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## THE ENERGY FUTURE FROM A YOUNG PROFESSIONALS' VIEW - CONCLUSIONS SHAPING INDUSTRY TRANSFORMATION

**T**he current Oil and Gas industry environment could not be more different from the one experienced during the last Youth Forum celebrated in Alberta (Canada) in October 2013. The Brent crude price at the time was about US\$105/bbl and investment flowed into the Oil and Gas market. Just three years later, the price has dropped over 50% and the Oil and Gas industry faces a complex moment.

However, it is not only the price that makes this time different from others. The COP21 agreement, the increasing competitiveness of renewable energies, the market penetration of electric vehicles, and the disruptive technologies that are gaining momentum, let us glimpse a potential paradigm change for the energy industry.

One of the main reasons for the creation of the World Petroleum Council's Young Professionals Committee back in 2004 was to create and nurture a collaborative, global forum for young people to be heard and to champion new ideas within the petroleum industry.

To satisfy this mandate, the Young Professionals Committee has conducted

the survey *The Future Landscape of Energy: Sustainability and Alternative Technologies* to quiz Young Professionals and Students, the emerging leaders of the industry, on their views on the future of the energy industry as well as their preferences as consumers.

This on-line survey reached over 1,800 respondents globally. The young respondents' profiles maintained the same patterns as seniors in the industry, still dominated by engineers – 64% of respondents – and despite increasing gender parity, men still represented 68% of respondents.

The survey addressed four main blocks to assess the biggest challenges and main uncertainties that the industry will face in the coming years.

### **Block 1: Oil and gas industry Future:**

The survey points to an encouraging future for the industry. The majority of respondents (57%) have a positive or very positive perception of the sector and believe (66%) that we will not stop using oil and gas in the next 30 years.

But that bright future will not be free of changes. Respondents paint a picture of an industry on the move: almost 70% see an industry in 30 years completely

different from the one we know today.

What are the main differences they remark on?

Young people see a 2030 industry that has shifted from oil towards gas as the predominant fuel. They expect Brent oil prices to remain at relatively low levels averaging US\$72/bbl by July 2018, with less than 1% of those seeing a price above US\$100/bbl by that date.

Accordingly, after a decrease in upstream investment in the short term, it would slightly increase in the next two years but accompanied by a major change: rising investment in alternative energies by oil and gas companies.

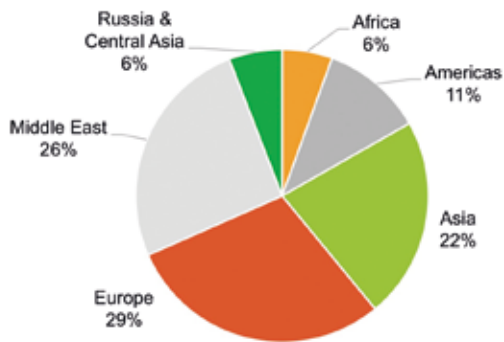
### **Block 2: Renewable energies' future and other sources of energy:**

There is a clear consensus among respondents: Competitiveness of alternative fuels and energies will have a major impact on the energy future.

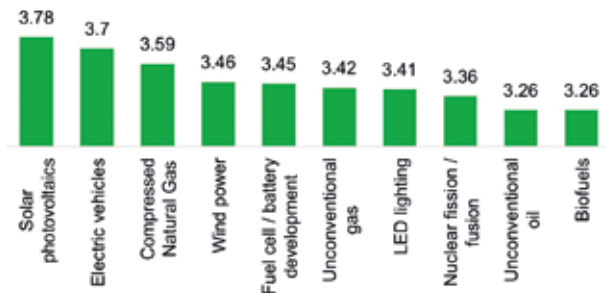
According to the survey, 4 in every 5 Young Professionals and Students affirm that renewable energies will play a major role in the future energy mix. Even in the Middle East 62% of respondents agree.

A larger role for renewable energies would inevitably reduce oil and gas contribution to energy production.

Respondents by region



Most promising energies and technologies



The question is whether oil and gas companies will lead the future development of alternative energies and technologies to fill that space. According to the survey's respondents, the answer is NO. Respondents see alternative energy companies, governments, universities and institutes, in that order of importance, taking the lead in new energies development.

Solar photovoltaic, with a score of 3.78 out of 5, followed by electric vehicles (3.7), compressed natural gas (3.59) and wind Power (3.46) are expected to be the most promising energies and technologies. However, none of these technologies and energies are very promising to North American survey participants, who strongly predict unconventional oil and

gas to succeed in their region.

Energy storage is one of the main challenges for renewable energies' viability. Young professionals and students are quite confident that in less than 12 years battery storage can be efficient enough to solve this problem. Nevertheless, energy storage would only be a starting point, as 80% consider that renewable energies would take up to 20 years to compete with oil and gas in economic terms.

### Block 3: Oil and gas company strategies:

As stated before, oil and gas companies are not currently considered to be leaders to a different energy future. Companies should rethink their strategies if they want to become game changers of the energy future.

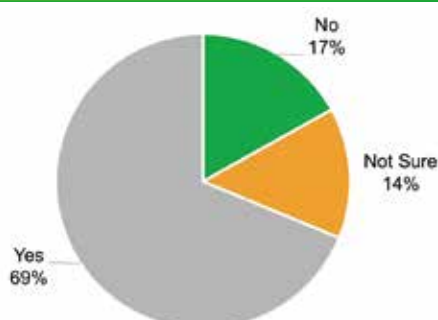
In this sense, the coming five years would lay the foundations of the future industry via investment, focusing on alternative energies (with solar photovoltaic as the preferred one) and petrochemicals.

