

FUTURE ENERGY SURVEY 2013

Shell Pakistan

Surveying conducted by Ipsos, commissioned by Shell Pakistan.



FUTURE ENERGY SURVEY 2013

Location	Total number people surveyed
Karachi	152
Lahore	126
Rawalpindi/Islamabad	126
Quetta	149
Peshawar	149
Gilgit	151
Punjab (Rural)	511
Sind (Rural)	176
Khyber Pukhtoonkhwa (Rural)	178
Baluchistan (Rural)	152
Gilgit Baltistan (Rural)	150

Data has been statistically weighted by gender and age to ensure sample representativeness within cities and regions. Data has also been weighted at a total city/regional level to ensure the total is representative of the population of each city/region.

Introduction

A total of 2020 individuals have been anonymously surveyed via face-to-face interviews across six of the Pakistani urban cities (i.e. Karachi, Lahore, Rawalpindi, Peshawar, Quetta, Gilgit) and five regional areas (Punjab, Sind, Khyber Pukhtoonkhwa, Baluchistan, Gilgit Baltistan) to assess their views on the future of energy, in the Shell Future Energy Survey 2013.

Surveying was conducted by Ipsos in between 20 September and 11 October 2013, commissioned by Shell Pakistan. The primary research objectives were to ascertain:

- What do Pakistanis think of various energy sources and how future energy needs should be met?
- How important is future energy needs relative to other local issues (e.g. cost of living)?
- What are the most important factors in building future energy solutions?
- How impactful does the local community see energy shortages and higher energy prices on its country, relative to other things (e.g. water/food shortage, higher unemployment)?
- How important is it to reduce Co2 emissions? Why, why not?
- Is the energy industry seen to be doing enough?
- What are the most important issues around future energy?
- Who has the biggest role to play in creating a better energy future?

SUMMARY

What's important to Pakistani respondents?

- For Pakistanis the most important issues are the cost of energy and the public health system.
- Approximately 9 out of 10 respondents consider cost of energy (92%) and public health system (87%) as very important.
- Approximately 8 out of 10 respondents (81%) consider adequate energy supply to meet future needs a very important issue.
- Cost (38%), followed by employment and economic growth (26%) are the most important issues for future energy in Pakistan. This is followed by the environment (15%) and climate change (9%).
- In the context of an energy constrained world, higher unemployment (91%) and significantly higher energy prices (90%) are expected to have the biggest impact on Pakistan. This is followed by energy shortages (86%) and food shortages (79%).

Roles and responsibility in the energy sector

- The majority of Pakistani respondents (67%) think it is very important to reduce CO2 emissions.
- Effective government policy (46%) is perceived as the most important factor in building future energy solutions.
- 21% think collaboration between community, industry and Government, 16% think innovation and 9% think ease of access is important. Only 7% think economic incentives for clean energy is important.
- Just over 7 in 10 respondents feel the government (72%) has the biggest role in creating a better energy future. This is followed by the Pakistani general public (40%), industry (25%) and the international community (16%).
- Approximately half of Pakistani respondents (55%) think the energy industry and the government (51%) is doing enough or more than enough to address future energy needs.

Personal behaviour and intentions in the energy sector

- Pakistani residents are acting in multiple ways to reduce CO2 emissions. For example:
- 53% use less energy (e.g. turn lights off when out of room).
- 32% use energy saving products.
- 25% use public transport.
- 19% participate in offset emission schemes.
- The top factors when considering using compressed natural gas in vehicles are cheaper than alternatives (29%), better for environment (27%) and less CO2 emissions (12%). A large percentage of respondents did not know (43%).
- Pakistani residents associate many benefits with importing LNG – helps secure ever-growing energy demand (45%), economic benefits (35%), superior quality (27%) and environmental benefits (23%).

Most Desired Channel for Power Generation

- Coal (55%), followed by solar energy (51%), hydro energy (29%) and natural gas (27%) are the most desired future sources of power generation.
- Least desired future energy sources are oils (7%) and bio-fuels (6%).
- 32% of Pakistani respondents are surprised to find out that the oil and gas industry is the leading investor in new energy technology while 23% aren't surprised and 45% does not know.

SUMMARY

Key Differences by Gender

- Male residents are significantly more likely than female residents to:
 - rate cost of living, number of people seriously injured and killed in violence/ terrorist attacks, public education system and adequate energy supply to meet future needs as more important;
 - rate 5 energy related issues (higher unemployment, significantly higher energy prices, energy, food and water shortages) as more impactful on Pakistan;
 - see employment and economic growth (29% vs. 23%) and ensuring supply meets demand (11% vs. 7%) as more important in relation to future energy,
 - See the reduction of CO2 emissions as very important (73% vs. 60%);
 - see innovation (19% vs. 13%) as the more important factor in building future energy solutions;
 - Use public transport (29% vs. 21%) and use energy saving products (37% vs 28%) to personally reduce CO2 emissions
 - Consider a range of factors more than female respondents – better for environment (31% vs. 22%), cheaper than alternatives (38% vs. 19%) and less CO2 emissions (16% vs. 7%)
 - Perceive the industry (14% vs. 8%) and the government (22% vs. 10%) to be doing nowhere near enough in addressing future energy needs
 - Consider coal (64% vs. 46%) and wind power (19% vs. 14%) to be the desired sources to derive energy
- Female residents are significantly more likely than male residents to:
 - See the environment (18% vs. 11%) as more important in relation to future energy and are more likely to not be concerned/interested (6% vs. 0%)
 - Consider ease of access to be a more important factor in building future energy solutions (11% vs. 7%)
 - Not know about factors to be considered when thinking about the use of compressed natural gas (56% vs. 32%) and benefits associated with importing LNG (25% vs. 13%)
 - Perceive the industry (35% vs. 23%) and the government (32% vs. 22%) to be doing enough in addressing future energy needs
 - Consider natural gas (30% vs. 24%) and bio-fuels (9% vs. 3%) to be the desired sources to derive energy

