the distribution of costs of transition to a low-carbon economy will be uneven. Thus, while pursuing transition to clean energy, critical attention should be paid to the issues of energy justice.

Inadequate attention to the justice implications of energy access is, partly, a results of weak and incomprehensible global energy governance (Florini&Sovacool 2009; Karlsson-Vinkhuyzen 2010). Such international institutions as UN-Energy, the Global Environment Facility, the International Energy Agency, OPEC (Organization of the Petroleum Exporting Countries), as well as public–private partnerships such as the Renewable Energy and Energy Efficiency Partnership and REN21 do not currently elaborate mechanisms for coherent and effective global energy governance. Hopefully, as calls for low carbon energy intensify, the pressures for stronger institutions for energy governance will increase.

The future of human prosperity depends on how successfully we address two

central energy challenges facing us today: securing supply of reliable and affordable energy; and affecting a rapid transformation to a low-carbon, efficient and environmentally friendly energy system (IEA, 2008).

Conclusion

Pursuing climate justice in a highly unequal world will require addressing energy justice for almost two billion people worldwide who lack an access to electricity (International Energy Agency). Along with distributive struggles, issues of participation and recognition are also important. Moreover, procedural justice is critical to energy governance. Decisions concerning energy allocation and consumption are often made out of public attention. Public participation in energy governance has traditionally been quite weak. Even when public participation is encouraged, it is done more for legitimacy purposes than really involving stakeholders in shaping decisions. But as calls for low carbon energy intensify, it is likely the pressures for stronger institutions for energy governance will increase. ■

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Политэкономия справедливого перехода к низкоуглеродной экономике

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В современном мире все больше внимания уделяется концепции климатической справедливости. На практике для достижения климатической справедливости в современном мире потребуется решать проблему достижения энергетической справедливости для почти двух миллиардов людей во всем мире, которые не имеют доступа к электричеству, а также в целом проблему энергетической несправедливости, которая присуща нынешней глобальной энергетической системе. Осуществление справедливого перехода к низкоуглеродной экономике предлагается в качестве основы для построения энергетической справедливости. В этой статье исследуются процедурные и распределительные аспекты такого перехода и взаимосвязи между ними. В этом контексте ключевыми вопросами политической экономии являются «кто выигрывает, кто проигрывает, как и почему», в существующей энергетической системе кто живет с побочными эффектами добычи, производства и генерации, и кто будет нести социальные издержки декарбонизации источников энергии и экономики.

Ключевые слова: энергетическая справедливость, низкоуглеродная экономика, переход, декарбонизация

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ТРАНСФОРМАЦИЯ HR-ФУНКЦИОНАЛА ФИРМЫ В УСЛОВИЯХ ЦИФРОВИЗАЦИИ ЭКОНОМИКИ

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В статье рассматриваются основные тенденции, связанные с цифровизацией бизнес-процессов на микроэкономическом уровне, представлены результаты сравнительного анализа проникновения Интернета в мире и РФ за период 2015–2020 гг. Автором выявлены основные преимущества и недостатки цифрового рекрутинга, как одного из важных инструментов