



The Global Energy Architecture Performance Index 2016

The World Economic Forum
in collaboration with **Accenture**



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2. The EAPI and its Methodology
3. The EAPI 2016 Global Rankings
4. Peru on the EAPI 2016

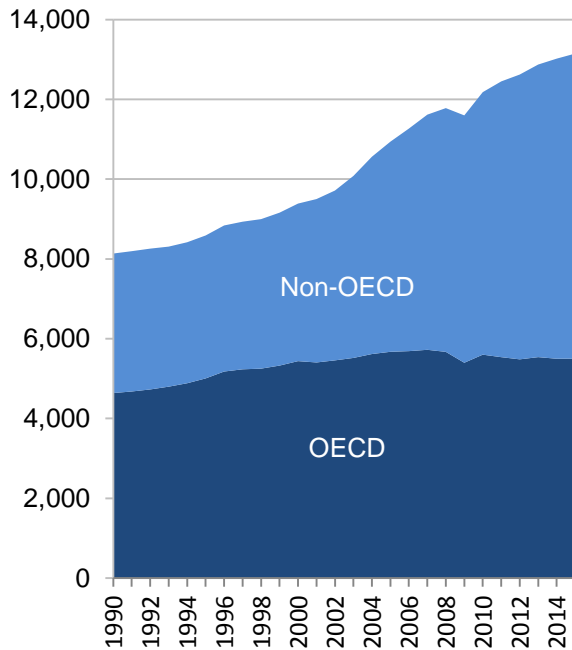


Changing dynamics in the energy sector are putting current energy systems under pressure

Today's energy transition

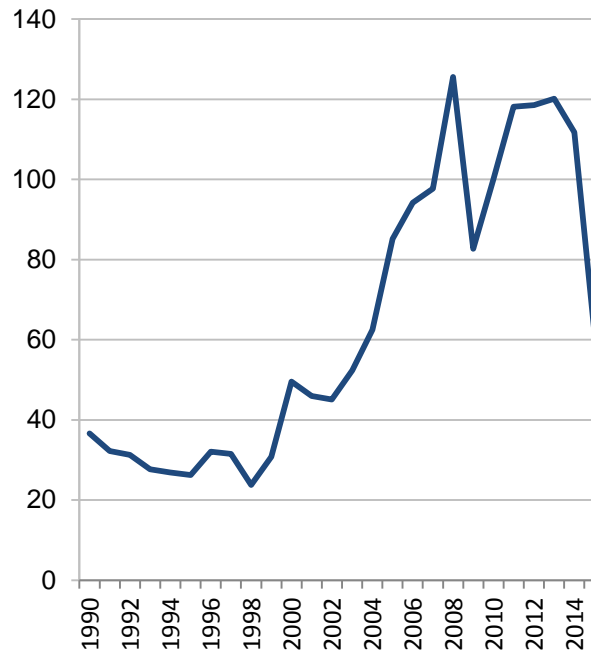
Security

Global Primary Energy Consumption
(Million tonnes oil equivalent)



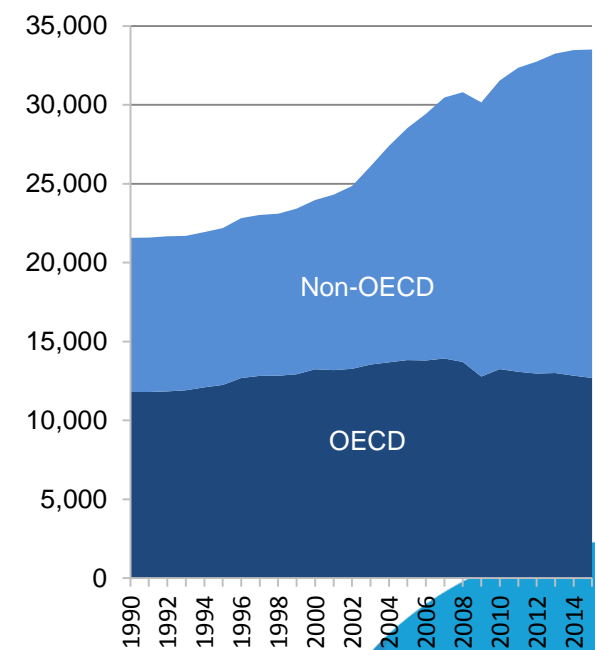
Affordability

Energy Price Index
(2010 = 100, Real 2005 \$US)