Key Differences by Age

- Older residents aged 51+yrs are significantly more likely than younger residents aged 20-30 to:
 - Regard number of people seriously injured/killed in violence/terrorist attacks as important;
 - Regard climate change as the most important issue when thinking about future energy;
 - Residents aged 51+yrs are also more likely than all younger residents to consider oils from fossil fuels as the desired source to derive future energy
- Residents aged 31-40yrs are significantly more likely than older residents aged 51-60yrs to regard public education system and traffic congestion as important:
 - Younger residents (20-30yrs) are significantly more likely than older residents (41-50yrs) to consider collaboration as the most important factor in building future energy solutions while older residents consider effective government policy to be the most important. Similarly older residents also think government has the biggest role to play in creating a better energy future.
 - Younger residents aged 20-30 recycle more than older residents aged 41-50 and are more likely to consider less CO2 emission as a factor when thinking about the use of CNG.

KEY FINDINGS

Approximately 8 in 10 (81%) Pakistan residents think adequate energy supply to meet future needs is a very important issue. Aspects to do with cost of energy (92%), public health system (87%) and cost of living (85%) are considered the most important issues.

Coal (55%)[^], closely followed by solar energy (51%)[^], is the most desired source to derive energy from in the future.

Almost 1 in 2 (46%) Pakistan residents believe effective government policy is the most important factor in building future energy solutions – this rate is twice as high as the next most important factor identified, collaboration (21%), followed by innovation (16%).

The government is seen to have the biggest role to play in creating a better energy future (72%)[^], followed by the Pakistani general public (40%)[^], the industry (25%)[^] and the international community (16%)[^].

Just under 7 in 10 (67%) Pakistani residents say that it is very important to reduce CO₂ emissions and most residents engage in multiple behaviours to do this. Using less energy (53%)[^], using energy saving products (32%)[^] and using public transport (25%)[^] are the most popular behaviours.

Technical details:

This percentage refers to an individual category rating of 8 or above out of 10 on importance.

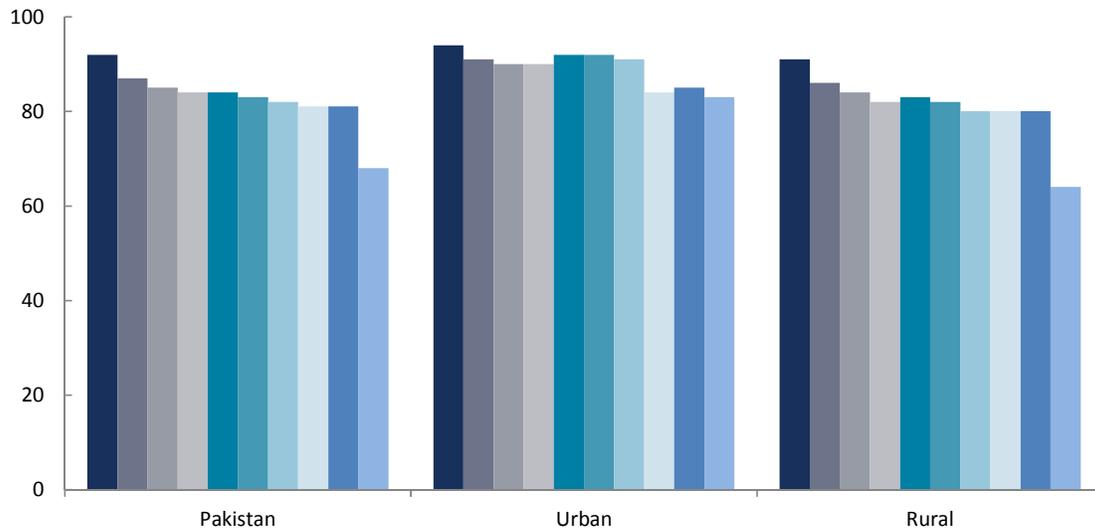
[^] This question was asked as a multiple response question, and accordingly responses will not total 100%.

ISSUES IMPORTANT TO PAKISTANI HOUSEHOLDS

Issues Important to Pakistani Households

Pakistani respondents consider the cost of energy (92% rated 8 or above out of 10 on importance), public health system (87%), cost of living (85%) and number of people seriously injured/killed in violence/terrorist attacks (84%) the most important issues facing Pakistani households.

Graph: How do you rate each of the following issues on a scale of 0 to 10, where 0 means you think it is not an important issue and 10 means you think it is an important issue?



Questions were asked on a 0-10 point scale, and percentages reported are a total of the top 3 (i.e. rating 8, 9 or 10).

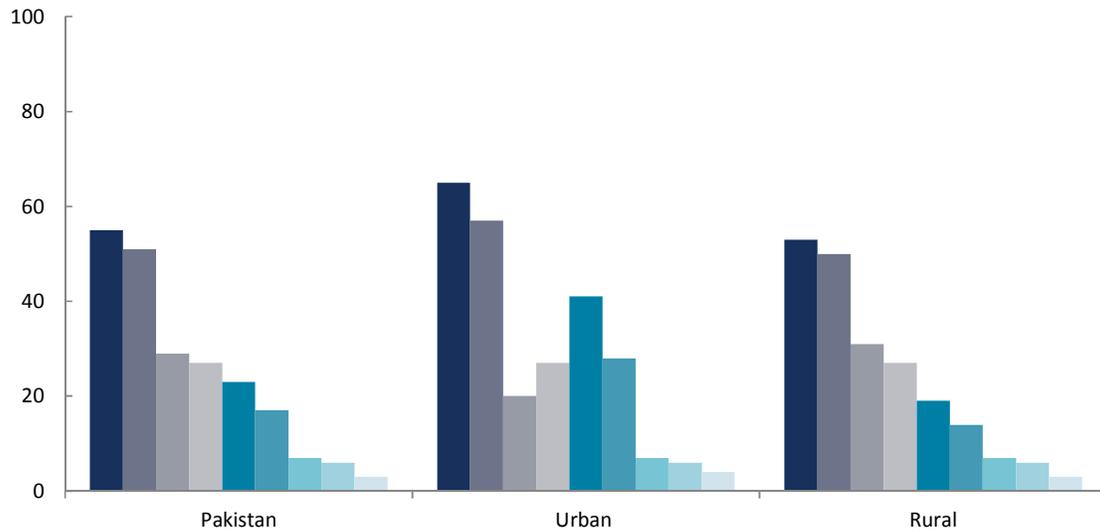
- Cost of energy
- The public health system
- The cost of living
- The number of people seriously injured and killed in sectarian violence/terrorist attacks
- The public education system
- Home / public burglary rates
- Traffic congestion
- Adequate energy supply to meet future needs
- Housing affordability
- Global warming

