

What is energy culture?

'ENERGISE adopts the concept of practice cultures [...] to draw [...] explicit attention to the existence of culture specific sets of practices that result in particular patterns of energy use.

Does culture affect energy poverty?

findings from the regressions availing the binary energy equation 2.1 that natural culture affects energy poverty through attitude and plain energy poverty and confirm Greif's (2006) views that culture is an important factor differentiating two countries that are otherwise similar. Our fin

Does culturally based energy saving overemphasize technology use and behavior change?

Recognizing the centrality of culture to energy saving that overemphasize technology use and individual-level behavior change. Instead, it treats rooted meanings related to domestic energy use and the services it provides, our analysis challenges approaches

How can culturally sensitive energy policy and practice improve engagement and implementation?

5.2. Cultural influences on engagement and implementation A culturally sensitive approach can also improve the uptake and implementation of sustainable energy initiatives. Based on our case studies, we identify five areas of cultural influence that energy policy and practice should focus on to improve engagement and results (Table 4).

How do national cultures influence energy policy?

The national cultures appear to influence how the individual/household/firm views the risks and rewards associated with funding and/or adopting various, and perhaps new, energy sources. Such decisions also reflect the priority at the micro-level and influence policies and institutions at the macro-level.

Are energy cultures a sociocultural factor?

Existing studies of energy cultures - understood as sociocultural factors that shape collective energy demand and create variations in how energy is generated, distributed, viewed, and used both within and between countries - exemplify this (Stephenson et al., 2010, 2015; Rau et al., 2020).

We investigate the impact of cultural dimension on energy poverty--a topic hitherto overlooked in the literature--employing panel fixed effects, logistic, and heteroskedasticity ...

Pumped hydro is a type of mechanical energy storage system, which, according to the US Department of Energy (DoE) Global Energy Storage Database [3], global hydropower capacity was around 0.1 GW in 1929, and grew to 164.6 GW in 2020, becoming the energy storage system with the highest capacity. The energy storage system with the second highest ...

Energy-Storage Technologies 3.5. Energy Use in Countries 4. Environmental Impact of Energy Use 4.1. The

Emergence of Energy-Related Environmental Issues ... Then, the impact of energy use on society, culture, standard of life and sustainability is discussed, and the task of achieving sustainable development described. Finally, possible energy ...

Comparing and combining insights from two recent sustainable energy initiatives in Ireland, we show how in-tegrated approaches that work with participants" everyday practices ...

The cultural dynamics of energy: The impact of lived experience, preference and demographics on future energy policy in the United States. ... Of note was the Scandinavian energy culture, due to its high level of environmental consciousness and renewable energy sources, resulting in low GHG emissions, and the Benelux energy culture, with high ...

Offers culturally informed analysis of measures to improve household energy performance. Shows how practice-based approaches can result in reductions in energy use. ...

The large-scale development of battery energy storage systems (BESS) has enhanced grid flexibility in power systems. From the perspective of power system planners, it is essential to consider the reliability of BESS to ensure stable grid operation amid a high reliance on renewable energy. Therefore, this paper investigates BESS models and dynamic parameters used in ...

They are driven by other, non-environmental desires that often lead to increases in energy demand. People who adopt smart tech feel good, embodied in the sensory feedback of the devices, and other people say they look good with their smart tech, so the whole thing works against a culture of energy demand reduction. The culture of the home ...

The company launched a series of energy storage products recently on the sidelines of the 2023 International Forum on Energy Transition held in Suzhou, Jiangsu province, including energy storage ...

Response and Energy Storage Integration Study. This study is a multi-national-laboratory effort to assess the potential value of demand response and energy storage to electricity systems with different penetration levels of variable renewable resources and to improve our understanding of associated markets and institutions.

The academic literature on storage systems has extensively examined storage operations in the wholesale market. For instance, optimal storage times and sizes to maximise energy arbitrage revenue (Bradbury et al., 2014, McConnell et al., 2015, Shafiee et al., 2016, Sioshansi et al., 2009), impact of VRE on energy arbitrage revenue (Foley and Lobera, 2013, ...

Cultural food practices refer to material and ideational (cognitive) elements that give rise to specific dietary patterns within a geographic region or social group. 6 Material elements include food production systems that grow, ...

