
Jeremy Sung & Yannick Monschauer

Paris, 9 December 2020
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1. Introductory remarks
2. Global findings
3. Insights from Latin America
4. Q&A
Welcome Remarks

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Ministry of Mines and Energy (MME)
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Odón de Buen
Director General
National Commission for the Efficient Use of Energy (CONUEE), Mexico
Today’s presenters

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Global energy efficiency trends
Energy Efficiency 2020

• The pandemic threatens to set back already-weakened energy efficiency progress

• **Investments** in efficient technologies have fallen

• Short-term **structural shifts** are likely to make the economy more energy intensive

• **Behaviours** are changing, which could have future benefits, but will need policy support

• **Energy efficiency is at a crossroads** – near-term decisions will lock in its future path

• **Policy actions** in the next three years will determine the next decade of efficiency progress
Energy efficiency is crucial for achieving global climate goals. Energy efficiency is expected to contribute over 40% of energy sector GHG abatement up to 2040. A slowdown in energy efficiency today lessens the chance of meeting long-term climate goals.
Efficiency progress, already weakened, faces setbacks from the pandemic

To meet global climate goals, energy intensity needs to improve by at least 3 to 4% per year.
The crisis has affected energy intensity in three main ways:

- Changes to investment in efficient technologies
- Structural shifts in the economy
- Changes to energy using behaviours

These factors have combined to halve the global energy intensity improvement rate in 2020.
Impacts on energy efficiency investment
Overall investment in efficiency is expected to decline 9% in 2020.

Lower energy prices have lengthened payback periods for key efficiency technologies by 10 - 40%.

After several flat years, investments in efficiency are likely to decline.
Some bright spots remain, despite lower overall investment

Despite lower car sales overall, new cars added to the fleet will be more efficient. 3.2% of sales are expected to be electric in 2020.
What we build next will shape future energy demand

As building rates return to growth, inefficiencies will be locked-in for decades without stronger policies on building codes and renovations, which could lower total demand in 2030 by the equivalent of heating 80 million homes.
Structural impacts
Energy intensive structural shifts in commercial buildings

Essential services, which tend to be more energy intensive, have been more active during the crisis, meaning commercial building energy intensity is likely to increase in the short term.
Short-term structural shifts in industry also increasing energy intensity

Energy intensive industries appear to have been less affected by the crisis, meaning industry energy intensity is likely to increase in the short term.
Impacts on behaviours
The crisis is changing energy using behaviours

In many countries, public transport use has plummeted by 40% on normal levels, while car use, walking and cycling are less affected, and sometimes higher than usual.
Behaviour at a crossroads: Positive impacts are possible…

Building on new behaviours in 2020, certain habit changes could cut transport emissions by 625 Mt CO₂ in 2030, equivalent to taking all cars off the road in the EU 27.

Note: Abatement calculated under the NZE2050 scenario of WEO 2020.
…but will old habits return?

**Travel and leisure stocks** suffered due to lockdowns, but were boosted by vaccine news.

“**Stay-at-Home**” Stocks that benefitted from lockdowns saw prices drop.

Pfizer announces successful vaccine.
Government responses to the crisis
Energy efficiency is at the heart of a sustainable recovery

The IEA Sustainable Recovery Plan envisions average annual investments of USD 1 trillion for the next three years. Energy efficiency related investments are the largest category of spending.
Governments are supporting efficiency, but spending is uneven

European countries are responsible for 85% of announced spending for efficiency, even before accounting for the new Next Generation EU package, which could add USD 200 billion more.
5 million job-years could be created, but 10 million remain untapped

Announcements to date are estimated to create over 1.8 million jobs in the next three years. Increasing investment to the levels in the IEA Sustainable Recovery Plan could triple that.
Insights from Latin America
As people spend more time at home…

In Brazil, available data suggest a dramatic drop in average visits to workplaces and a corresponding increase in the average time spent at home as a result of teleworking and mobility restrictions.