THE FUTURE ENERGY MIX

The Future Energy Mix

Coal is the most desired source of future energy (55%) among the Pakistani respondents. This is followed closely by solar energy (51%) then hydro energy (29%), natural gas (27%) and wave power (23%).

Graph: It is predicted that there will be 9 billion people (world-wide) in 2050, putting a serious strain on global resources. With this in mind, where do you think Pakistan should get its energy from?



^ This question was asked as a multiple response question, and accordingly responses will not total 100%.

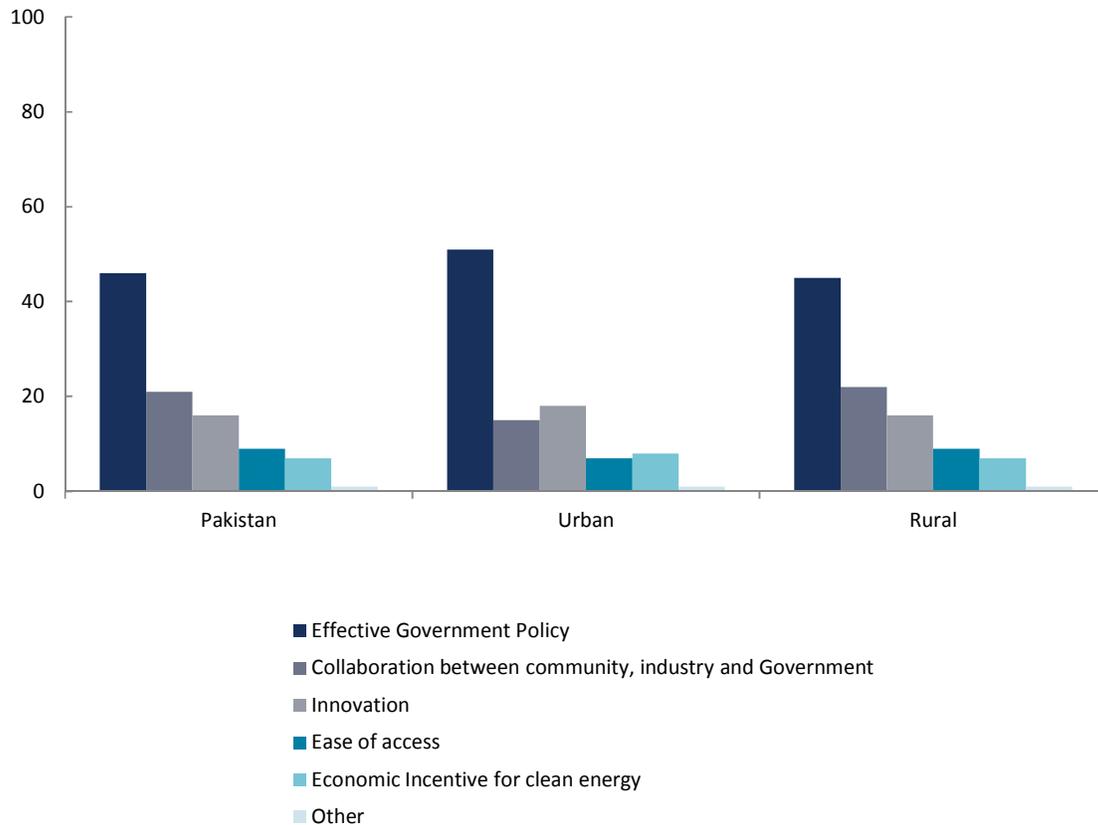
- Coal
- Solar energy
- Hydro energy
- Natural gas (including Liquid Natural Gas/ LNG)
- Wave power
- Wind power
- Oil from fossil fuels
- Bio-fuels
- Other

BUILDING AN ENERGY FUTURE

Building an Energy Future

Pakistani respondents believe the most important factor in building future energy solutions is effective government policy (46%). This is followed by collaboration between community, industry and government (21%), innovation (16%), ease of access (9%) and economic incentives for clean energy (7%).

Graph: What do you believe is the most important factor in building future energy solutions?

