Francisca Kusi-Appiah

Implication of Competition Law Enforcement in the Electricity Sector: Comparative Analysis of the UK and the US

Introduction

Competition policies and laws are being adopted and introduced by countries, especially developing countries, in order to gain investment. [1] This research examines literature on competition in the energy sector with specific focus on electricity. Critical analysis is made of the competition legal regimes as exist in the electricity markets of UK (England and Wales, and Scotland) and US (PJM).

The comparative analysis of the implication of competition on electricity in the US (PJM) and the UK electricity or power markets will rely on indicators for both competition and electricity security. The indicator for competition will consist of the substantive competition law/legal regime while the indicators for electricity security, will consist of availability (generational capacity), fuel diversity (environmental concerns) and affordability.

Competition Legal Regime

United States

Competition in the electricity markets in the United States started in the 1990s but majority of the states adopted this new approach in the 2000s.[2] In 2000, the Federal Energy Regulatory Commission introduced independent system operator (ISO) or regional transmission organisation (RTO) and in October of that same year, FERC ordered the compulsory adoption of either an ISO or RTO by all utilities.[3]Competition in the Unites States of America was only in respect of wholesaling.[4] Currently, most states have implemented competition of electricity retailing with the emergence of electricity service providers who do not have to produce their own electricity but buy from the market place and resell to consumers.[5] The current electricity market structure within the US (PJM) permits all consumers to easily access generators with no restrictions on levels of consumption.

US Antitrust Law Regime

In the Unites States of America, the Sherman Act gave birth to competition law and section 1 of the Sherman Antitrust Act, 1890 provides that any contract, trust or both which are in restraint of trade within the US is illegal and the penalty was either a fine for or imprisonment not exceeding three years or both. Section 2 makes it a felony to monopolize trade as provided for under section 1. Section 2 of Clayton Act, makes price fixing illegal and section 3 covers product tying, refusal to deal, exclusive dealing, coercive monopoly and barrier to entry. Sections 7, 8 and 10 prohibit market concentrations, which leads to the formation of cartels and merger control. The Hart-Scott-Rodino Antitrust Improvement Act of 1976 requires approval from the Department of Justice and the Fair Trading Commission in cases of large companies merging.

Market power is very relevant in antitrust cases because sections 1 and 2 of the Sherman Act as well as in section 7 of the Clayton Act on mergers require proof of some level of market power. Therefore, the definition of the relevant market also becomes important in identifying the existence of market power within a market. The

US Supreme Court then laid down the three ingredients needed to establish monopoly as consisting of fixing prices to injure the public, limiting production and reduction in quality of productivity.[6]

Market shares have been used as indicators for investigations to ascertain if an entity or person possesses market power or is a monopoly. Various thresholds on market dominance have been given by judgments in different US District Courts as an indication that market power exists in a relevant market. Generally the US, a whole has a 60% threshold for monopolization while the States have higher levels, which range from 70-80%.[7] Just in 2012, the Department of Justice of the US initiated 67 criminal cases on antitrust laws and gained $1.14 billion as fines.[8]

Enforcement of the US Antitrust laws may be done on three levels: enforcement which may be carried out by federal agencies such as the Federal Energy Regulatory Commission, the Department of Justice and the Fair Trading Commission; or enforcement through state governments as stipulated by section 4 of the Sherman Act; or by private parties bringing an action.

The mandate of FERC has been expanded to cover the interstate electricity sales, wholesale electric rates, natural gas pricing and oil pipeline rates. Therefore, Federal Energy Regulatory Commission (FERC) regulates all interstate electricity sales, except those marketed by federal agencies, wholesale electric rates, nuclear and hydroelectric licensing. [9] FERC renews mergers and acquisition by electricity companies and regulates the transmission and wholesale of electricity in interstate commerce. The Commission may approve, by rule or order, a proposed reliability standard or modification to a reliability standard if it determines that the standard is just, reasonable, not unduly discriminatory or preferential, and in the public interest.[10] However, FERC may under section 824(o) penalize any infringement of the reliability standards.[11] Under the US Federal Power Act,[12] section 824V, prohibits energy market manipulation. Congress has a supervisory role over FERC because it funds the agency's budget annually although FERC collects fees from the industry, which goes to the US Treasury.[13]

