



Monthly Sustainability Newsletter

NATIONAL APPROACHES TO ENERGY EFFICIENCY

Chairman's Message

Dear members, partners and friends,

It is my pleasure to introduce the January issue of the Monthly Sustainability Newsletter from the Al-Attiyah Foundation. In this issue we take a look at approaches to energy efficiency.

Introduction of energy efficiency policies and measures has been growing fast around the world. The increasing number of countries with energy efficiency law signifies a strengthening and consolidation of the institutional commitment to energy efficiency. Energy efficiency policy measures implemented include a combination of regulations, financial and fiscal instruments and information. Energy efficiency policy measures are usually adapted for the different economic activities and end-uses. After decades of consecutive increases, GHG emissions from fuel combustion have been steady at around 32 billion tonnes of carbon-dioxide equivalent (GtCO₂-eq) since 2014. This is due to a combination of the decline in energy intensity and the change in the energy mix towards natural gas and renewable energy.

Falling energy intensity offset 77% of the impact on global emissions from GDP growth since 2014; the changing fuel mix offset the remaining 23%. This result affirms the vital role of energy efficiency in steadying and reducing emissions. This month's issue presents snapshots of the approaches to energy efficiency, adopted by some selected developed and developing countries. The underlying trends and indicators are highlighted.



National Energy Efficiency Policy 2016/17

Several countries have announced new policies or implemented elements of previously adopted policies to promote energy efficiency since 2016. Examples include the Pan-Canadian Framework on Clean Growth and Climate Change, the European Commission's recast Energy Efficiency Directive (EED), fuel efficiency standards in India and Mexico's Energy Transition Law.



Argentina

The Ministry of Energy and Minerals launched a behavioural programme for public buildings (similar to the Guide of Good Practices for the Responsible Use of Energy) at the end of 2016. The programme issued guidelines for responsible energy use, including adjusting thermostats and lighting schedules. The second phase will assign an energy manager to each public building. A Diploma in Energy Management programme was also introduced (Ministry of Energy and Minerals, Argentina, 2017).



Brazil

Energy efficiency plays a key role in Brazil's Nationally Determined Contribution (NDC) commitment to reduce GHG emissions by 37% by 2025 compared with 2005. This involves a 10% energy efficiency improvement target for 2030 and a new National Energy Efficiency Action Plan (Federative Republic of Brazil, 2015). The most common incandescent lightbulbs were banned in June 2016 to pave the way for their replacement by light emitting diode (LED) bulbs (INMETRO, 2016).



Canada

In December 2016, the Pan-Canadian Framework on Clean Growth and Climate Change was announced, which aims to facilitate co-ordination by the federal, provincial and territorial governments (Government of Canada, 2017). Also, in 2016, energy performance standards were tightened for 20 product categories and energy efficiency programmes for the industry sector were launched in Manitoba, Ontario, Saskatchewan and Toronto.



China

In June 2016 the Chinese government launched the Leading Efficiency Programme (LEP), an energy labelling initiative. The first phase covers televisions, variable-speed drives for air conditioners, and refrigerators. To qualify, products must be made and sold in mainland China (CLASP, 2016).



European Union

The European Commission's proposed update to the Energy Efficiency Directive (EED) extends the energy savings target from 20% of projected primary energy by 2020 to 30% by 2030. Another requirement is for energy utilities to save 1.5% per year by deploying energy-efficient technologies and management strategies, or for member states to come up with alternative measures. The update is part of a package of measures that also includes dedicated measures for buildings, products and energy efficiency financing (European Commission, 2017).



Germany

A National Top Runner Initiative for residential appliances was launched under the National Energy Efficiency Action Plan in 2016 by the Federal Ministry for Economic Affairs and Energy. Germany also launched a programme to fund smart grid pilot projects; a programme to reduce commercial and industrial waste heat; an incentive programme for the industry and services sectors to encourage energy efficiency improvements at the system level and a green paper on energy efficiency.