Sustainability

Global Carbon Dioxide Emissions
(Million tonnes CO₂)



Sources: BP Review of World Energy 2016; World Bank

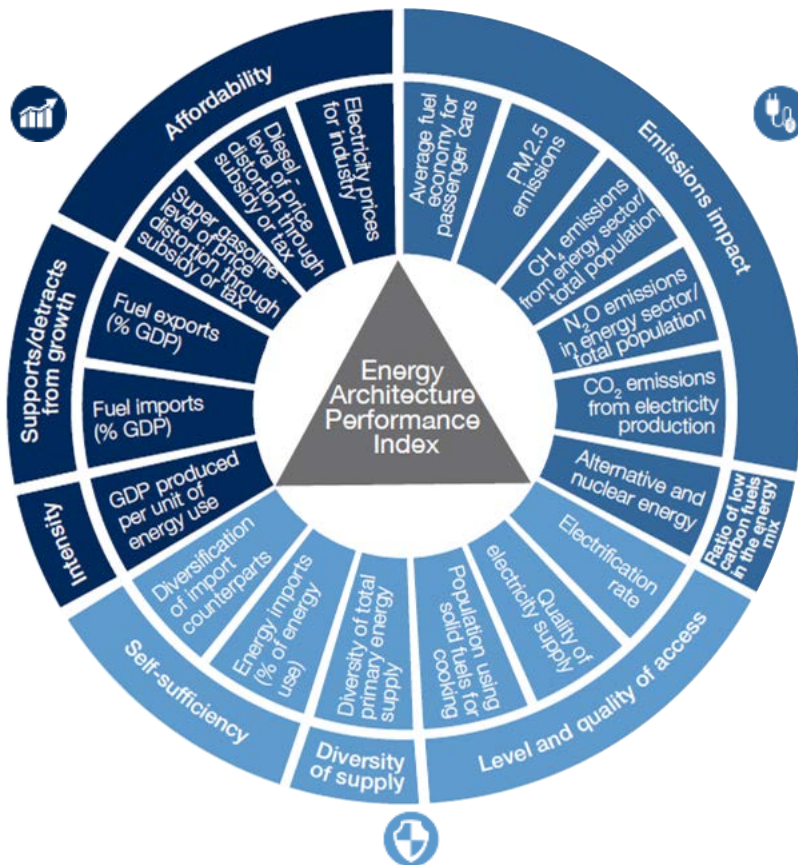
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We use the energy triangle to frame these dynamics against the three universal energy-system imperatives

Energy Architecture Performance Index



Economic growth and development

Extent to which a country's energy architecture adds or detracts from the economy