Section 4 of the Sherman Antitrust Act empowers the Attorney General of the United States of America and other District Attorneys in the United States of America to commence an action under sections 1 and 2. Section 3 indicates that all properties, which have been acquired under sections 1 and 2 will be forfeited to the United States of America. Section 6 provides that as long as actions under sections 1 to 7 of the Sherman Antitrust Act of 1890 has a direct, substantial and reasonably foreseeable effect in the United States of America, an action can arise even if the conduct originally was done outside of the country. The Clayton Antitrust Act seeks to deal with anti-competitive acts at its very beginning through approval of mergers. The Clayton Antitrust Act authorizes the US Department of Justice (Antitrust Division) and the Fair Trade Commission to enforce the Act through civil suits but only the Department of Justice may bring a criminal action against a defendant.[14] Although the Department of Justice (DOJ), Antitrust Division, and Federal Trade Commission (FTC) as well as FERC enforce the US Antitrust laws, FERC's enforcement is more of regulatory while DOJ/FTC's does the law enforcement.[15]

About 75% of antitrust cases are brought to court by third parties in the US.[16] This enforcement by "private attorneys general" is far cheaper on the federal, state and local authorities and the large number of individuals automatically makes enforcement of competition law very strong. The US Supreme Court has also held that foreign governments have standing to sue in private actions in the U.S. courts.[17]

There are wide remedies available under section 7 of the Sherman Act, which includes tripling of compensation or any other compensation, such as disintegration based on the size of the business.[18] Treble damages awarded under the Clayton Act section 4 need not be mathematically precise, but shall be based on a reasonable estimate of loss, and not speculative.[19]

United Kingdom within the European Union

The UK and EU Competition Legal Regime

In the United Kingdom, competition law is said to have its origin related to the restraint of trade case of John Dyer.[20] The Statute of Monopolies later endorsed this, in 1623 but in 1844 all laws relating to monopolies were repealed with focus on the regulation of the abuse of powers by monopolies and not necessarily on the creation or existence of monopolies.[21] The United Kingdom Competition Act of 1998, which was modelled on Articles 101 and 102 of the TFEU was more into detail on protection of competition in the United Kingdom and the passage of the Enterprise Act, 2002 tried to fill in the gaps with particular focus on insolvency.

On the regional level, after the signing of the Treaty of Rome in 1957, it became expedient for some measures to be put in place to prevent just a few firms and countries from thwarting the free flow of goods, services and investments.[22] Article 101(1) TFEU makes restrictive practices such as price fixing and market sharing illegal. Article 102 TFEU also prohibits price discrimination and exclusive dealing, just like sections 2 and 3 of the U.S. Clayton Act. On integration in the UK, which represents market structure, section 2 of the Competition Act of 1998 applies to decisions, agreements or practices concerning price fixation, control of production, market, technical development or investment, sources of supply or markets sharing within the United Kingdom.[23] Article 102 TFEU also deals with monopolies, or more precisely firms who have a dominant market share and abuse that position.

Unlike U.S. Antitrust, EU law has never been used to punish the existence of dominant firms, but merely imposes a special responsibility to conduct oneself appropriately. Article 102 of TFEU requires that at least a market dominance of 38% market share or more be proved in order to establish the presence of market power and cartels, within its single market.[24] In UK, Part II of the Competition Act of 1998 on abuse of dominant position indicates that there can be a dominant position and dominant position is not necessarily prohibited.[25] Section 18 indicates that any conduct by undertakings, which amounts to an abuse of a dominant position in a market is prohibited.

