



# Update on Secretariat Activities

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Jeremy Sung

DSM ExCo Day 1, Bern, Switzerland, 4 March 2019



- Upcoming activities of the Energy Efficiency Division
- Energy Efficiency 2019
- Global Energy & CO<sub>2</sub> Status Report
- GABC 2018 Global Status Report
- TCP Secretariat updates

# Energy Efficiency Division Work in 2019

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- **Transport Energy Efficiency**

- [The Future of Rail](#)
- [Global Fuel Economy Initiative](#) (GFEI) – March 2019
- Global Electric Vehicle Outlook 2019 – May 2019

- **Buildings Energy Efficiency**

- Regional buildings sector roadmaps for Latin America, Asia and Africa
- [Global Status Report for Buildings and Construction](#)
- Online training course for the buildings sector in collaboration with CAF Development Bank of Latin America

- **Energy Efficiency Analysis for G20 Countries**

- IEA is providing energy efficiency analysis as input to the Japanese G20 presidency in 2019
- Includes recent trends and outlooks in energy demand and intensity; energy efficiency metrics for industry, transport and cooling; and analysis of energy efficiency policy coverage and strength
- Encouraging further data sharing and analysis among G20 countries

- Energy Efficiency Training Week for India
- Upcoming Training Weeks
  - Southeast Asia, Bangkok, 1-4 April
  - Global, Paris, 20-24 May
- Strengthening engagement with ASEAN
  - ASEAN-IEA Cooling Partnership
- CAF Massive Open Online Course
  - Online training for Latin America
- Active work programmes with all key countries



- **Efficient World Financing Forum**

- Facilitate technical cooperation between international financial institution
- Address barriers required to accelerate energy efficiency finance
- Annual global forum that will focus on better understanding the existing gaps



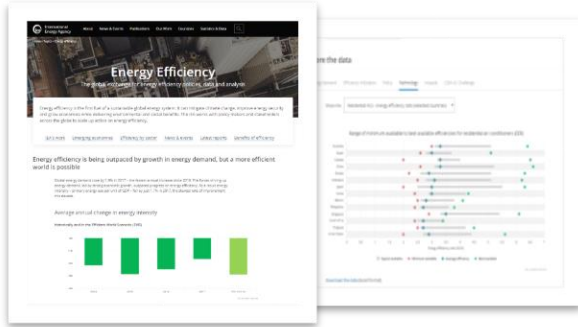
- **Efficient World Financing Forum**

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- **ESCOs**

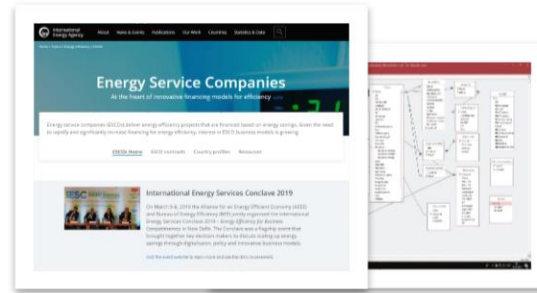
- New ESCO knowledge resource launched in February 2019
- Covering scale, financing models, energy performance contracting, and related policy measures
- 32 countries covered
- Upcoming analysis includes: Indonesia, Ireland, New Zealand, Ukraine and Turkey
- [www.iea.org/efficiency](http://www.iea.org/efficiency)

# Global Exchange – evolving our online platform for energy efficiency



Major site overhaul, improved navigation, interactive charts and resource browser

2018



New resources (ESCOs, digitalisation); online reports; improved user experience

2019



- Revamp of website including 'back end' architecture
- EE Division exemplary collaboration with web team & input on concept of site redesign
- Improved usability, additional functionalities

2020

**Objective:** To create a unique, global, virtual one-stop-shop for energy efficiency

**EEWP inputs:** updated policy information & guidance in platform development





# Energy Efficiency

The global exchange for energy efficiency policies, data and analysis

Energy efficiency is the first fuel of a sustainable global energy system. It can mitigate climate change, improve energy security and grow economies while delivering environmental and social benefits. The IEA works with policy makers and stakeholders across the globe to scale up action on energy efficiency.

[IEA's work](#) | [Emerging economies](#) | [Efficiency by sector](#) | [News & events](#) | [Latest reports](#) | [Benefits of efficiency](#)

## Energy efficiency is being outpaced by growth in energy demand, but a more efficient world is possible

Global energy demand rose by 1.9% in 2017 – the fastest annual increase since 2010. The forces driving up energy demand, led by strong economic growth, outpaced progress on energy efficiency. As a result energy intensity – primary energy use per unit of GDP – fell by just 1.7% in 2017, the slowest rate of improvement this decade.

### Average annual change in energy intensity

historically and in the Efficient World Scenario (EWS)



- The IEA has launched a cross-agency initiative to explore the potential impacts of digitalisation on energy efficiency and implications for policy makers
- Digitalisation themes will be highlighted at the IEA's upcoming [4th Global Conference on Energy Efficiency](#), and in the *Energy Efficiency 2019* report
- Webinars and Workshops
- Online resource library to frame opportunities and issues
- Developing policy responses and concept of policy readiness

- Two day event that will bring together Ministers, CEOs, the heads of international organisations and other leaders
- Opening by the Irish Prime Minister (Taoiseach), Mr Leo Varadkar
- Confirmed speakers include Energy Ministers from Ireland and Luxembourg and the CEOs of Enel X, Saint-Gobain, Siemens and BP Alternative Energy
- Focus on the impact of digitalisation on energy efficiency and opportunities for policy making
- Expecting a global audience of more than 300



# Energy Efficiency 2019

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- Provide updated trends and analysis
  - Energy efficiency progress and impacts (decomposition analysis)
  - Policy (regulations, incentives and others)
  - Energy efficiency investment and finance
- Digitalise more content
  - Shorten the physical report, publish more content on <http://iea.org/efficiency>
- Explore emerging trends affecting efficiency, focussing on the question:

***“ What does digitalisation mean for energy efficiency and what can policy makers do to harness digitalisation for energy efficiency?”***

## Part I: Recent trends and “qualitative” short term outlook

- Global trends in energy use and intensity
- Impacts of efficiency
- Drivers of efficiency