Source: Google, Google COVID-19 Community Mobility Reports
...energy demand patterns shift

Social distancing and teleworking reduce use of commercial buildings and increase activities that use energy in the home, resulting in a partial shift in energy demand from commercial to residential buildings.

Source: EPE, Covid-19 Outlook Brazil
Appliance efficiency is likely to improve in the short-term.

Demand for dishwashers increased markedly in Brazil since the beginning of the pandemic. Similarly, demand for microwaves increased in Brazil, particularly during May – August.

Weekly online shopping search indices for dishwashers and microwaves, 2018-2019 vs 2019-2020, Brazil

Source: Google Trends
Industry efficiency progress is uncertain

Higher industrial electricity prices shorten payback periods for industrial motors, but a focus on core business issues could slow motor upgrade progress.

<table>
<thead>
<tr>
<th>Country</th>
<th>Change (%)</th>
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<tbody>
<tr>
<td>Italy</td>
<td>-15%</td>
</tr>
<tr>
<td>Spain</td>
<td>-10%</td>
</tr>
<tr>
<td>United States</td>
<td>-5%</td>
</tr>
<tr>
<td>Korea</td>
<td>0%</td>
</tr>
<tr>
<td>France</td>
<td>5%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10%</td>
</tr>
<tr>
<td>Poland</td>
<td>15%</td>
</tr>
<tr>
<td>Germany</td>
<td>20%</td>
</tr>
<tr>
<td>Chile</td>
<td>25%</td>
</tr>
</tbody>
</table>
Transport energy demand decreased as mobility levels dropped

Movement restrictions decreased mobility levels and energy demand in the transport sector, but impacts differed across the region.

Source: Waze, COVID-19 Impact Dashboard
Source: EPE, Covid-19 Outlook Brazil
The decline in public transport trips exceeds declines in private transport modes such as walking and driving, especially for wealthier population segments.
Without policy action, rebounds are likely

People’s expectations of driving and flying in the future compared with the pre-pandemic period

Share of people surveyed (%)

Drive less  Drive more

Share of people surveyed (%)

Fly less  Fly more

Source: Yougov and Cambridge Globalism Survey conducted between 30 July and 24 August, 2020

Without new policies to encourage and support behaviour change a trend towards lower-emission behaviours seems unlikely.
Clean energy stimulus in Latin America focused on biofuels

Announced public clean energy stimulus spending in Latin America by measure, as of October

- Clean energy stimulus spending for biofuels in Latin America is higher than in other regions, but stimulus spending on efficiency remains at low levels.

USD million

<table>
<thead>
<tr>
<th>Measure</th>
<th>USD million</th>
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<tbody>
<tr>
<td>Wind and solar PV</td>
<td>100</td>
</tr>
<tr>
<td>Networks</td>
<td>200</td>
</tr>
<tr>
<td>Biofuels</td>
<td>1200</td>
</tr>
<tr>
<td>Buildings efficiency</td>
<td>0</td>
</tr>
</tbody>
</table>
European countries are currently responsible for 85% of announced spending for efficiency. However, efficiency focused packages are under development in Latin America.
Efficiency stimulus has a high potential to create jobs

Stimulus spending on efficiency is beginning to tap into its job creation potential but opportunities remain.

Construction and manufacturing jobs created per USD 1 million of capital investment in the Sustainable Recovery Plan

- New grids
- Existing grids
- New hydro
- New nuclear
- Wind power
- Solar PV
- Unabated coal-fired power
- Unabated gas-fired power
- Hydrogen production
- CCUS
- Reduce methane emissions
- Urban transport infrastructure
- High-speed rail
- Buildings efficiency retrofit
- Efficient new buildings
- Industry efficiency

Job per million dollars

Construction
Manufacturing
Total

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Conclusions

• The Covid-19 crisis has brought great uncertainty, right when energy efficiency action should accelerate

• Structural and behavioural impacts in Latin America resemble trends in other regions

• Energy efficiency is at a crossroads, and the next three years are crucial

• Building energy efficiency into the crisis response has the potential to create millions of jobs as well as ensure lower energy bills and lower emissions in the future