Environmental sustainability

Environmental impact of energy supply and consumption



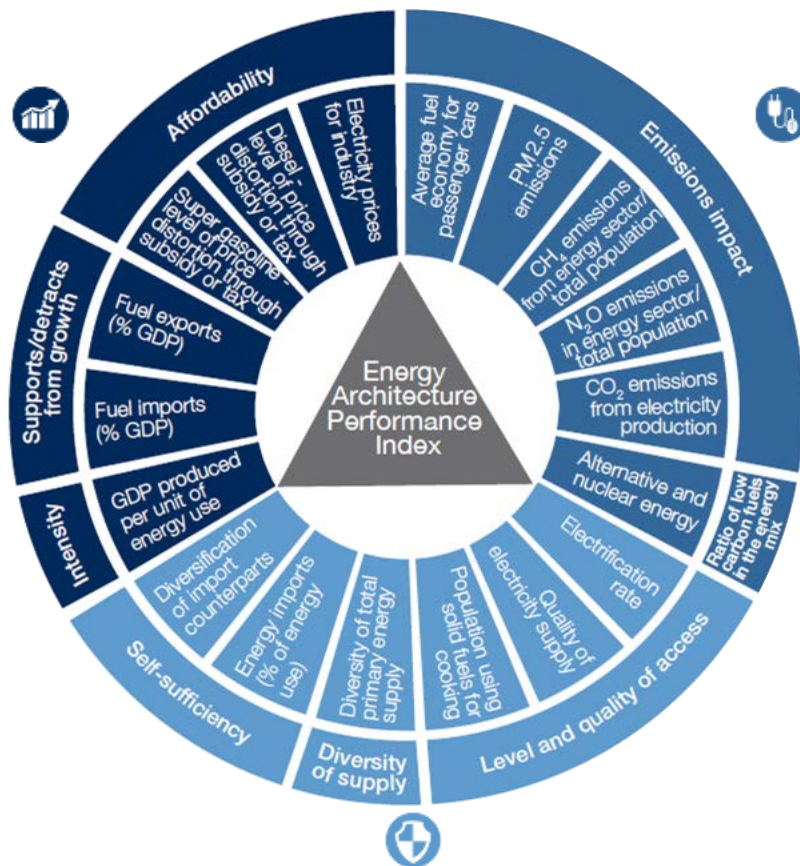
Energy access and security

Extent to which a energy supply is secure, accessible and diversified



The Energy Architecture Performance Index is a tool for decision-makers to benchmark energy system performance

EAPI methodology



Economic growth and development

Extent to which a country's energy architecture adds or detracts from the economy

- Energy intensity
- Cost of energy imports
- Value of energy exports
- Gasoline prices
- Diesel prices
- Electricity prices



Environmental sustainability

Environmental impact of energy supply and consumption

- Fuel economy
- Air pollution
- CH₄ emissions
- N₂O emissions
- CO₂ emissions
- Alt. and nuclear energy



Energy access and security

Extent to which a energy supply is secure, accessible and diversified

- Electrification rate
- Electricity supply quality
- Solid fuel use (cooking)
- Diversity of energy supply
- Import dependence
- # of import counterparts