As for Upstream investment, the Middle East, Russia and North America, in that order of importance are the three regions that will play a more vital role in the next 5 to 10 years for the upstream business, according to respondents.

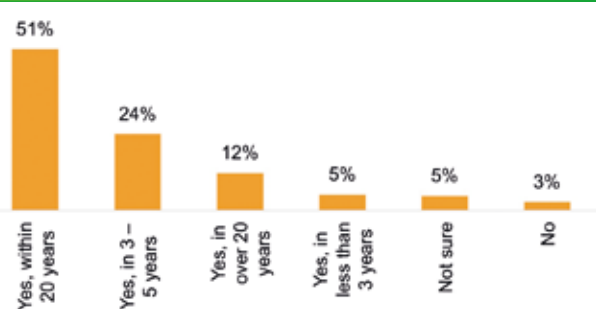
Nevertheless, it is important to note that a relevant percentage consider that the most suitable strategy is to stick to current oil and gas competences, with particular representation of this conviction in the North America region.

It is important to emphasise that the energy alternatives are considered

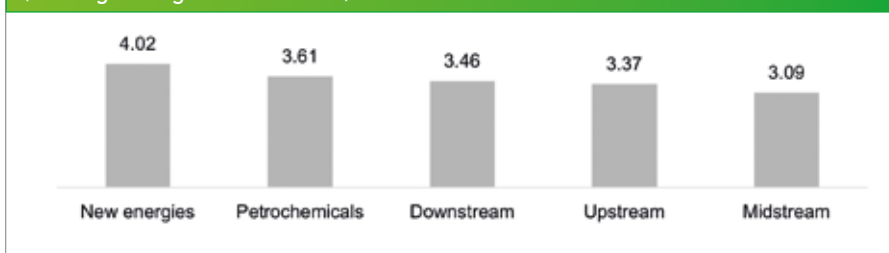
Will the industry be completely different from today in 30 years?



Economic viability of renewable energies



#### Which segment will attract the most investment in 5 years? (average weight from 1 to 5)



the lever of energy change. Regarding regulatory policies as a driver of change, only 36% consider that the COP 21 agreement would have an impact on companies' strategies, and the majority believes that governments would bear the biggest burden to implement COP21 regulation.

#### Block 4: Energy and citizens:

Oil, gas and products made from oil are an important part of our everyday lives, as petroleum is one of the main components when manufacturing the majority of these items.

Respondents are completely aware of this fact: 3 in every 4 respondents think that oil prices affect their daily life. This percentage varies between regions: 90% of African respondents think that oil prices affect them, while only 70% of Europeans have that perception.

However, young professionals are willing to change their consumer habits and patterns if this contributes to a better and more sustainable environment: 76% of respondents would be willing to modify their behaviour and energy usage to help achieve the COP 21 goals and limit the increase in global temperature to less than 2°C.

Furthermore, these changes in consumer habits are directly observed when young professionals are asked about the next car that they will buy, as 38% of young professionals opt for an electric or hybrid car. This percentage

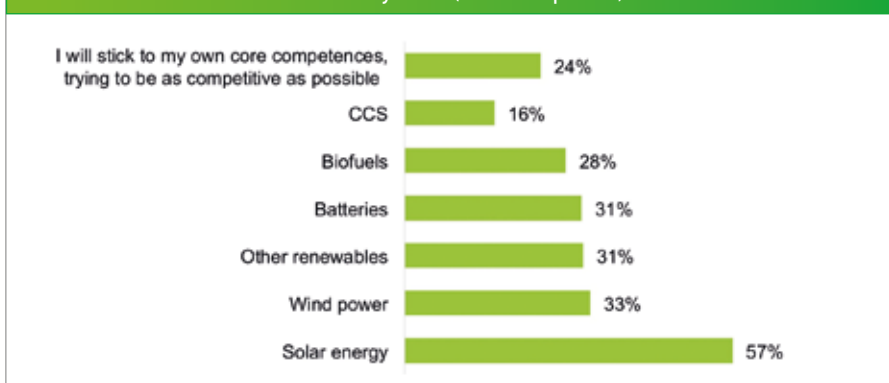
is lower in Africa and North America, where half of the respondents prefer a gasoline car. In addition, it is also interesting to point out that 1 in every 6 respondents in Europe, Russia and Central Asia, and 1 in every 5 in Latin America, prefer different mobility options instead of owning a car.

*From The Future Landscape of Energy: Sustainability and Alternative*

*Technologies* survey analysis we can conclude that Young Professionals and Students see an industry in transformation, where oil and gas consumption remains key but alternative energies (especially solar photovoltaic) will increasingly gain importance as they improve their economic competitiveness, regardless of regulatory policies. So, the content of our survey suggests that oil and gas companies need to become game changers, redefine their strategies and incorporate new energy divisions in their companies, in order to adapt to the future landscape of energy.

**The following have also contributed to the survey's distribution: Raquel Cantón Jara, Yasmine Dialdas, Stefan Alexandru Ghita, Jesús Moreno Herrero, Salisu Rabiú Isihak and Ali Rahnesin.**

#### If you were a CEO, what major strategic decisions do you think you will have to make over the next 20 years (select up to 3)



#### The next car you will buy will be...