Article 102 TFEU empowers the European Council to enact a regulation to control mergers between firms and the general test is whether a concentration (merger) with a community dimension might significantly impede effective competition similar to the Clayton Act's substantial lessening of competition. Consequently, merger control is provided for under the EU Mergers Regulation 1391/2004 EC. Section 22 of UK's Enterprise Act deals with mergers and authorizes the Office of Fair Trading to investigate any merger which has been made and which has an impact on the market and to refer the matter to the competition commission. Section 24 of the Enterprise Act provides that a notice of an intended merger is properly given if a notice of it has been given to the Office of Fair Trading prior to entering into a transaction for merging or publishing details of the intended transaction for the general public.

Article 107 TFEU, provides that a state may not aid or subsidise private parties in distortion of free competition, except for grants related to charities, natural disasters or regional development. Although Articles 106 and 107 TFEU regulate the state's role in the EU internal market's competition, Article 106(2) TFEU states clearly that nothing in the rules can be used to obstruct a member state's right to deliver public services.

The European Commission Competition Directorate-General (DG Comp) of the European Commission enforces competition law within the EU together with three judicial institutions: the European Court of Justice, the General Court[26] and Domestic Courts.[27] Under Regulation 1/2003, only courts or national judicial authorities may refer matters to the Court of Justice of the EU, and not a national competition authority,[28] and Article 58 states that a right of appeal to the Court of Justice should be on matters of law and not on facts as that will delay the speed of delivery of judgments.[29] Article 5 (3) of TFEU provides that the European Commission acts only when an action has cross border implications and in the event of a conflict in law, the EU law will always prevail over the national law.[30]

Leniency programmes, which consist of admission of participation in the cartel, cooperation with investigation and seizing cartel activity immediately are also offered by the European Commission. On merger control, since 1990 the EC has received notifications of more than 5000 mergers of which 24 have been blocked.[31] Enforcement of competition law can also be a means of raising funds for the government through the penalties imposed. Between 1969 and October 2013, the European Commission has imposed fines on 820 companies to the tune of €19 billion.[32]

In Europe, the European Parliament's connection to competition law is only to make policies and to receive periodic reports from the European Commission on the enforcement of competition law.[33] In the US, apart from congress making laws on antitrust, the US Parliament, through subcommittees on antitrust in both the US Senate and the US House of Representatives, hold hearings on high profile merger or antitrust cases.[34] Congress is also said to have some supervisory role over FERC because it provides funds for the operation of FERC.

UK Enforcement Institutions

Section 1 of the Enterprise Act 2002 formally established the Office of Fair Trading with power over the governance of public bodies.[35] General functions of the Office of Fair Trading included its obligation to obtain relevant information to carry out its duties properly, and to duly inform and educate the general public about the importance of competition to consumers and could even encourage research geared towards its functions. The Competition Commission was created by the Competition Act of 1998 and replaced the Monopolies and Mergers Commission (MMC). To strengthen competition, the Office of Fair Trading and the Competition Commission were abolished and replaced by the Competition and Market Authority since 1st April 2014 but in terms of sectorial regulation OFGEM is much closer to energy and electricity.

The newly created Competition and Market Authority (CMA) by the Enterprise and Regulatory Reform Act 2013 (ERRA) is empowered to promote competition within and outside the United Kingdom for the benefit of consumers.[36] Sections 36 and 39 of ERRA give the CMA investigative powers in order to carry out its function of enforcing competition. In addition to that the CMA, under section 38, may be required to undertake market studies and market investigations by other authorities when necessary. The Competition Appeals Tribunal (CAT), through the Competition Act of 1998, took over the work of the Competition Commission Appeals Tribunal (CCAT). It mainly hears appeals brought under the Competition Act of 1998 for prohibition and the Enterprise Act of 2002 for damages. In respect of cartel offences, it plays no role.[37]

Sections 21 and 22 of the Competition Act indicate that a person may apply to the secretary of state for either a guidance or decision if he/she feels that their conduct may infringe chapter II of the Competition Act of 1998. Sections 25 and 26 authorises the CMA under reasonable suspicion of infringement of chapter 1 and 2 prohibitions to conduct investigations by notifying the alleged offenders in writing to either produce a relevant document or information. Section 36 makes provision for CMA to order an undertaking and a party to an agreement to pay a financial penalty for infringing chapters 1 and 2 prohibitions and for failing to comply with interim orders.[38] Section 43 states that destroying or falsifying documents relevant for investigations under section 26, 27 and 28 is an offence for which either a conviction to pay a fine or to serve a term of imprisonment not exceeding two years or both may be imposed. False or misleading information during investigations may also result in a conviction of either a fine or 2 years imprisonment or both under section 44.