## Part II: Emerging trends: Digitalisation of efficiency

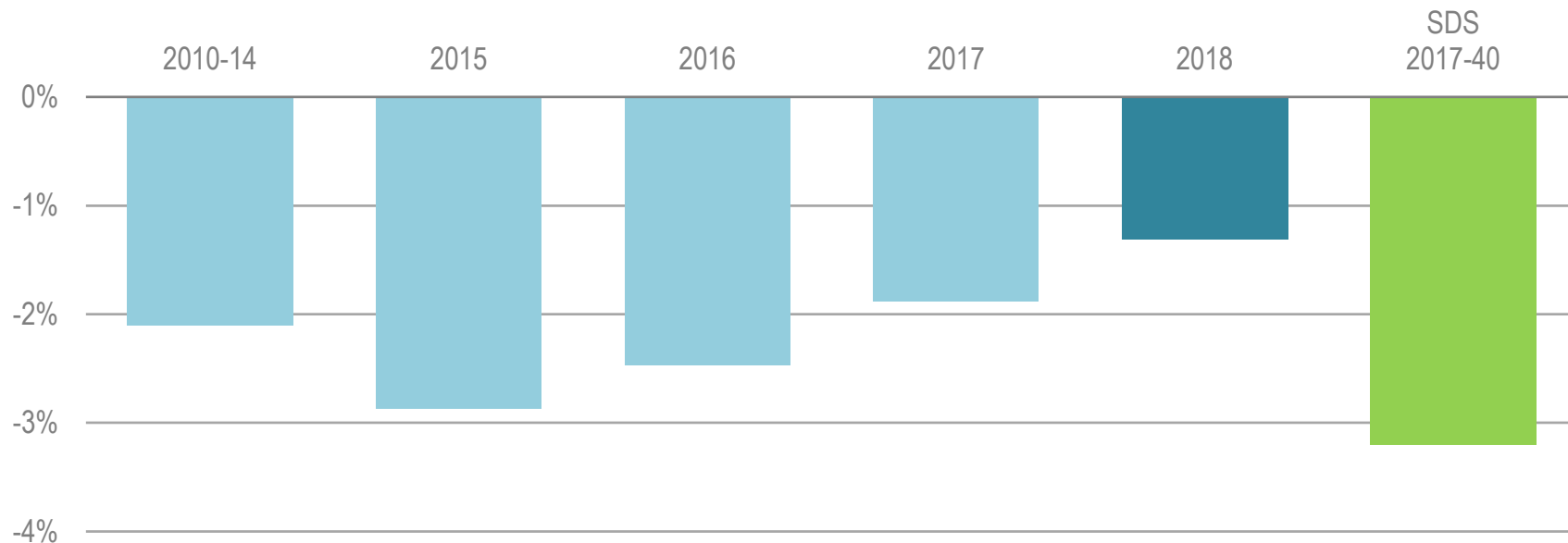
- Key technologies
- Business models
- Impacts

## Part III: Policy options and recommendations

- Policy case studies: Successes and failures
- Examining policy readiness for digitalisation
- Recommendations

# Sneak preview: Energy intensity improvements slowed again in 2018

Average annual change in primary energy intensity, historically and in the SDS



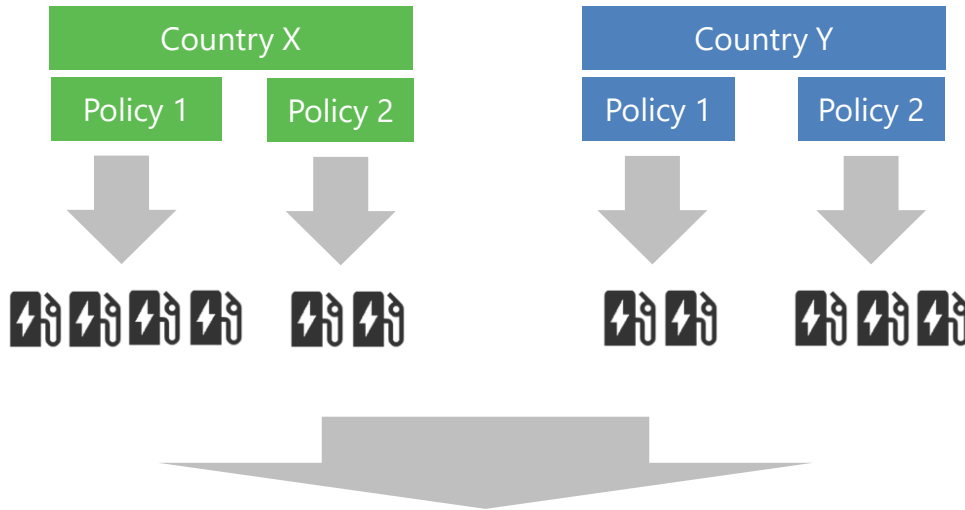
**In 2018 energy intensity improved by 1.3%, half the rate of the period 2014-2016. Stagnant energy efficiency policy implementation and strong demand growth in more energy intensive economies contributed to this slowdown.**

1. Policy impacts analysis – beyond energy and emissions savings
2. Tracking policies against the *Efficient World Strategy*
3. Policy framework to maximise the benefits of digitalisation for energy efficiency



# 1. Policy impacts analysis

- What technologies have been deployed or projects funded by financial incentives
- Want to answer **“What works and how much does it cost?”**



- Equipment installed and average cost by incentive type
- Number and type of projects funded etc.

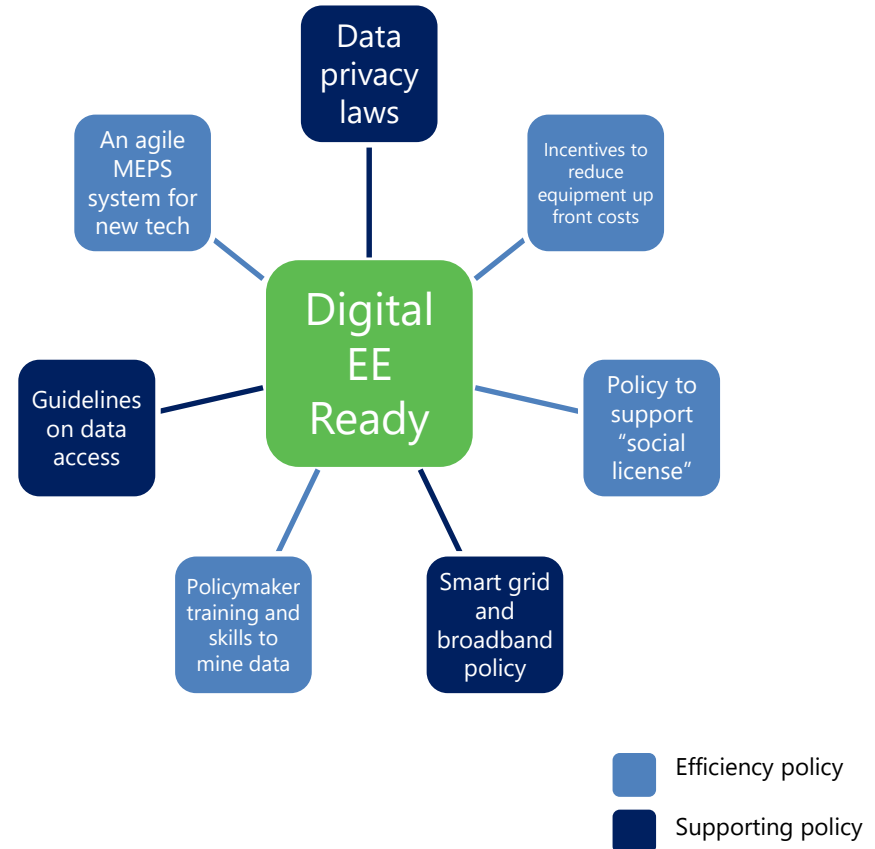
## 2. Tracking new policies against the *Efficient World Strategy*

- Purpose: To monitor implementation of recent and new policies against recommendations in the *Efficient World Strategy* from *Energy Efficiency 2018*.