India

The first phase of new fuel economy standards for Light-Duty Vehicles (LDVs) in India, originally scheduled to start in 2016, took effect in 2017. Combined with the second phase, which is scheduled to begin in 2022, the standards are expected to avoid 50 million tonnes of CO₂ that would otherwise have been emitted in 2030. Also, in 2016, the second cycle of India's Perform, Achieve, Trade energy efficiency programme for industry was launched, increasing the coverage to about half of industry energy use. By 2019, the programme aims to reduce industry energy use by 4% compared with 2014. Firms can comply with the targets by achieving their own energy savings or, from 2017, by purchasing energy savings certificates on the open market (Ministry of Power, India, 2017).



Mexico

At the end of 2015, Mexico published an Energy Transition Law that defines a transition strategy for the deployment of

clean energy and energy efficiency in the power generation sector. The strategy sets a goal of reducing final energy intensity at an average annual rate of 1.9% between 2016 and 2030 and 3.7% between 2031 and 2050. A roadmap launched by the Secretariat of Energy describes the overall and sector-specific actions required to meet the goal. The government also issued more stringent Minimum Energy Performance Standards (MEPS) for LED lightbulbs in January 2017 (CONUEE, 2017).



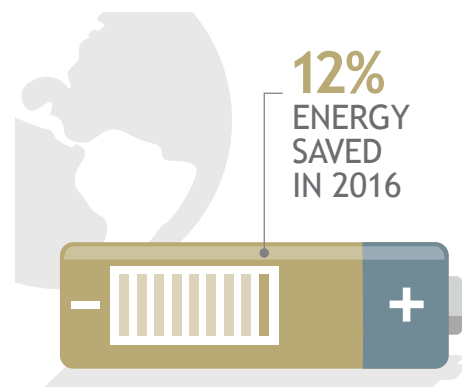
United States

Many states made important progress on policies that promote energy efficiency in 2016. Two examples are California and Illinois. In California, the government started to implement two key laws related to energy efficiency – the Clean Energy and Pollution Reduction Act and State Assembly Bill 802 (AB 802). The Act requires savings of electricity and natural gas to double by 2030 (compared with 2015 levels). AB 802 complements the Act by establishing a buildings energy-use benchmarking and disclosure programme. This will expand consumer access to energy data and ensure that more buildings comply with efficiency standards. In Illinois, the Future Energy Jobs Bill was signed into law in December 2016 and took effect in June 2017. It increases energy savings obligations for the state's largest utilities. For example, the electricity distribution company serving the Chicago area must achieve cumulative energy savings of 21.5% by 2030 (2012 baseline). The law also doubles the spending cap on utilities' energy efficiency programmes from 2% of revenue to 4%, and creates incentives for utilities to implement the programme. Importantly, it also allows utilities to include programme costs in their tariff schedules – previously efficiency was paid for separately. Building efficiency into tariffs makes it more of a "core" utility business model (MEEA, 2017; Illinois General Assembly, 2017).