Generational Capacity

United States (PJM)

The amount of competitively priced electricity that can reach buyers in a particular area depends on the generators that are in operation and the capacity available in the transmission network to deliver electricity to customer destination.[39] In an economic dispatch, expensive plants that have a quick start are used during the peak seasons while the inexpensive ones that can operate at all times are dispatched during base load.[40] Generally electricity capacity markets look into the future to ascertain if there will be enough capacity available in the future to meet peak demand to ensure grid reliability and prevent blackouts unlike energy markets that looks to the short-term demand.

Founded in 1927, Pennsylvania-New Jersey-Maryland Interconnection (PJM) is an independent, federally regulated regional transmission operator headquartered at Valley Forge, Pennsylvania, to enhance fair access to transmission systems. PJM monitors and coordinates about 1,400 electric generators and 62,566 miles of high-voltage transmission lines.[41] PJM, the largest electricity wholesale market in the United States of America, serves 14 states.[42] PJM operates six different markets and this is made up of a day-ahead energy market, a real-time energy market, a capacity market, a regulatory market, a synchronized reserve market, and a financial transmission rights (FTR) markets.[43] The PJM capacity market started on January 1 1999. The main objective of setting up the PJM capacity market was to correct the differences between the local electricity capacity markets but the redesign that took effect from the 1st of June 2007, took account of the investors and made the capacity market a means of earning revenue.[44] The PJM market design uses a tight integrated energy and capacity markets and in 2011, PJM wholesale market consisted of 72.5% for energy market and 18.2% for capacity market.[45]

The US wholesale electric sales are administered in two ways as approved by FERC in 1996; through bilateral contracts or through an independent organisation called independent system operator (ISO). [46] The PJM falls into the second approach since it is an independent transmission operator. In the wholesale electricity market with an ISO, market power exists if the market does not clear without a particular generator or generators. Mitigation of this market power by ISO's can be through divestiture of generation assets, offer auction price caps, order refunds where pricing is found to be excessive or incentives for truthful bidding but mostly FERC regulates market power through approval of wholesale power/electricity at market prices.[47] These auction market designs are reflected in the PJM's RPM, which includes a 3 years forward looking annual locational market, mandatory selling and buying of capacity annually and requirement to offer and buy capacity resources and load as well as incentives for market power mitigates rules and a mandatory recall of energy in PJM defined emergency.[48]

The PJM net market revenue has indicated that without the capacity market, the combustive turbine (CT) and the combined cycle (CC) market revenues would have been lower.[49] The PJM provides an integration of renewable resources due to the environmental and renewable energy regulation but this new regulation increased the price in regional transmission generation by 34%.[50] In addition to that, the new regulation also resulted in the retirement of some coal units amounting to 11% of installed PJM capacity, which is approximately 19,142.8MW.[51]

The United Kingdom (UK) and European Union (EU)