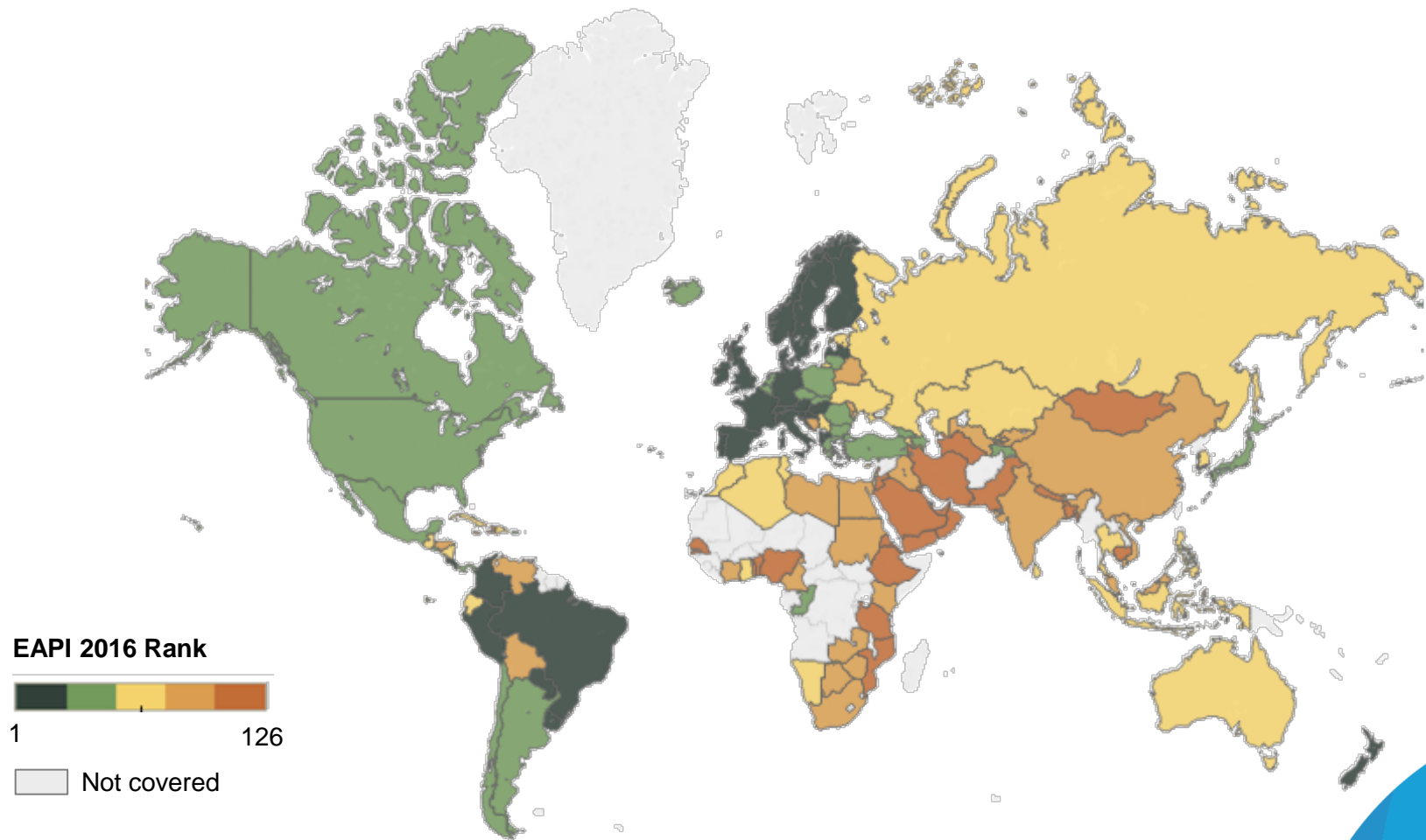


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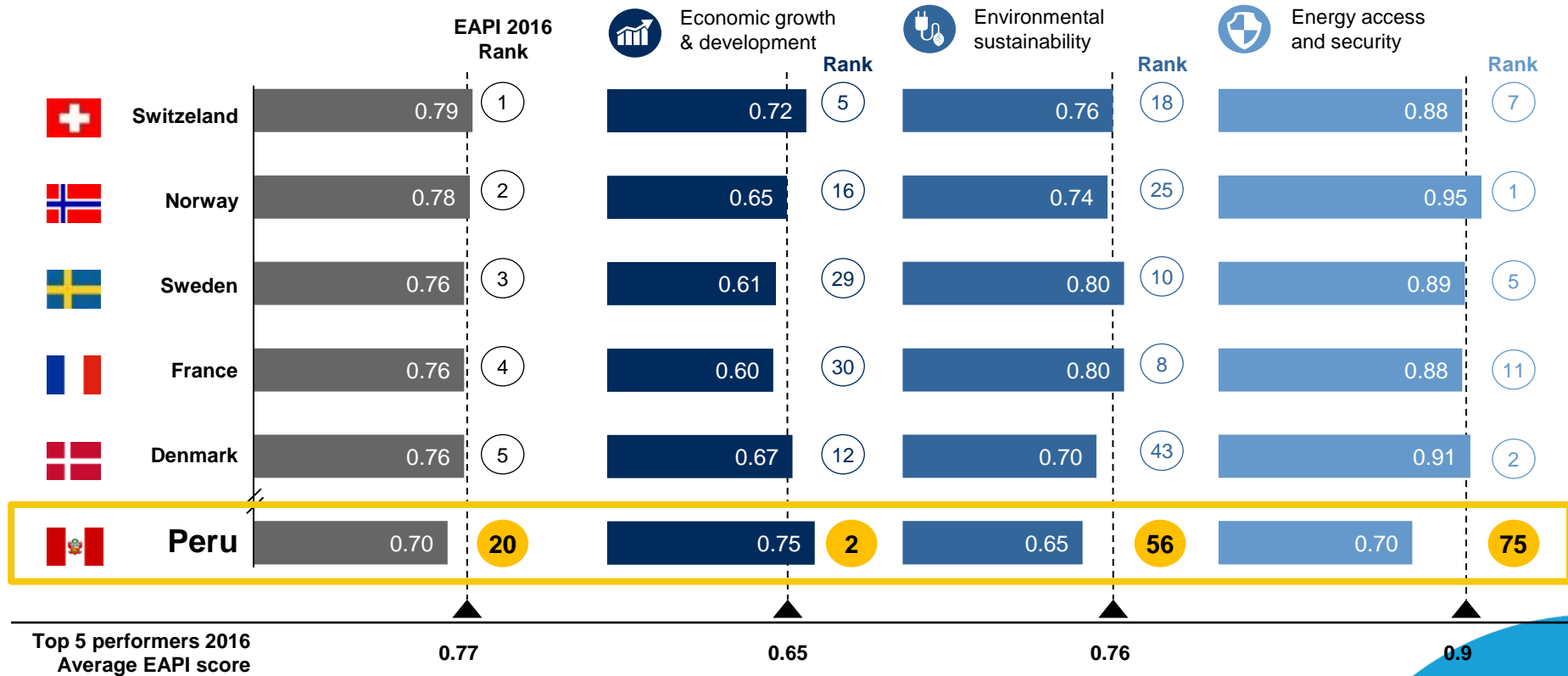