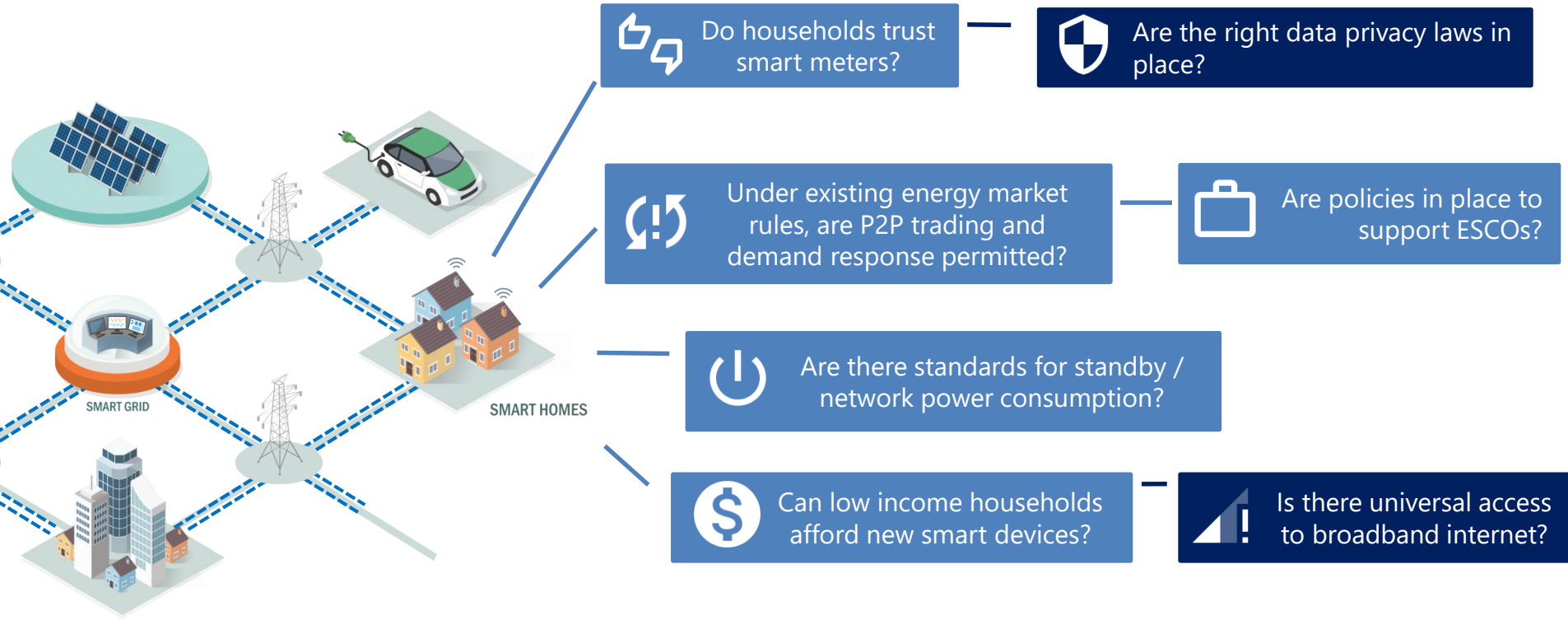
		<b>Regulatory</b> (increase coverage/strength mandatory codes and standards)	<b>Financial incentives</b> (to push market towards best available tech)	<b>MBIs</b> (to grow market for efficiency and encourage investment)	<b>Information</b> (Expanded professional training and accreditation)
Country A	Policy 1	●			
	Policy 2	●			●
	Policy 3		●		
Country B	Policy 1		●		
	Policy 2			●	

### 3. Policy framework to maximise the benefits of digitalisation

- Targeted at policy makers
- Seeks to answer: *“What policies are needed to maximise the potential efficiency benefits from digitalisation?”*
- Will build on existing work:
  - *Going Digital Integrated Policy Framework* (OECD, 2019)
  - *No regrets policy recommendations for digitalisation and energy* (IEA, 2017)



# Case study: Policies to support smart homes



- Case studies demonstrating:
  1. Policies that have **enabled** the roll-out of digital technologies to improve energy efficiency?
  2. Policies that have **prevented** roll-out of digital technologies to improve energy efficiency?



A policy framework to maximise the energy efficiency benefits from digitalisation

**Part I: Recent trends and “qualitative” short term outlook**

**Part II: Emerging trends: Digitalisation of efficiency**

**Part III: Policy options and recommendations**

Member countries

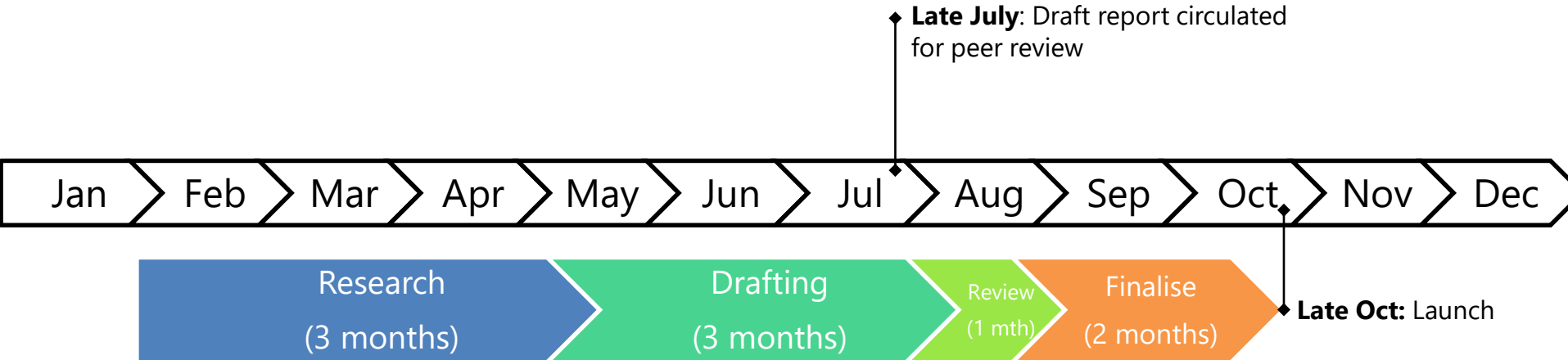
TCPs



Industry Advisory Board

- Others (You?)

# Report timeline



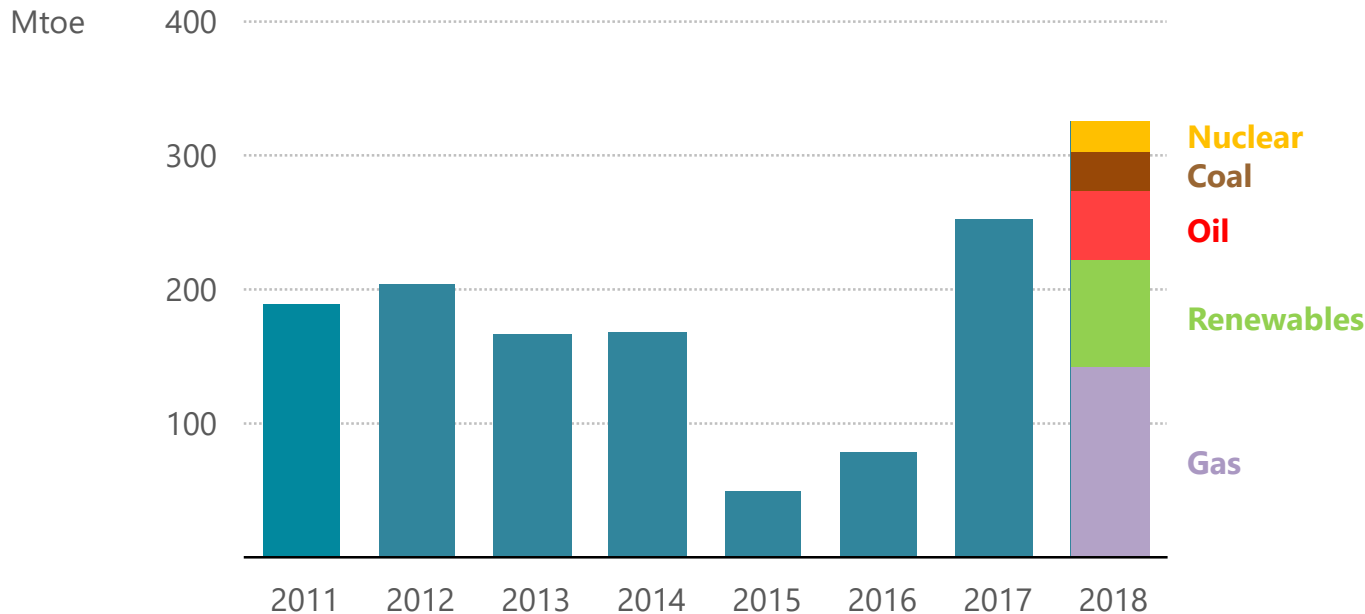
# Global Energy & CO<sub>2</sub> Status Report