We investigate the impact of cultural dimension on energy poverty--a topic hitherto overlooked in the literature -- employing panel fixed effects, logistic, and heteroskedasticity ...

This review concisely focuses on the role of renewable energy storage technologies in greenhouse gas emissions. ... While SMES systems exhibit a low environmental impact due to their non-toxic components and minimal chemical reactions, there is a concern regarding the potential effects of large magnetic fields on human physiology, as there is ...

Impact of energy storage capacity and generation on reliability in New England: The dotted lines represent the reliability (expressed as a percentage of demand met (y-axes) on both (a) linear (top row) and (b) logarithmic (bottom row) scales) of combinations of wind and solar resources consolidated across New England and shifting gradually from ...

We investigate the impact of cultural dimension on energy poverty--a topic hitherto overlooked in the literature--employing panel fixed effects, logistic, and heteroskedasticity identified ...

Energy storage (ES) technology has been a critical foundation of low-carbon electricity systems for better balancing energy supply and demand [5,6]. Developing energy storage technology benefits the penetration of various renewables [5,7,8] and the efficiency and reliability of the electricity grid [9,10]. ... and its internal impact mechanism ...

The impact of CCUS on the energy consumption structure also has significant implications for changes in the electricity structure. CCUS has a positive impact on facilitating the energy transition in the power industry, and wind and solar will become dominant sources in the future power system (see Fig. 3). By 2060, the share of thermal power ...

Energy culture shapes the foundational structure of the state and domestic and international expressions of authority, including attempts to meet societal expectations of energy resources ...

The Impact of New Energy Storage Technology Application on the Improvement of Electricity Consumption Efficiency: A Quasi-Natural Experiment from China. In: Sun, Z., Das, P.K. (eds) Proceedings of the 11th International Conference on Energy Engineering and Environmental Engineering. ICEEEE 2024. Environmental Science and Engineering.

Per the 2021 Emissions Gap Report authored by the United Nations Environment Programme, global temperatures are projected to rise by 2.7 C by the end of the century. Planetary heating will melt glaciers and raise ...

Energy poverty, especially in rural areas, has become a central focus of scholarly and policy discussions. However, there is a significant gap in understanding the impact of religious beliefs on ...

Culture plays an important role in implementing sustainability principles and approaching sustainable development goals across different countries. This paper aims to analyse the relationship between the value created by culture and the ...

The high penetration of volatile renewable energy challenges power system operation. Energy storage units (ESUs) can shift the demand over time and compensate real-time discrepancy between generation and demand, and thus improve system operation flexibility and reduce renewable energy curtailment. This paper proposes two parametric optimization ...

This study examines the relationship between Hofstede's six cultural dimensions and renewable energy consumption, considering global evidence from 99 countries using a panel data framework for...

Energy storage is a key technology for enabling the transition to a low-carbon and resilient energy system. It can help balance the supply and demand of electricity, provide backup power, and ...

Other research has been conducted on intelligent multi-objective algorithm optimization of BES systems. Mokhtara et al. [18] considered the impact of climate diversity and building energy efficiency on the sizing optimization of a hybrid renewable energy system, then presented a general geographic information system tool and particle swarm optimization ...

**Electricity Demands.** The main impact of cloud computing is the vast amounts of electricity required to power the servers and keep them cool. In 2012, the IT sector consumed more electricity than the entirety of Russia and ...

Large-scale TES used for heating are generally characterized as sensible heat storage, i.e., the storage energy content is raised by increasing the temperature of the storage material [2]. Still, large-scale TES systems merit a further definition since the term can be applied to at least three different technologies: High-temperature storages for electricity production ...

Experts said developing energy storage is an important step in China's transition from fossil fuels to a renewable energy mix, while mitigating the impact of new energy's randomness, volatility, intermittence on the grid and ...

Humanity has been able to meet the demand of 130 000 TWh of renewable energy per year. The goal has been achieved through ubiquitous and distributed harvesting and storage of renewable energy, especially solar and wind. On top of energy production, energy efficiency ...

Employing energy storage reduces the energy losses in thermal power plants, but at the same time, energy losses appear in the storage itself. However, depending on the strategy of energy storage scheduling, in some cases the overall consumption of primary exergy in the whole system may be lower. ... Environmental impact of wind energy. Renew ...

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