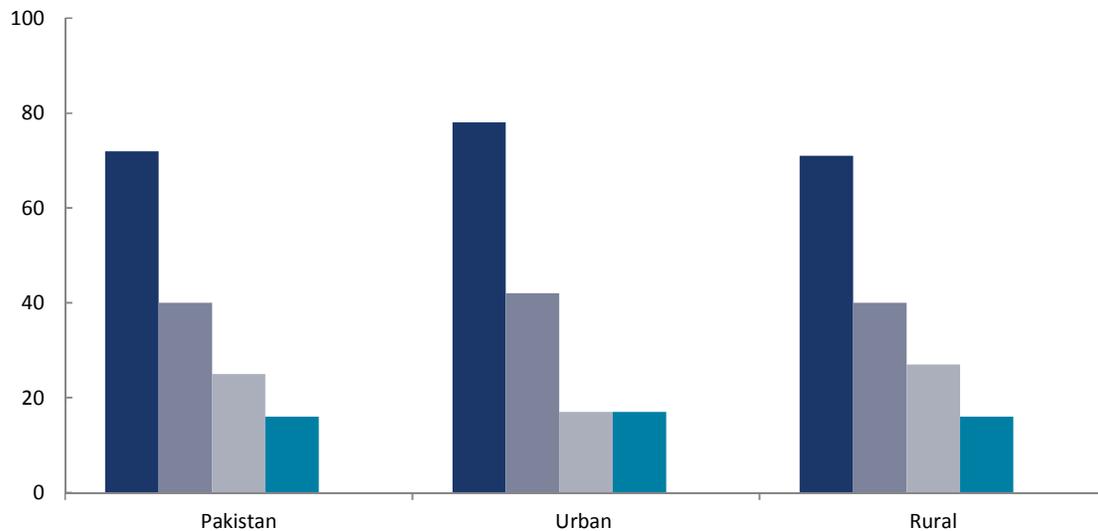


CREATING A BETTER ENERGY FUTURE

Creating a Better Energy Future

Government is considered to have the biggest role to play in creating a better energy future (72%), followed by the Pakistani general public (40%), industry (25%) and the international community (16%).

Graph: Who do you think has the biggest role to play in creating a better energy future?



^ This question was asked as a multiple response question, and accordingly responses will not total 100%.

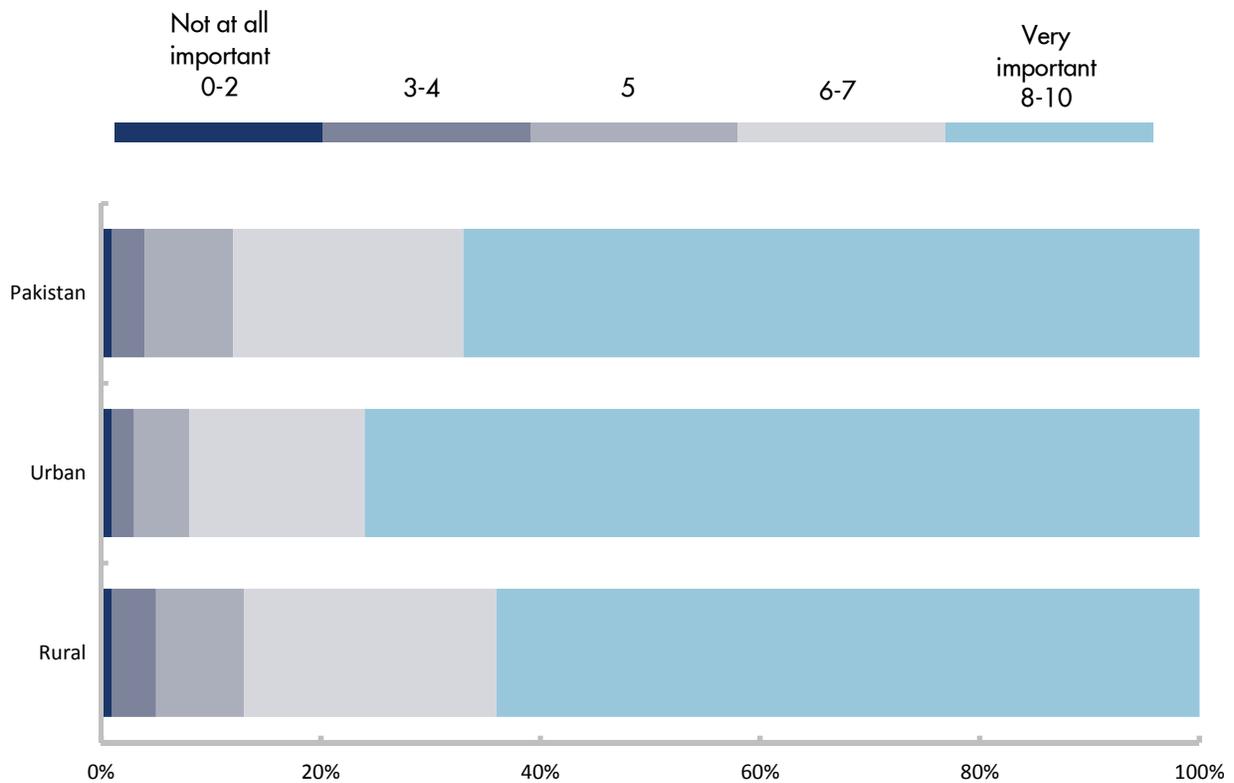
- Government
- The Pakistani general public
- Industry
- International Community
- Other

REDUCING CO₂ EMISSIONS

Reducing CO₂ Emissions

A total of 67% of Pakistani respondents consider it very important (rating 8 or above on a scale of 0-10) to reduce CO₂.

Graph: How important do you feel it is to reduce CO₂ emissions?