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# 2018 – a remarkable year for energy

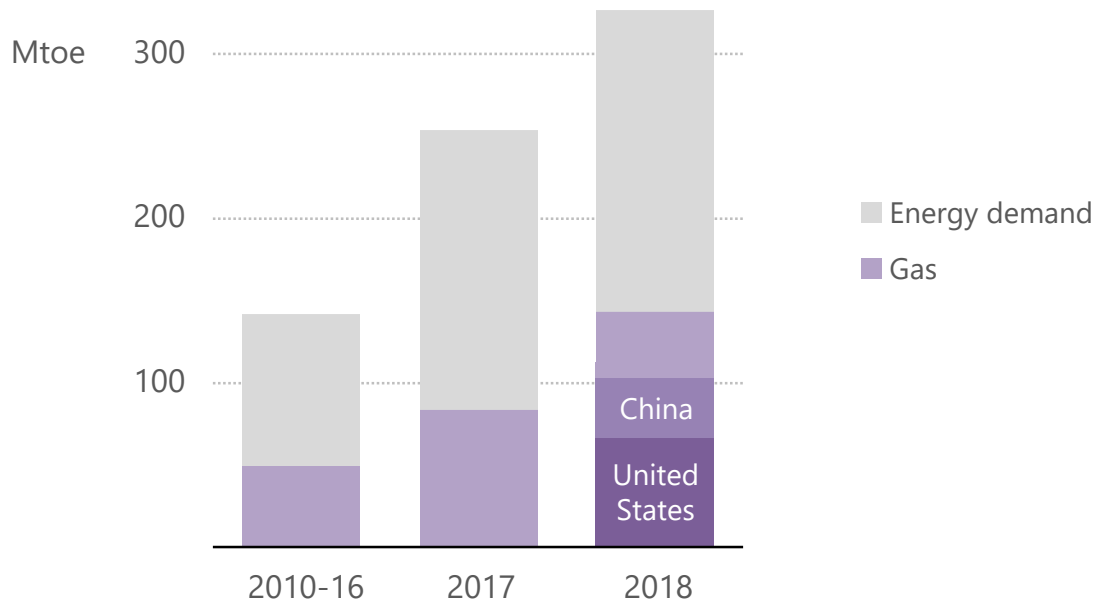
Annual change in global primary energy demand, 2011-18



**Global energy demand last year grew by 2.3%, the fastest pace this decade, an exceptional performance driven by a robust global economy, weather conditions and moderate energy prices.**

# 2018 was another golden year for gas

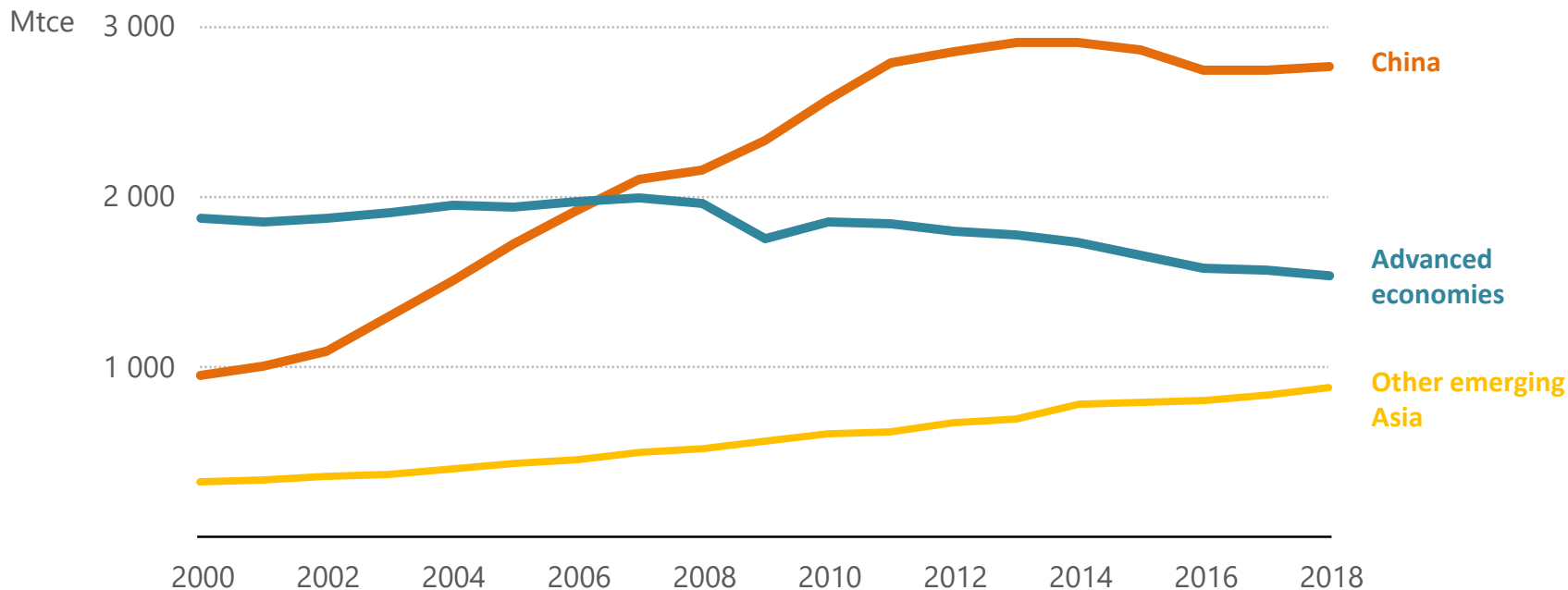
Average annual change in global energy demand, 2010-18



**Gas demand jumped by 4.6% in 2018, accounting for nearly 45% of overall demand growth. The United States led the growth due to relatively low prices and weather, China followed, driven by the push for 'blue skies'.**