On the EAPI 2016, developed nations represent the majority of top performers on the index



Diversity amongst top performers highlights that there is no single pathway to a high performing energy system

Top five performers and Peru



Note: Country scores are reported here with a precision of two decimal points, although exact figures are used to determine rankings.

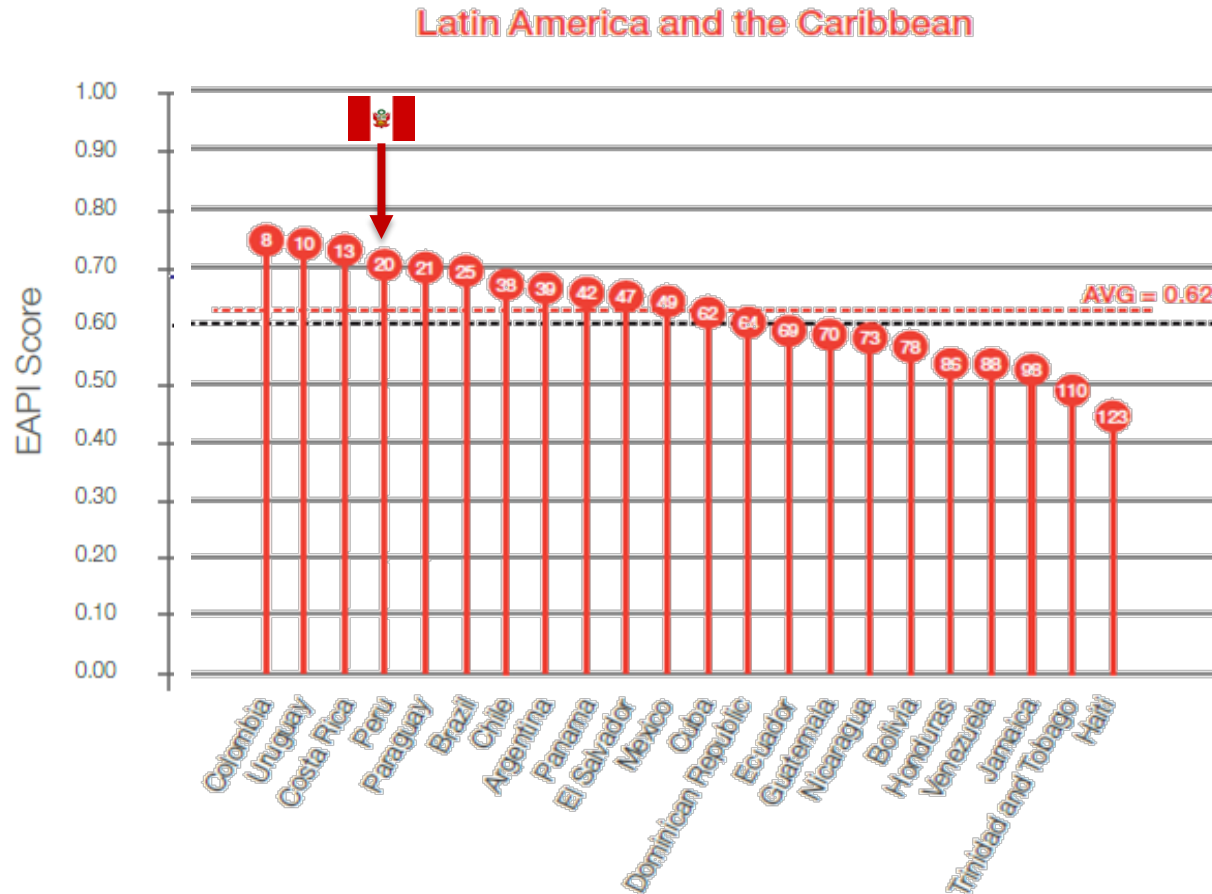
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Peru's performance is particularly impressive when put in the context of its region