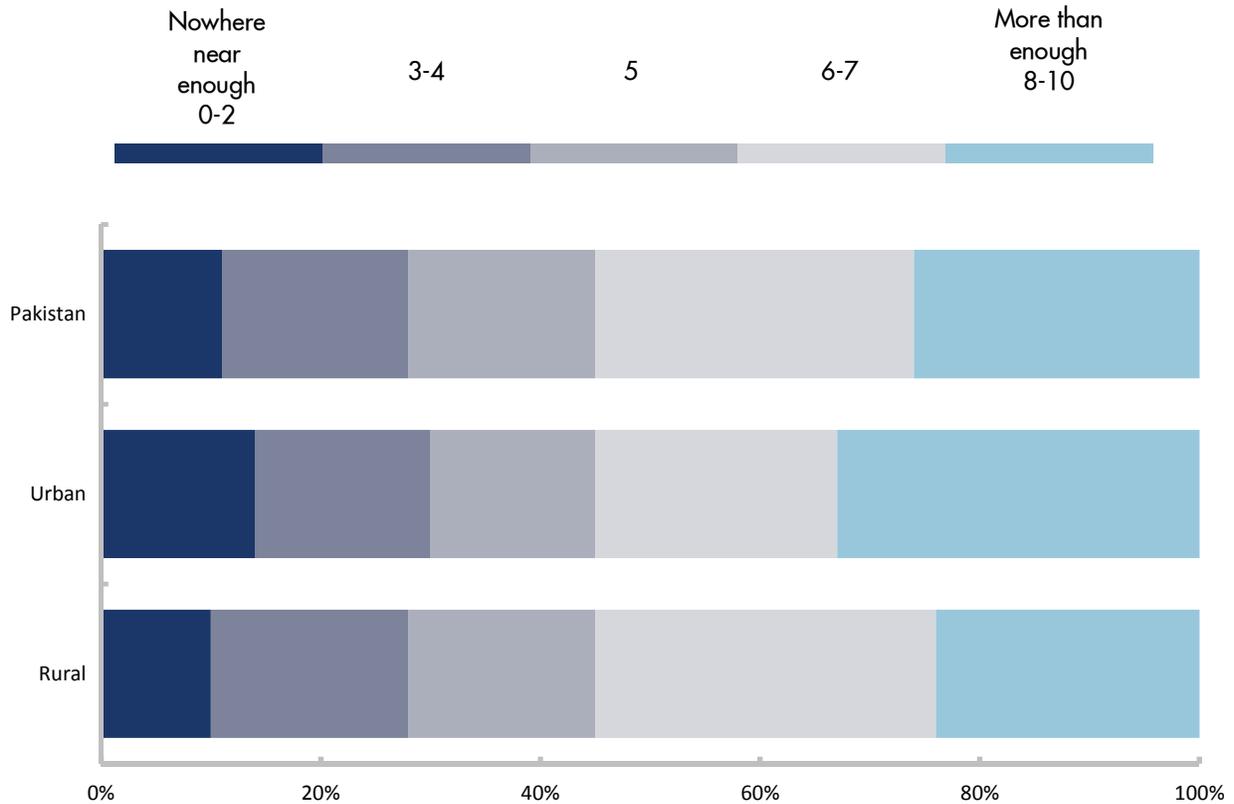


PERCEIVED EFFORTS OF ENERGY INDUSTRY

Perceived Efforts of Energy Industry

Over half of Pakistani respondents (55%) feel that the energy industry is doing enough to address future energy needs (rating 6 or above on a scale of 0-10) while 28% think that the industry is not doing enough (rating 4 or below on a scale of 0-10). A total of 17% of respondents remains neutral.

Graph: Do you think the energy industry is currently doing enough to address future energy needs?

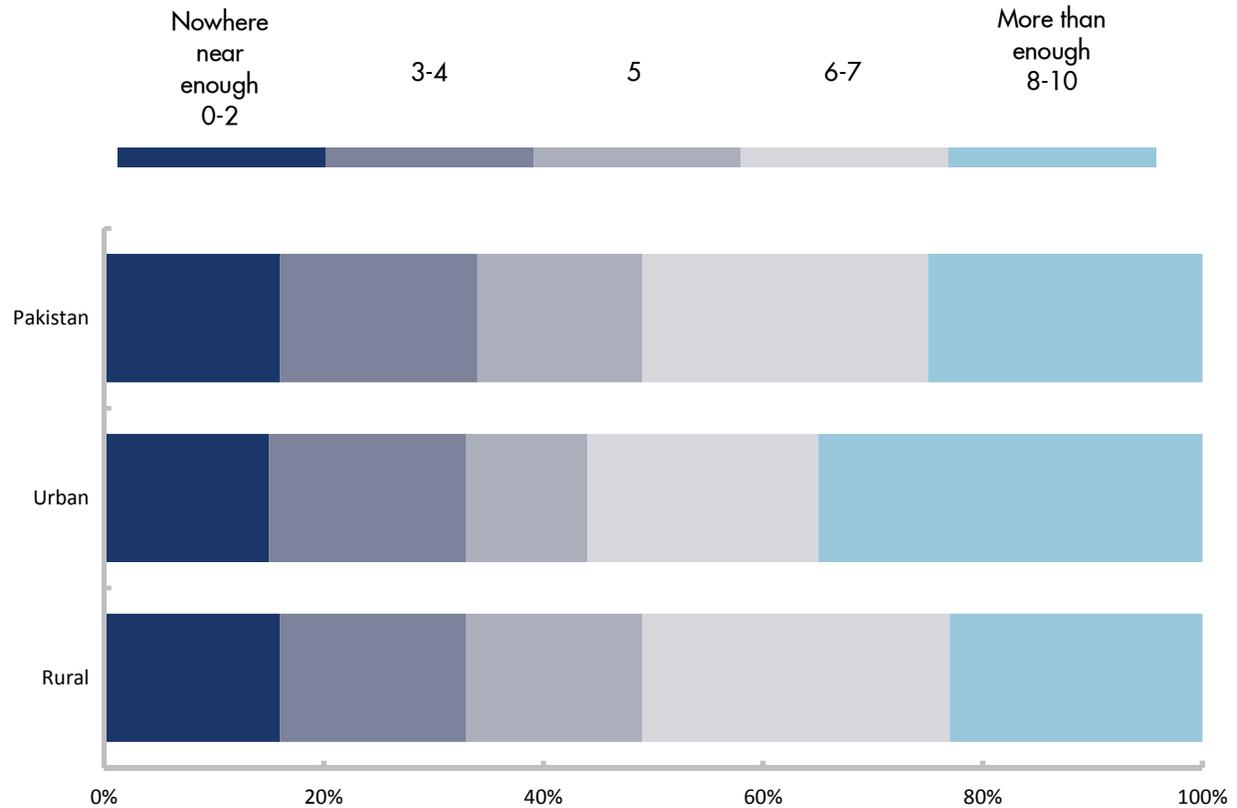


PERCEIVED EFFORTS OF GOVERNMENT

Perceived Efforts of Government

A total of 51% Pakistani respondents feel that the government is doing enough to address future energy needs (rating 6 or above on a scale of 0-10) while 34% think that the government is not doing enough (rating 4 or below on a scale of 0-10). 15% of the respondents remain neutral.