# Coal demand evolves at three speeds

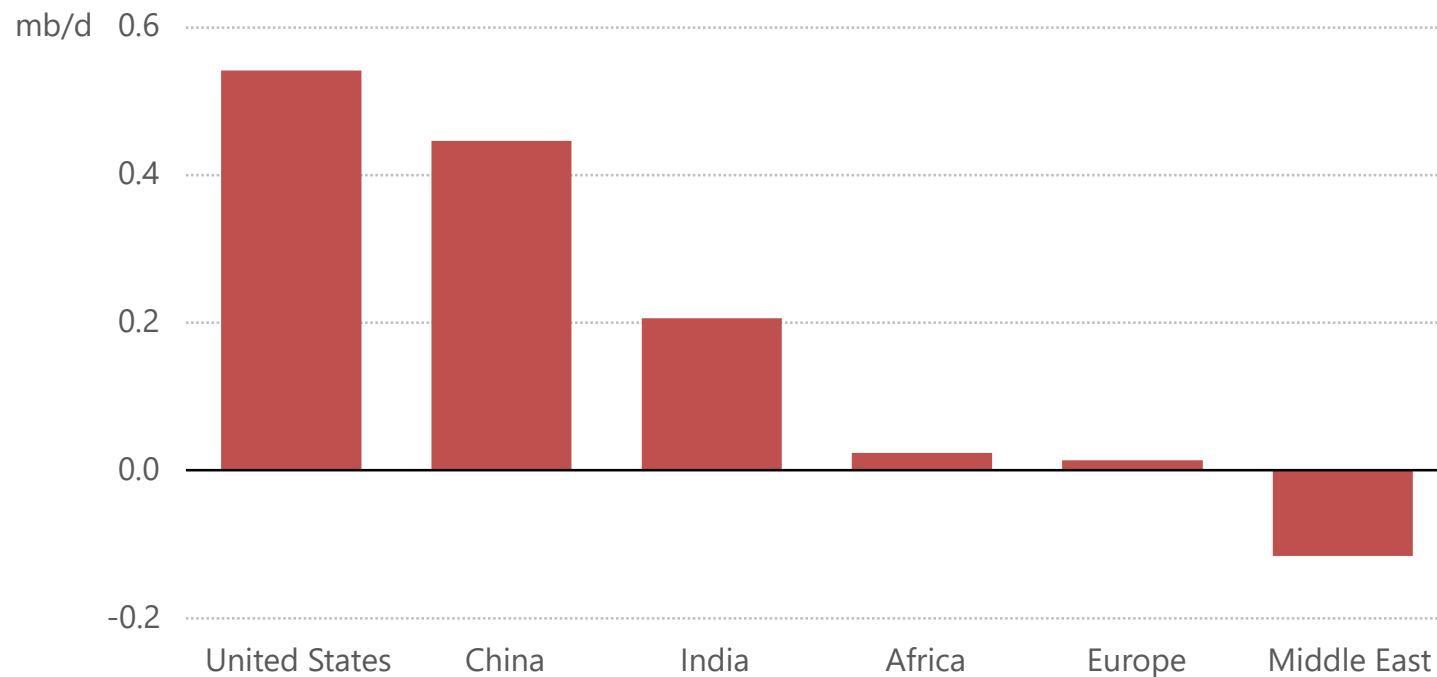
Coal demand by region, 2000-18



**Demand moves up in emerging Asia, while policies and economics in advanced economies continue to drive down coal use. China's sheer size dictates global trends, but demand moves onto a plateau.**

# The United States led oil demand growth

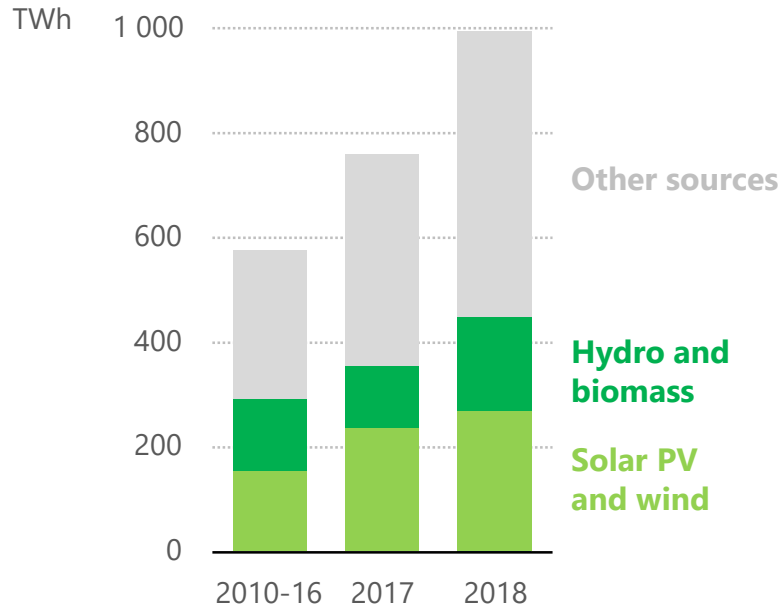
Change in oil demand by selected region, 2017-18



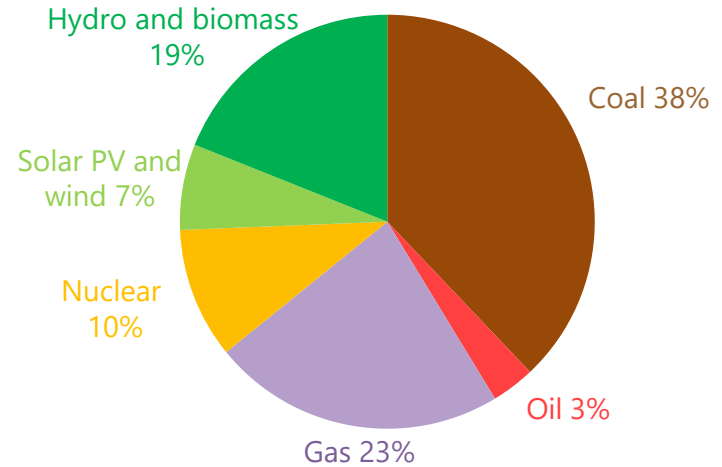
**Robust global oil demand growth of 1.3 mb/d was led by the United States, supporting expansion of the petrochemical industry and rising shale oil production. Elsewhere, growth was concentrated China and India.**

# Electricity growth outpaces renewables acceleration

Average annual change in electricity generation, 2010-18



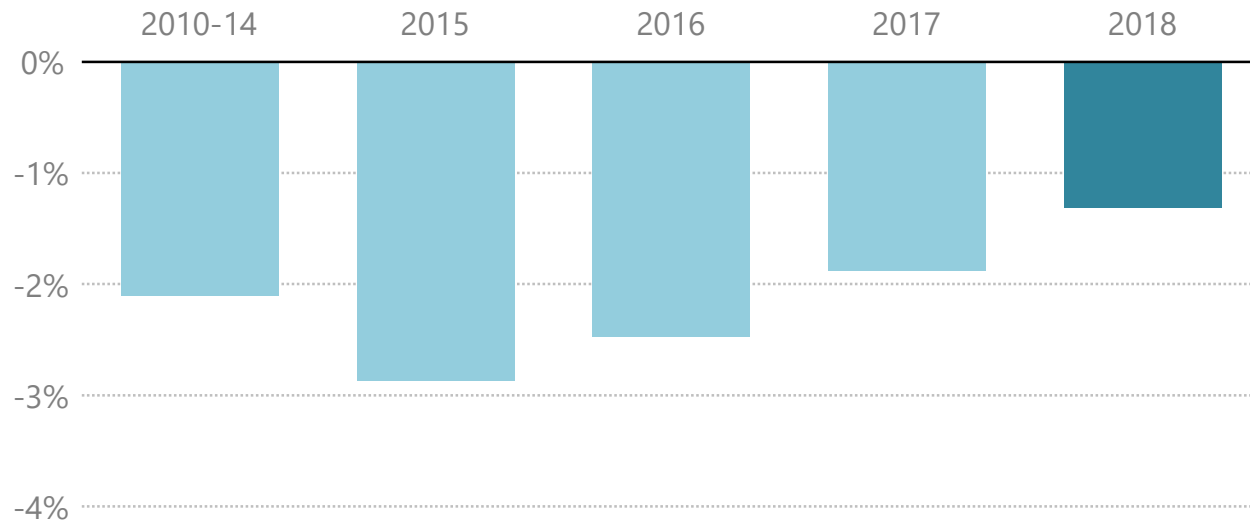
Electricity generation mix in 2018



**Renewables accounted for the largest growth in electricity demand, led by growth in solar, wind and hydro. However, this growth was not fast enough to bend power sector emissions.**