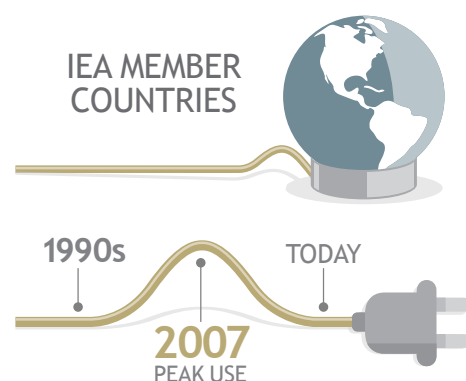


Energy Efficiency Trends and Indicators

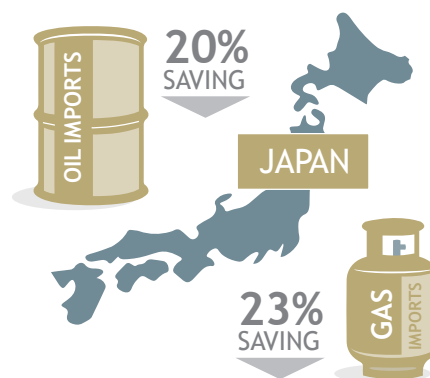
- Global energy intensity – primary energy demand per unit of gross domestic product (GDP) – continues to fall. Since 2010, intensity has declined on average at 2.1% per year, a significant increase from 1.3% between 1970 and 2010. The rate of intensity improvement varies widely: energy intensity improved faster in China than in other major economies. In fact, without China, global energy intensity would have improved by only 1.1% in 2016.
- The fall in global energy intensity means the world is able to produce more GDP for each unit of energy consumed – an energy productivity bonus. This bonus was US\$2.2 trillion in 2016 – equal to twice the Australian economy. Owing to its big fall in intensity and the sheer size of its economy, China accounted for half of this bonus, and the United States another quarter.
- Falling energy intensity is the main factor behind the flattening of global energy-related greenhouse gas (GHG) emissions since 2014, offsetting three-quarters of the impact of GDP growth. An increase in the share of renewable energy and other low-emission fuels was responsible for offsetting the other quarter.
- Without efficiency improvements since 2000, the world would have used 12% more energy than it did in 2016 – equivalent to adding another European Union to the global energy market. Improvements in energy efficiency are the biggest contributor to reduced energy use and emissions, more than twice as important as the shift in economic activity towards less energy-intensive sectors.
- In emerging economies, energy efficiency gains have limited the increase in energy use associated with rapid economic growth. Without efficiency, total energy use among the member countries of the International Energy Agency (IEA) would still be increasing. Instead, efficiency has led to a peak in total energy use in 2007, and a subsequent fall to levels not seen since the 1990s.
- Energy efficiency has made a big contribution to energy security. In many countries efficiency improvements since 2000 meant no additional spending on energy imports. In Japan in 2016, for example, oil imports would have been 20% higher and gas imports 23% higher without efficiency gains. In the UK and France, energy efficiency gains helped reduce the daily supply capacity needed to maintain current levels of short-term gas security.



Without efficiency improvements since 2000, the world would have used 12% more energy than it did in 2016.



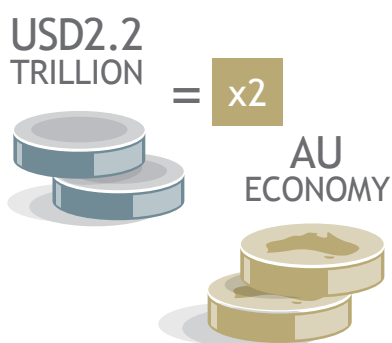
Efficiency has led to a peak in total energy use in 2007, and a subsequent fall to levels not seen since the 1990s.



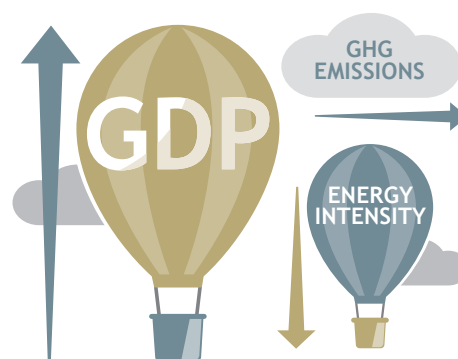
In Japan, efficiency gains in 2016 achieved a 20% saving in oil imports and a 23% saving in gas imports.

References:

www.iea.org
www.un.org
www.worldbank.org
www.communicationpackage.com



The energy productivity bonus was USD 2.2 trillion in 2016 – equal to twice the size of the Australian economy.



Falling energy intensity has flattened global energy-related greenhouse gas emissions since 2014, offsetting 3/4 of the impact of GDP growth.