Graph: Do you think the government is currently doing enough to address future energy needs?

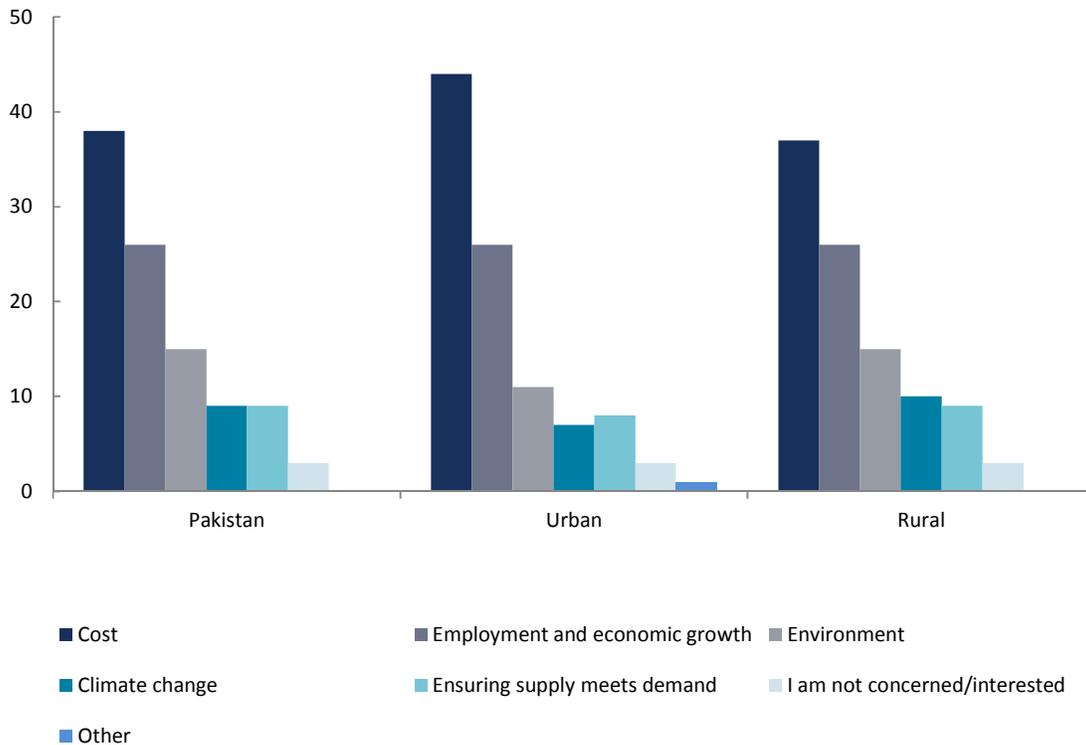


IMPORTANT ISSUES FOR FUTURE ENERGY

Important Issues When Thinking About Future Energy

Cost (38%) and employment and economic growth (26%) are the two most important issues for Pakistani respondents when thinking about future energy, followed by climate change (9%) and environment (15%), ensuring supply meets demand (9%).

Graph: What is the most important issue for you when thinking about future energy?

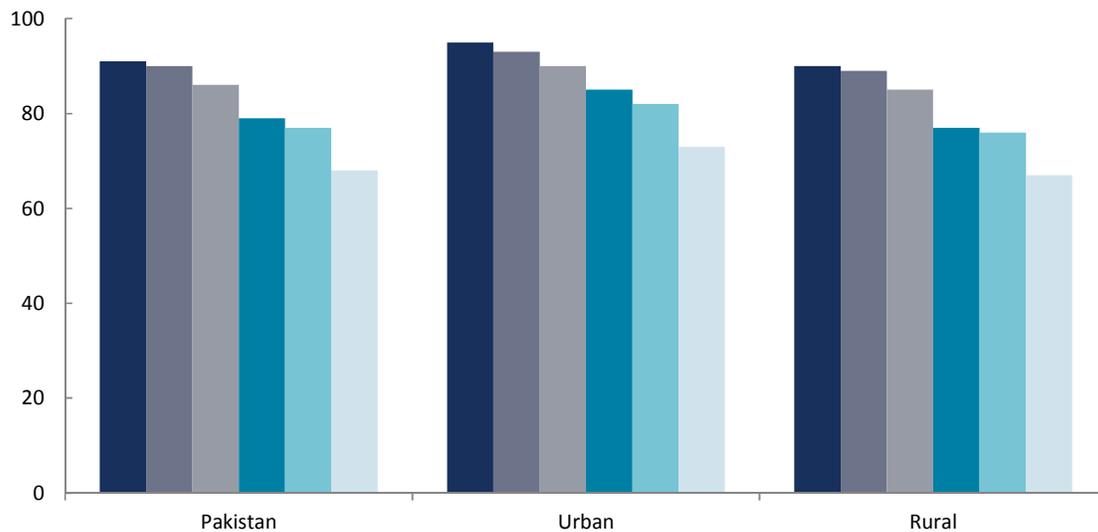


IMPACT OF ISSUES ON PAKISTAN

Expected Impact of Issues on Pakistan

Pakistani respondents consider higher unemployment (91%) and significantly higher energy prices (90%) to have the biggest impact on Pakistan (rating 8 or above on a scale of 0-10). This is followed by energy shortages (86%), food shortages (79%) and water shortages (77%).