# Efficiency improvements slowed again in 2018

Average annual change in primary energy intensity, 2010-18

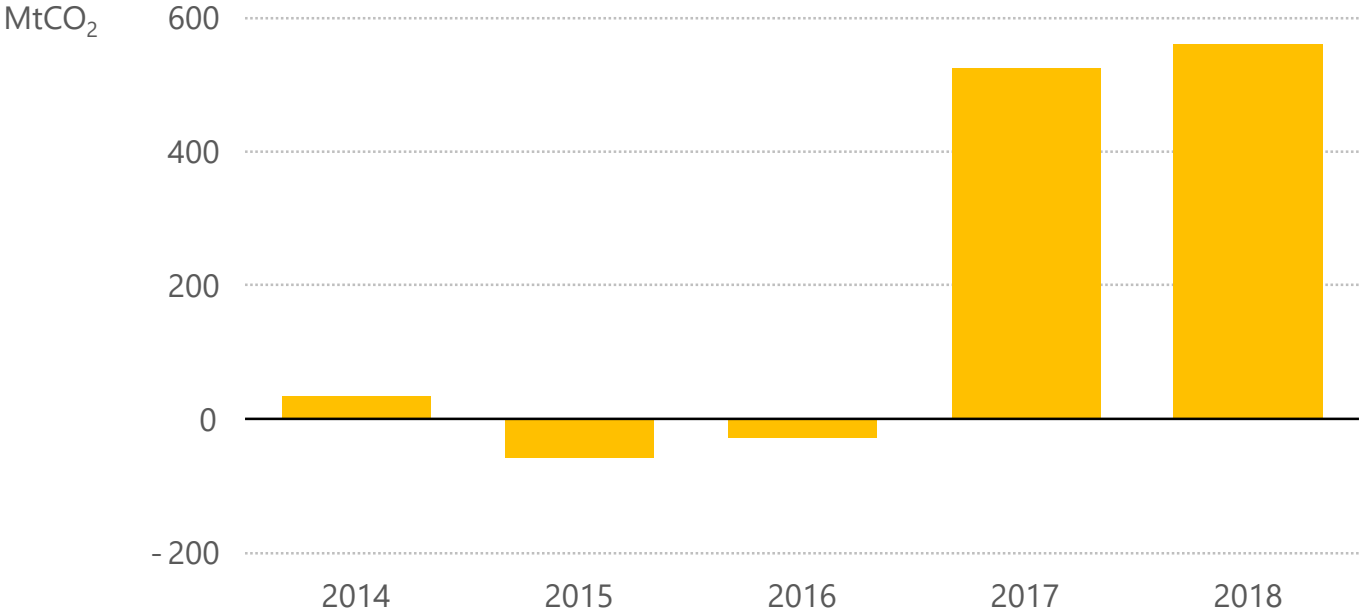


**In 2018 energy intensity improved by 1.3%, half the rate of the period 2014-2017. Weaker energy efficiency policy implementation and strong demand growth in more energy intensive economies contributed to this slowdown.**

# Energy-related CO<sub>2</sub> emissions hit a record high...



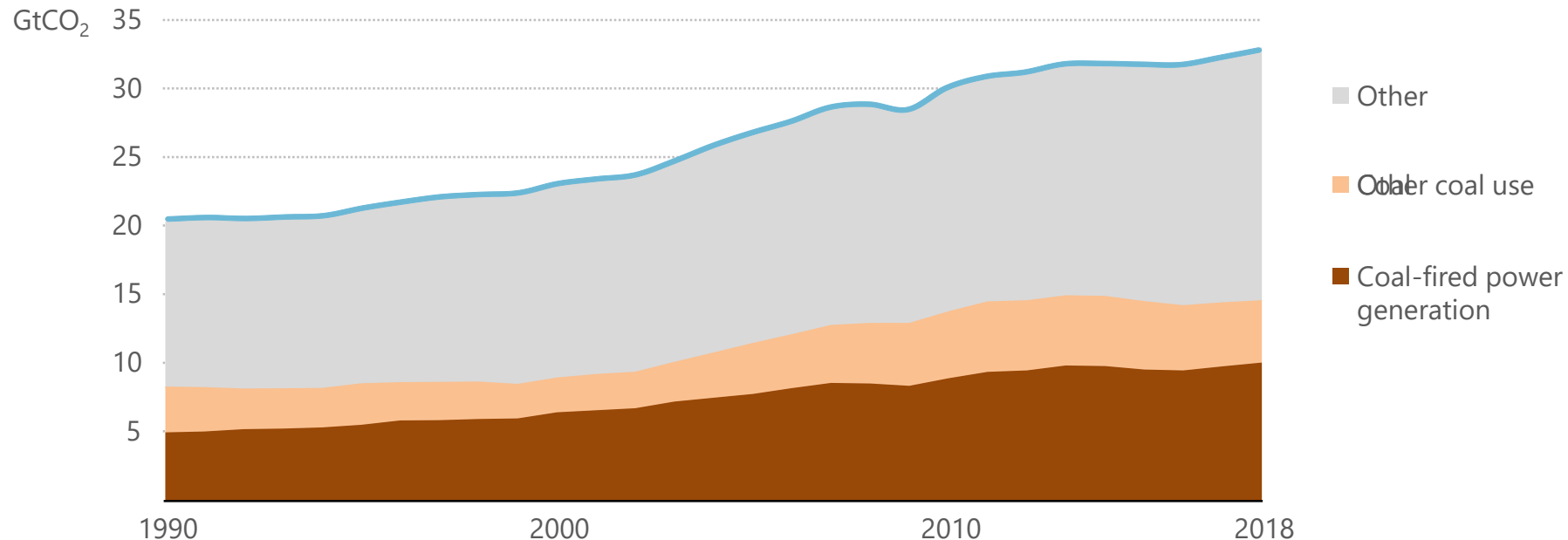
Annual change in global energy-related CO<sub>2</sub> emissions, 2014-2018



**Higher demand for fossil fuels drove up global CO<sub>2</sub> emissions for a second year after a brief hiatus. Increases in efficiency, renewables, coal-to-gas switching and nuclear avoided 640 Mt of CO<sub>2</sub> emissions.**