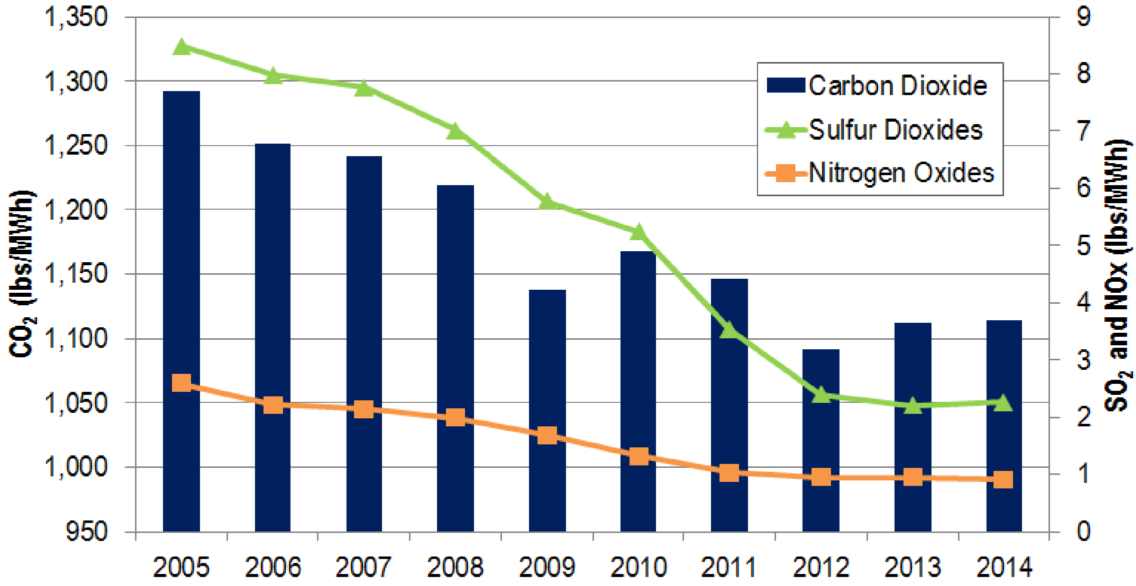
The EU's liberalization of the internal electricity market started with the 1996 Directives and subsequent EU Directives, which followed with the objective of creating a single internal electricity market to enhance competition.

The United Kingdom has since the introduction of its competition law seen electricity market reforms and in 2013 in order for the United Kingdom to meet its climate change obligations while ensuring reliable supply of electricity at affordable prices, the UK Government proposed to reform the electricity market to introduce two mechanisms to assist the electricity market to achieve its objectives; contracts for difference and capacity markets.[52] The contracts for difference mechanism is to encourage generation of electricity through the use of low carbon energy resources, to replace retiring high carbon generating plants, and yet be assured of long term payments within the electricity market while the capacity market is directed at enhancing electricity security of supply by ensuring the availability of electricity capacity when needed.[53]

Fuel Diversity (Environmental Concerns/Clean Fuel)

The United States of America (PJM)

The United States of America uses mainly coal, natural gas and some amounts of nuclear power, hydropower as well as some other renewables such as solar and wind for the production of electricity.[54] According to the Federal Energy Regulatory Commission, PJM'S generators main sources of energy for electricity production rely heavily on coal (74%) and natural gas (22%).[55] Coal has been dominating in PJM fuel sources for electricity since 2007 and as at December 2014, 21% of the entire US GDP came from PJM.[56] Although PJM heavily relied on coal and natural gas and less on renewables, PJM's average emissions from 2005 seem to have distinctively reduced since 2005 as shown in the chart below.[57]



However, as at 22 February, 2015, Energy Markets (MW) of current active projects within the PJM was led by 22,612.4MW of natural gas representing 66% of the total PJM Energy Market; 8,408.3MW of wind representing 24%; 1,896.5MW of coal denoting 6%; 1,495.49MW of other fuels also denoting 4% while 147MW of nuclear, represented 0%.[58] With respect to capacity markets, in February 2012, active projects within the PJM was also dominated by natural gas with 21,721.2MW which represented 84%; coal had 1,776.5MW representing 7%; wind was 1,099.85MW denoting 4%; other fuels made up 1,086.22MW, which was 4%; and nuclear came in last with 117MW denoting 1%.[59]

Electric power plants operating in the United States *emit about 2.2 billion tons of carbon dioxide (CO2) each year, or roughly 40 percent of the nation's total emissions.*[60] The Environmental Protection Agency (EPA) has both the authority and responsibility to reduce pollution from these plants under the Clean Air Act[61] and the

EPA has often proposed carbon pollution standards for existing power plants.[62] Therefore, in August 2015, the Environmental Protection Agency (EPA) issued it Clean Power Plan, the first in the history of USA to set carbon emission standards for existing power plants and maintain reliability and ensure affordability.[63] The Clean Power Plan acknowledged as essential the need to protect health and address the issue of climate change because fossil fuel fired power plants are the largest carbon polluters in the US and that fossil fuel will continue to be a major input in the power generation in US. Under the Clean Power Plan, the EPA intends to cut greenhouse gas emissions by 30% by 2030.