Graph: In an energy constrained world, what do you think is the likely impact of the following issues on Pakistan?



Questions were asked on a 0-10 point scale, and percentages reported are a total of the top 3 (i.e. rating 8, 9 or 10).

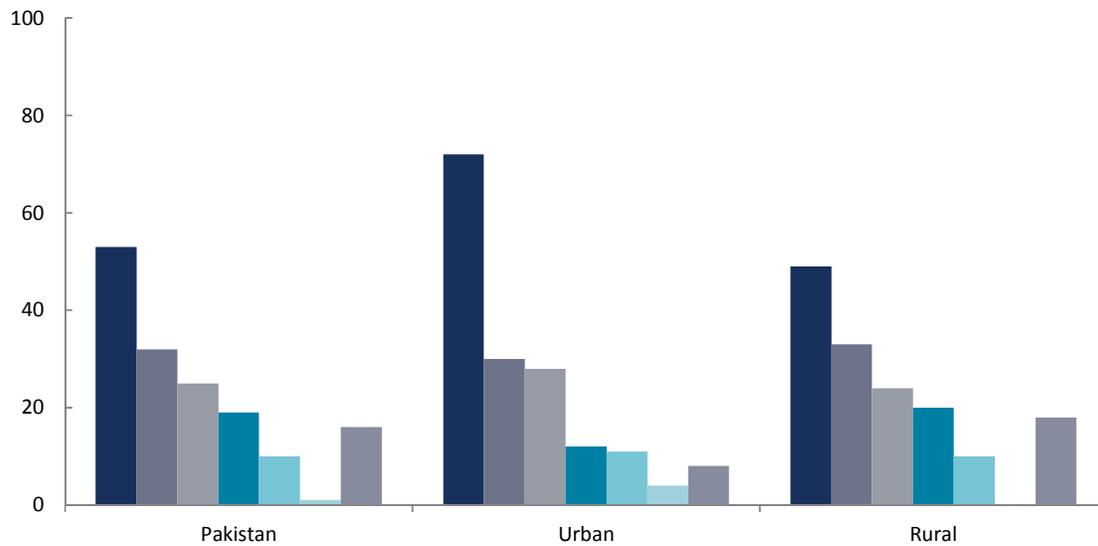
- Higher unemployment
- Significantly higher energy prices
- Energy shortages
- Food shortages
- Water shortages
- Geopolitical instability

REDUCING CO₂ EMISSIONS

Reducing CO₂ Emissions

Multiple behaviours at the individual level are employed to reduce CO₂ emissions. Using less energy (53%) and using energy saving products (32%) are the two most predominant behaviours undertaken by many Pakistani respondents. This is followed by using public transportation (25%), participating in offset emission schemes (19%) and recycling (10%).

Graph: What do you do personally to reduce CO₂ emissions?



^ This question was asked as a multiple response question, and accordingly responses will not total 100%

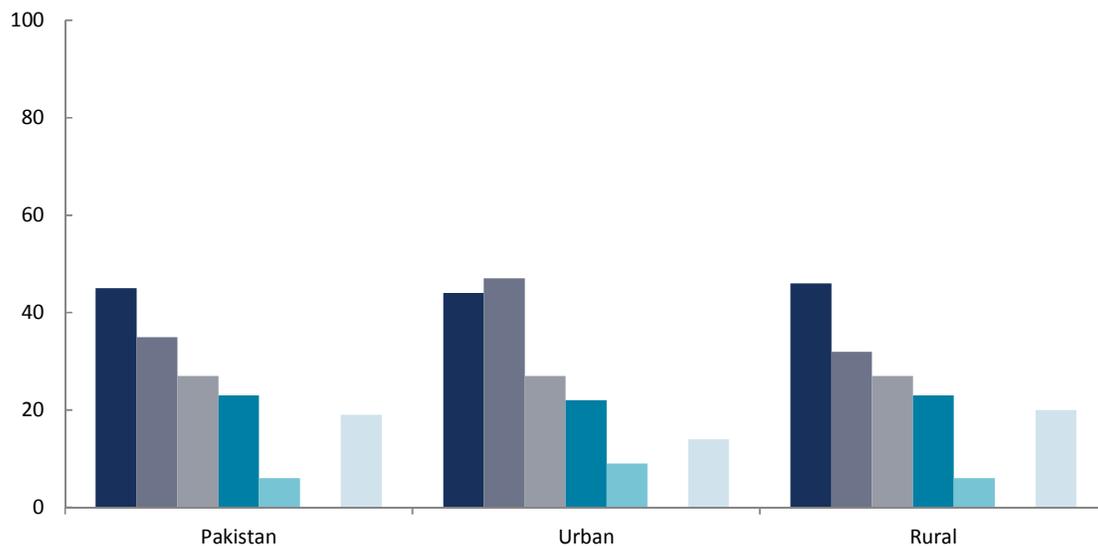
- Use less energy (eg turn lights off when out of the room)
- Use energy saving products
- Use public transportation
- Participate in offset emission schemes
- Recycle
- Other
- Nothing

BENEFITS ASSOCIATED WITH IMPORTING LNG

Benefits Associated with Importing LNG

Several benefits are associated with importing LNG. The top two are to help secure ever-growing energy demand (45%) and economic benefits (35%). Pakistani residents also associate superior quality (27%) and environmental benefits (23%) with LNG import. A small percentage sees no benefits in importing LNG (6%) and a significant percentage do not know (19%).

Graph: Which of the following benefits do you associate with importing Liquefied Natural Gas (LNG)?