# ..led by coal in power generation in Asia

Global energy-related CO<sub>2</sub> emissions, 1990-2018



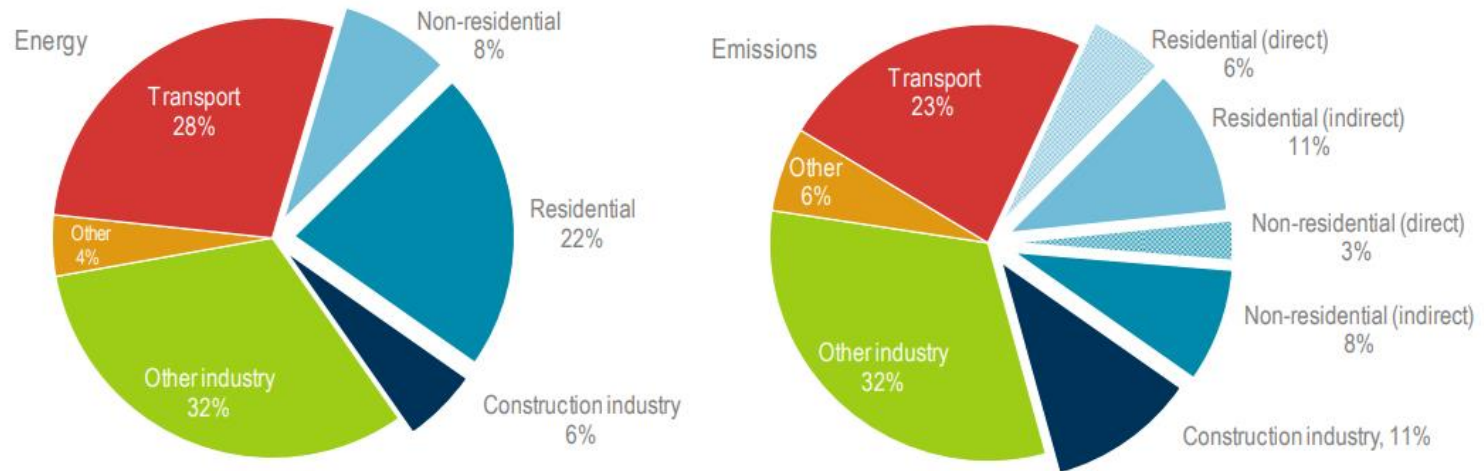
**Emissions from coal continue to rise, driven by increasing coal use mostly for power generation in Asia. Coal is the largest source of emissions, and associated with around one-third of the warming to date.**



# GABC 2018 Global Status Report

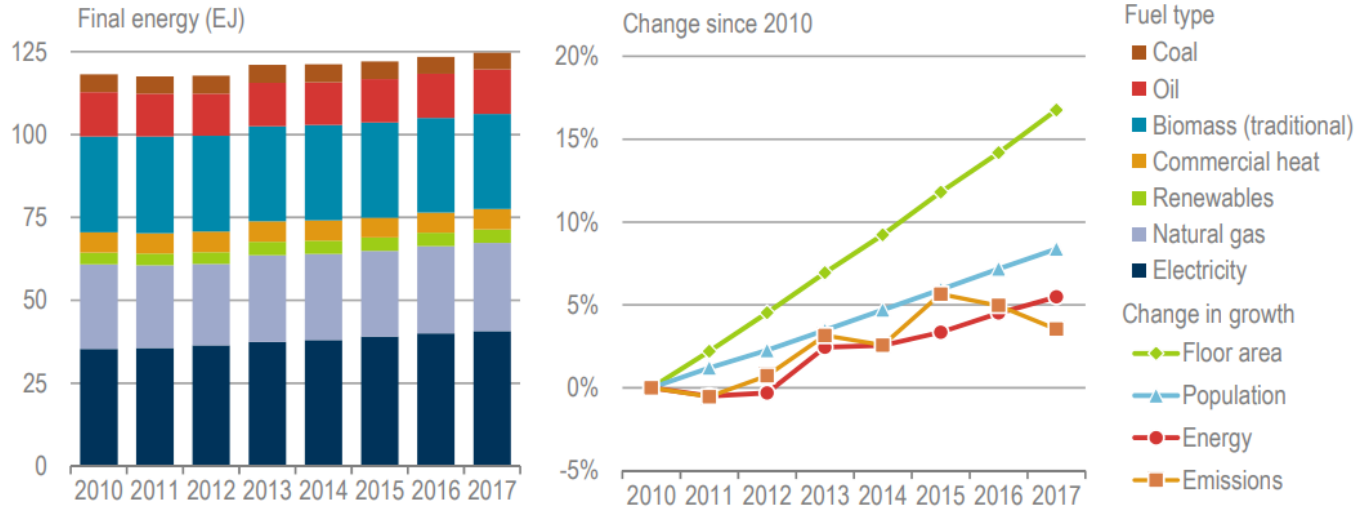
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Global share of buildings and construction final energy and emissions, 2017



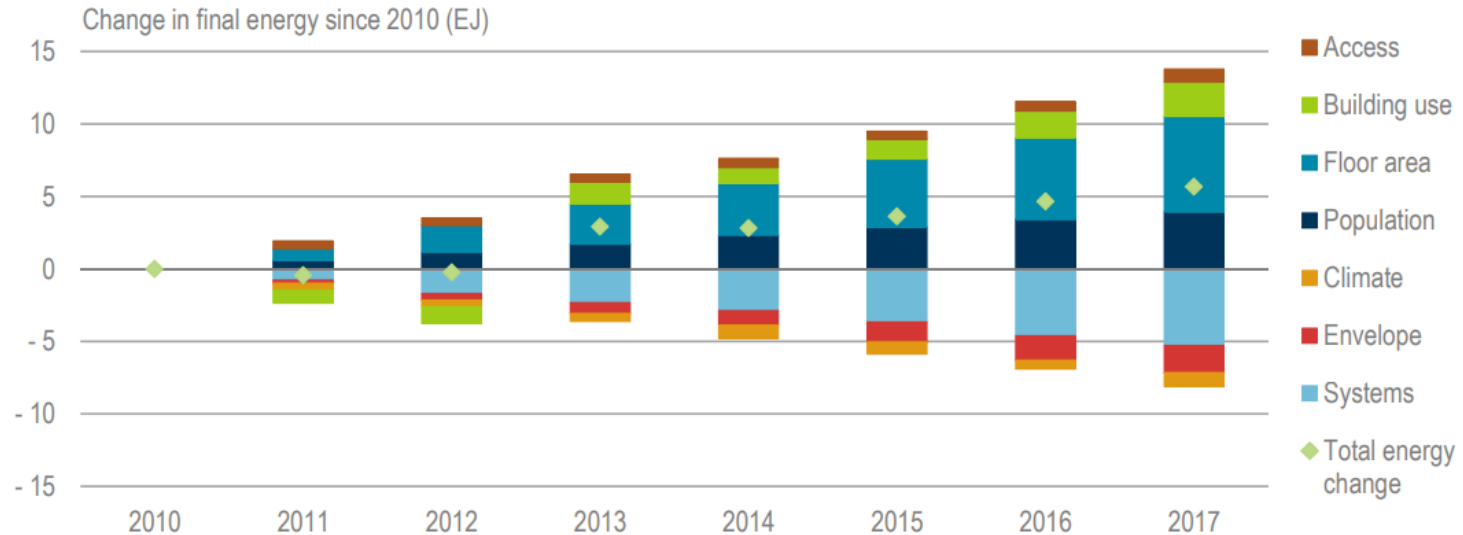
**The buildings and construction sector is a key actor in the fight against climate change: it accounted for 36% of final energy use and 39% of energy- and process-related emissions in 2017.**