As an incentive to enhance electricity generation from renewable energy resources, section 202 (4)(A)(i), of the US Energy Policy Act of 2005, requires that a percent of funds be appropriated to enhance generation of electricity from renewable resources. Section 203 of the Energy Policy Act of 2005 requires that the US Federal government's consumption of electricity for each fiscal year should include a percentage of electricity generated from renewable energy resources. In the PJM almost all of the states have renewable portfolio standards, which requires utilities to meet their electricity requirements with some amount of renewable energy resources.[64]

The United Kingdom (UK) and European Union (EU)

The United Kingdom's electricity generation relies on coal, oil, natural gas, natural flow hydro, wind and nuclear.[65] The electricity generated from renewables rose from 19.6% in the first quarter of 2014 to 22.3% in the first quarter of 2015 and this was the case for gas and nuclear, which rose from 23.2% to 25% and 17.6% to 19.1%, respectively while the share of coal reduced from 37% to 31.3%.[66] Therefore, the United Kingdom's low carbon electricity generation share increased from 37.3% to 41.4% within that period.

Department of Energy and Climate Change was established in 2008 to ensure that the UK Government meets up its climate change obligations through the UK Climate Change Act, 2008 (c.27). Section 29 of the Climate Change Act amended the carbon emissions reduction targets under the Electricity Act of 1989 by authorizing the possibility of imposing an obligation on an electricity generator in order to fulfil the emissions targets. Renewable obligations certificates scheme as introduced by the Department of Energy and Climate Change in 2002, placed an obligation on an electricity supplier to increase the use of renewable resources.[67] Section 6 of the Energy Act of 2013 empowered the Secretary of State to make regulations in respect of contract for difference in order to enhance low carbon electricity generation while section 57 obligates any fossil fuel power plant operator not to exceed carbon emission limits.

Renewables and nuclear which are non-carbon energy sources accounted for 51% of electricity generation in 2012 but between 2011 and 2012, renewables accounted for 24% with hydro-power contributing 46% of that 24% while wind contributed 26%, and biomass and waste contributed 19% of electricity generation within the EU.[68] EU Renewable Energy Directive 2009/28/EC increased the EU energy that was required to be generated from renewables by the year 2020 from 12.5% to 20%.[69] The European Parliament and Council encourage the usage of renewable in the electricity sector under Articles 7, 27 and 53 of the Directive.[70] The EU Emissions Trading

System (ETS) was launched in 2005 as the world's biggest and first carbon market, which places a cap on emissions.[71] The EU ETS represents 45% of greenhouse gas emission from the 28 EU countries.

Electricity Affordability

The United States of America

Section 824(d)(a)[72] provides that all rates and charges made, demanded, or received by any public utility for or in connection with the transmission or sale of electric energy. In addition that, section 824(d)(d) makes it mandatory that all rates, charges, classifications, or services, or any rule, regulation, or contract relating to the sale of electric energy cannot be changed unless sixty days' notice is given to the Federal Energy Regulatory Commission (FERC) and to the public. After every 4 years, the Commission shall make a thorough review of automatic adjustment clauses in public utility rate schedules to examine whether the clauses provide enough incentives and reflect all relevant costs incurred.[73] Furthermore, FERC under section 1290 of the Energy Policy Act, 2005, may revoke a seller's authority to sell any electricity at market rates upon a finding that a manipulation of the electricity markets resulted in unjust and unreasonable rates. In the electricity wholesale market, some mechanisms allow for cost recovery outside the general rate process and these include adjustment clauses for other expenses, energy efficiency funds and tracking mechanisms.[74] Therefore, these mechanisms help investors to recoup their investments in the wholesale electricity market.