^ This question was asked as a multiple response question, and accordingly responses will not total 100%

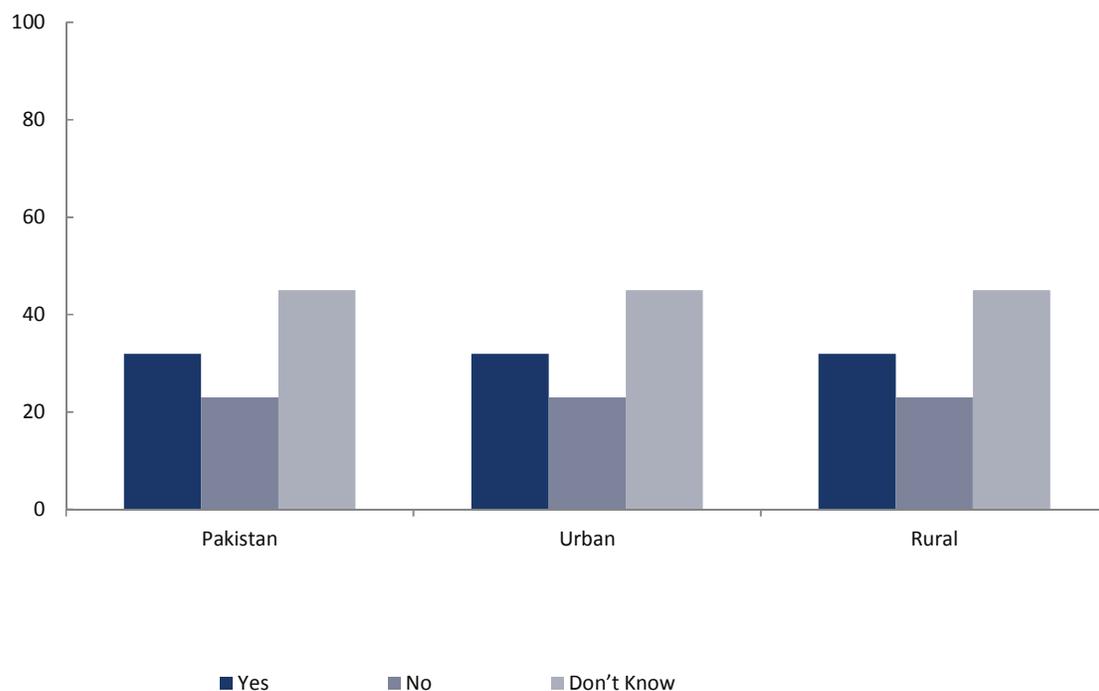
- Helps secure ever-growing energy demand
- Economic benefits (e.g. one of the least expensive transportable fuels)
- Superior quality
- Environmental benefits (e.g. natural gas is the cleanest burning of the fossil fuels)
- I see no benefits in importing LNG
- Other
- Don't know

LEADING INVESTOR IN NEW ENERGY TECHNOLOGY

Leading Investor in New Energy Technology

Around 3 in 10 (32%) Pakistani respondents are surprised to learn that the oil and gas industry is the leading investor in new energy technology (32%). However, just under half (45%) do not know.

Graph: Would you be surprised to know that the oil and gas industry is the leading investor in new energy technology (e.g. FLNG)?

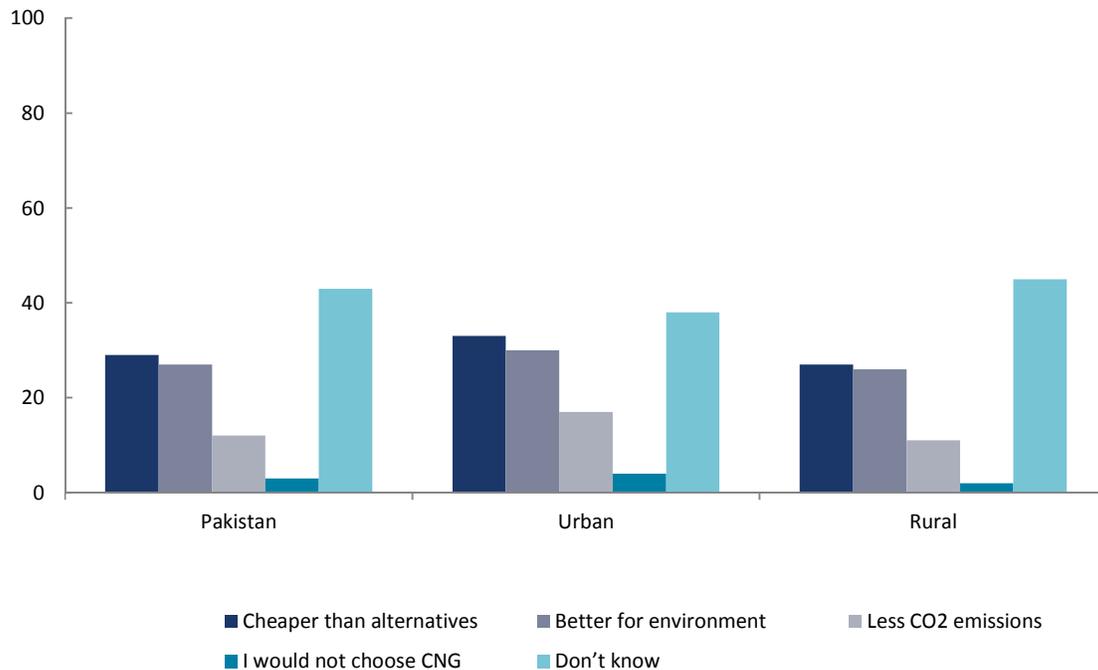


FACTORS TAKEN INTO ACCOUNT WHEN CONSIDERING CNG

Factors Taken into Account When Considering CNG

A range of factors are taken into account by Pakistani residents when considering CNG. The top two factors are cheaper than alternatives (29%) and better for environment (27%), followed by less CO₂ emission (12%). A small percentage of respondents indicated that they would not choose CNG (3%) and around 2 in 5 (43%) do not know what to think about when thinking about using compressed natural gas.

Graph: What factors do you think about when considering using compressed natural gas (CNG) in your vehicle?





FURTHER INFORMATION

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