Global buildings sector final energy use by fuel type and change in indicators, 2010-17



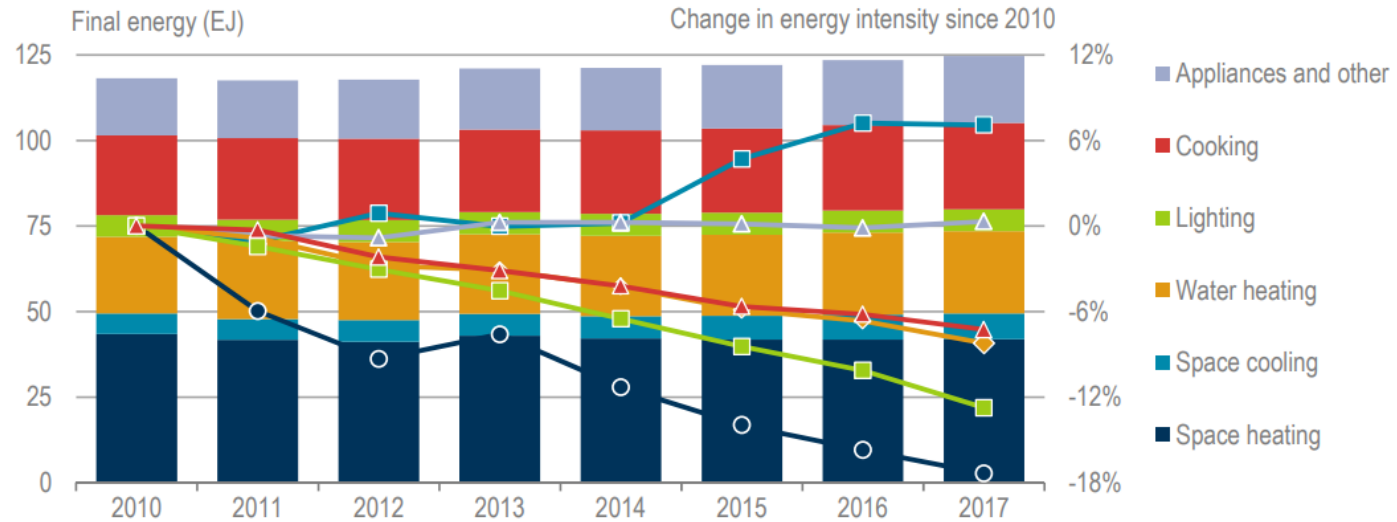
**Final energy demand in buildings has risen by 5% since 2010, with the impact from the growth in floor area and population outpacing the impact of energy efficiency improvements.**

Influence of factors on global buildings energy use, 2010-17



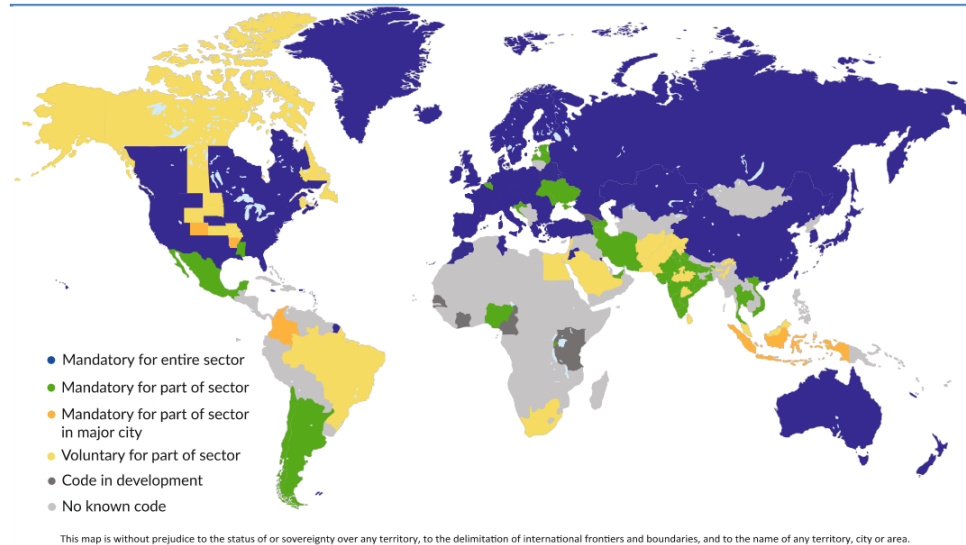
**Buildings sector energy use continues to grow, despite improvements in building envelopes and systems, which are not fast enough to offset strong population and floor area growth.**

Global buildings final energy use and change in intensity by end use, 2010-17



**Space cooling and appliances and other plug loads are the fastest-growing building end uses; however, only space cooling has grown in energy intensity per unit floor area.**

## Building energy codes by jurisdiction, 2017-18



Source: Derived from IEA (2018c), *Energy Efficiency Policies: Buildings*, [www.iea.org/topics/energyefficiency/policies/buildings](http://www.iea.org/topics/energyefficiency/policies/buildings).

**69 countries have either voluntary or mandatory building energy codes. However, two-thirds of countries still do not have any sort of building energy code.**

# TCP Secretariat updates

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- **TCP Universal Meeting – 18-19 June 2019**
  - Day one, IEA delegates + TCPs: Vision for 2030s
    - Highlighting innovation and TCP success stories and what we can learn from them
    - Outlining where we want the TCP Network to be in 2030
  - Day two, TCPs: How do we get there?
    - How best to work with emerging economies
    - Engagement with other multilateral initiatives
    - Improving TCP operations and sharing best practices,
    - Increasing impact of TCP work through better communications
- **IEA Secretariat seeking input from all TCPs through Survey**
  - TCP Chair (or Secretary/Operating Agent) to submit on behalf of ExCo by **April 30**



- **New IEA innovation portal → [www.iea.org/innovation](http://www.iea.org/innovation)**
  - New website launched this year bringing together all the IEA's work on innovation
  - Secretariat will be revamping the TCP landing page and asking for your input
- **IEA Rebranding exercise**
  - IEA is undertaking a rebranding exercise in 2019, including new logos and website
  - Opportunity to rethink how TCPs are portrayed and to provide uniform guidance
- **Communication guidelines**
  - Many comments were received and we are taking TCP feedback into account
  - We plan to discuss TCP communications in this context at the Universal Meeting
  - May include update of the blue ETN logo and communications best practices

- **Modernisation of TCP Legal Mechanisms**

- Opportunity for IEA's Governing Board to set strategic priorities for TCPs
- Secretariat will work with TCPs to amend each TCP Implementing Agreement
  - Simplify and streamline the legal texts and related administrative procedures
  - Ensure legal texts are “fit for purpose” and reflect the reality of TCPs
- Secretariat will create practical tools for TCPs to improve external collaboration
  - Proposal for short-term task structure (compared to multi-year Annexes)
  - Create new uniform project structures to simplify TCP-TCP collaboration
  - Outlining where we want the TCP Network to be in 2030
  - New mechanism for IEA to lead a TCP task as “Coordinator”

- **Legal Office will be working closely with TCPs throughout 2019**

# Contact details:

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