EAPI 2016, regional overview



Peru is ranked 20th on the EAPI 2016, with a score of 0.70

Peru's score has increased 1 base point from 0.69 to 0.70 compared to our 2009 benchmark



EAPI 2016 - Peru

Rank: 20th
Score 0.70



Economic growth & development

0.75

[Even with 0.75 in 2009]

Energy access & security

0.70

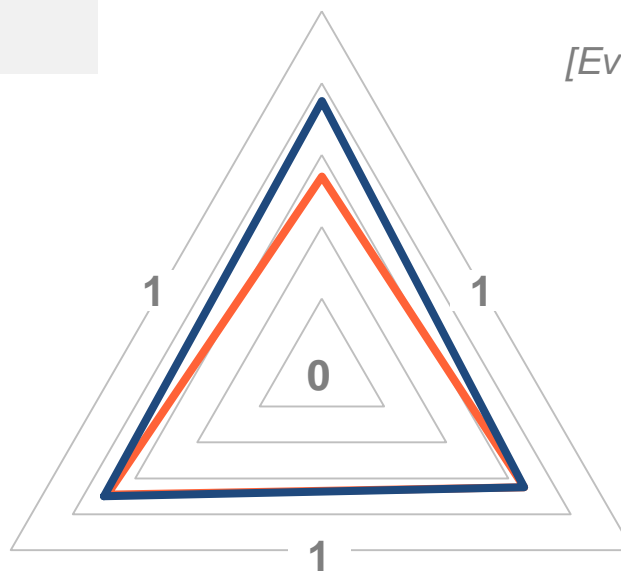
[Up from 0.66 in 2009]



Environmental sustainability

0.65

[Down from 0.66 in 2009]



Peru

Regional average (Latin America & the Caribbean)