Programmes are undertaken to assist communities to access electricity as electricity security also concerns the affordability of the electric power by its consumers. In US, the Low-Income Home Energy Assistance Act of 1981,[75] authorises the Human and Health Services Secretary to make energy grants to States to assist low-income households, to meet their immediate home energy needs, particularly those with low incomes who use a high proportion of their household income for home energy. To also assist low-income earners, section 121 of the Energy Policy Act of 2005 amends the amount appropriated for the Home Energy Assistance Act of 1981 by increasing the amount for each fiscal year starting from 2007. Aside that, section 121 also encourages the use of renewable fuels by States in complying with the Low-Income Home Energy Assistance Act of 1981. Under section 123 of the Energy Policy Act 2005, States may also introduce energy programmes such as rebates for efficient use of energy. Section 126 of the Energy Policy Act, also, authorizes the secretary to make grants to units of local government, private or non-profit community development organizations, and Indian tribe economic development entities to improve energy efficiency; identify and develop alternative, renewable, and distributed energy supplies; increase energy conservation in low income rural and urban communities; and to assist local governments and private entities in developing new renewable and distributed sources of power or combined heat and power generation. Some other States offer a discount on electricity rates through lifeline tariffs, which reduces bills without reducing the incentive to use electricity.[76]

The United Kingdom (UK) and European Union (EU)

Under the European Commission's Guidelines on State Aid for environment and energy,[77] States of the European Union can grant aids to their wholesale electricity sector as long as the aids do not distort trade and competition and that the aids are for energy from renewable sources[78] and for generation adequacy.[79] In addition to that, the European Commission environmental and energy guideline also endorses aids for carbon capture sequestration, tradable permits and energy infrastructure[80] but not to rescue and restructure firms in difficulty.[81]

In respect of wholesale electricity, the UK's Energy Act of 2013 makes provision for Contract for Difference, which provides investors with long-term support for low-carbon generation that reduces the risks currently faced by generators due to exposure to volatile wholesale electricity prices and this increases price certainty through the long-term contracts.[82] Section 146 of Energy Act 2013 and section 41 of Energy Act 2008 have the combine effect of empowering the Secretary of State to modify a license or make arrangements for feed-in tariffs to establish a scheme of financial incentives to encourage small-scale low-carbon generation of electricity. On the individual level, the Energy Act 2013 (c. 32), under section 139, also makes some provision for consumer protection through modifications of domestic tariffs administered by license holders where necessary. Section 145 empowers the Secretary of State to address the situation of persons who live in energy poverty and may be required to consult the Gas and Electricity Market Authority (GEMA) of OFGEM where necessary.

Conclusion

UK and US have similar definitions for relevant market with detailed applications of competition law in their electricity markets. In the US, the per se rule applies to formation of trust and cartels but the rule of reason is used to assess price fixing and merger cases. On the other hand, in UK (EU) price fixing or market sharing is out rightly illegal but rule of reason is applied to evaluate abuse of dominant positions and mergers. The US enforcement of the Sherman Antitrust Act was focused on the private sector considering the fact there were only a few state-owned utilities and actions of federal utilities do not fall within the confines of antitrust regulation. However, the EU focused it enforcement of competition on the private companies as well as on the role of the state owned enterprises in order to prevent governments from protecting their state owned enterprises through regulation. Therefore, the EU directed its attention to the issue of state aids. Enforcement of competition law is more centralised in the UK than in the US.

The introduction of substantive competition law in the electricity sector within the two countries, UK and US witnessed the direct influence of competition laws and enforcement with respect to the increase in generated power (availability). Fossil fuels still dominate due to the profit maximisation nature of the private sector. However, through governments' incentives, the move towards the use of renewables is constantly improved. No link was established between the introduction of competition and affordability but rather government had to engage in financial programmes and subsidies to help those who cannot afford electricity. However, the enforcement of competition and prevention of price fixing, exclusive dealing and abuse of dominant position may have some indirect effect on tariffs of electricity in preventing exorbitant prices. The effect of competition on only availability of power generation keeps the lights on in both US and UK whether or not the prices are high and that greater reliance is on fossil fuel.

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