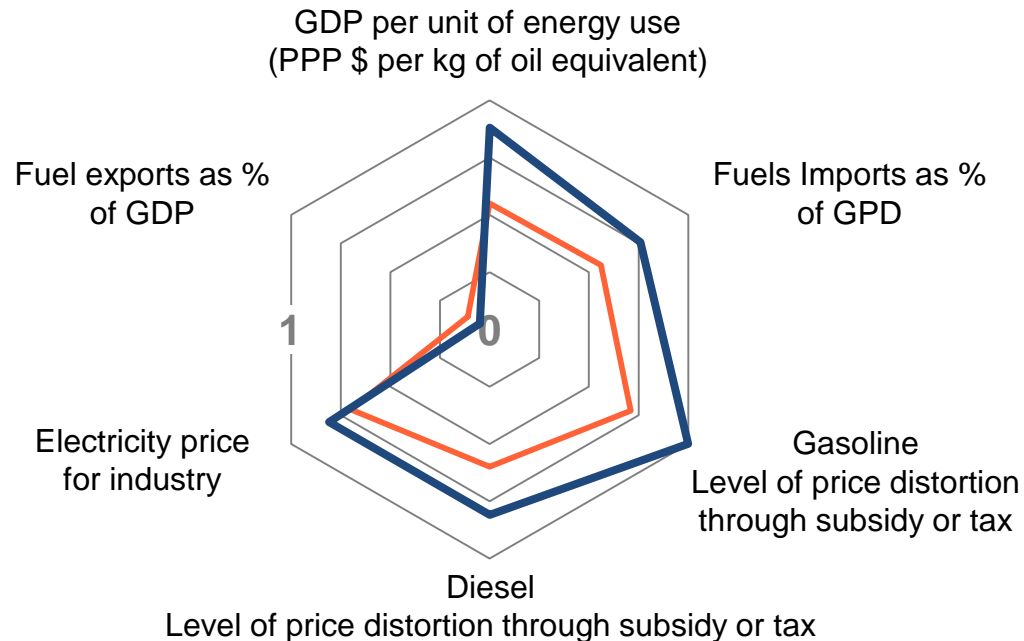
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Peru is one of the world leaders on the economic growth and development sub-index



Economic growth & development

EAPI 2016 Global ranking: 2nd



— Peru

— Regional average (Latin America & the Caribbean)



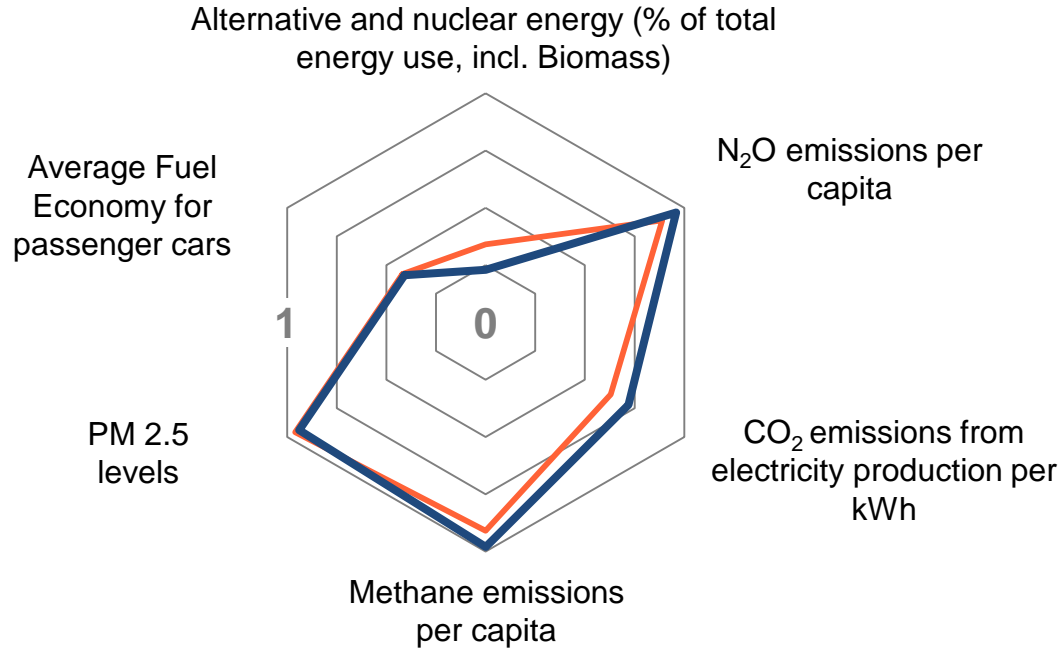
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Peru has significant potential to make improvements in environmental sustainability



Environmental sustainability

EAPI 2016 Global ranking: 56th



Peru

Regional average (Latin America & the Caribbean)



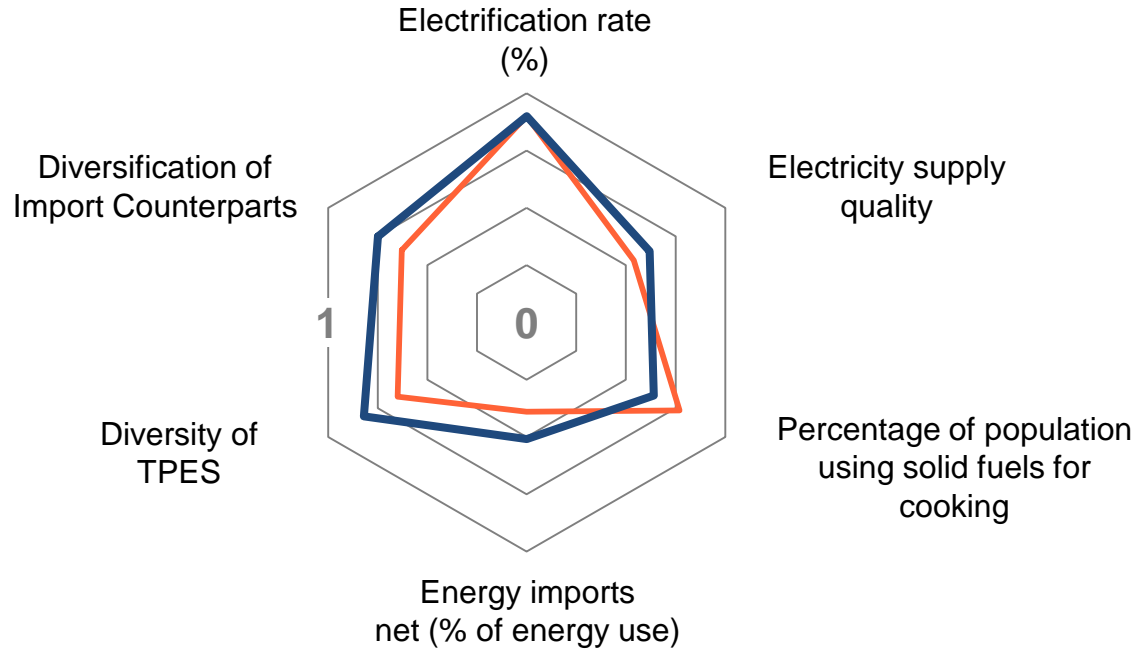
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Ranked 75th, energy access and security is Peru's greatest opportunity for improvement



Energy access & security

EAPI 2016 Global ranking: 75th



Peru

Regional average (Latin America & the Caribbean)



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From an existing position of strength, Peru is set to further improve energy system performance

- Many of the recent steps taken by Peru's government and the Ministry of Energy and Mines will further strengthen an already strong energy sector
- A number of key insights from the high performing countries on the EAPI are worth considering as this journey on the energy transition progresses:
 - Countries which have successfully met ambitious renewable energy targets such as Peru's have had in place **robust regulatory frameworks** and the required human, financial, and technical resources
 - An **integrated regional approach** to energy policy is critical, improving energy architecture performance of individual countries and overall, involves regional collaboration and connection of infrastructure
 - Countries can complement each other's strengths and weaknesses, and jointly obtain better results than if each country acted in isolation
 - Peru is surrounded by some high performing countries, with similar areas for improvement which have the potential for productive collaboration



Ultimately, the energy transition is a long-term journey

- There is a clear and significant transformation on-going in the global energy system
- Individual countries' performance on the EAPI underscores the importance of an integrated approach to energy policy where trade-offs are often necessary
- Energy transition is a long-term journey - reforms take time to take effect; as such they need to be sustained through the right institutions and regulations with effective market signals and long term public support



Thank You



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