

Young Cities Research Briefs | 11

Attitudes on Climate Change and Energy Consumption Behavior among Iranian and German Youth

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1 Introduction

Already in 2007, the reports of the International Panel on Climate Change (IPCC) clarified that climate change is caused by anthropogenic actions. The report also clarified that counteractions are imperative if we want to limit the consequences of climate change, which are already being experienced in different parts of the world, to an extent that our society can cope with (cf. BMU/IPCC/BMBF, 2007). As urbanization rates increase worldwide, greenhouse gas emissions are steadily increasing. These developments call for new concepts of climatically sustainable urban development. Since approximately 80% of worldwide greenhouse gas emissions are currently being produced in cities, the consequences of climate change can only be considerably reduced through a massive reduction of energy consumption and increased energy efficiency. This includes massive changes to individual energy consumption behavior, towards more sustainable energy consumption, but also new concepts of energy-efficient urban planning and building, which are accepted and valued by the people.

The following study was conducted as part of the sub-project “Awareness Raising”, led by the nexus Institute for Cooperation Management and Interdisciplinary Research within the research project “Young Cities”. The research project “Young Cities—Developing Urban Energy Efficiency in the Tehran-Karaj Region”, which is funded by the program “Future Megacities” of the Federal Ministry for Education and Research (BMBF), focuses on the energy efficient development of New Towns, with an emphasis on the New Town Hashtgerd (see www.youngcities.org).

One aim of the sub-project “Awareness Raising” is to find out more about the attitudes of citizens in regard to environmental issues, climate change and energy consumption patterns, in order to develop awareness raising measures for climate change and energy-efficient behavior.

Today, the discussion about the reasons and consequences of climate change is taking place on various levels, but is only marginally reaching the population. Attempts to change consumption behavior, in order to adapt to and mitigate the consequences of climate change, are unreasonable without considering the question of whether and in which ways climate change matters to people and of which aspects are hindering or supporting the change of energy consumption behavior in a given context (Walk/Schröder 2010). Therefore, it is necessary to analyze current energy consumption behavior to

be able to develop urban concepts that support energy-efficient and ecologically sustainable lifestyles.

Therefore, two surveys were conducted over two subsequent years with Iranian students from three schools in Tehran and, to provide a comparison, with German students from two schools in Berlin and Bonn. The survey dealt with the topics of energy consumption and energy saving in the household, mobility behavior and knowledge of the students about and attitudes towards climate change and its consequences.

2 Methodology

As was mentioned before, in order to change individual consumption behavior for the adaptation to and mitigation of the consequences of climate change, and for the development of urban concepts that support energy-efficient and ecologically sustainable lifestyles that are suitable to the needs and consumption behaviors of individuals, it is necessary to find out which topics matter to people, in which ways, and to analyze current energy consumption behavior and attitudes towards environmental protection and climate change.

In regard to awareness-raising measures that promote energy-efficient behavior and energy-efficient building, young people are considered to be an especially important target group. Young people are rather flexible and ready to change their lifestyles, while acting as multiplier for raising awareness within their families.

Therefore, as part of the Young Cities project, a survey was carried out with students from Iran and students from Germany over two subsequent years (2009 and 2010). This was done in cooperation with the Königin-Luise-Foundation, a private school in Berlin that has engaged in a cultural exchange with Iran for many years.

The Iranian students were from three high schools in Tehran and were between 10 and 18 years of age. The German students were from one high school in Berlin and one vocational training school in Bonn, and were between 12 and 25 years of age (the older students attended the vocational training school).

The survey, a quantitative written survey, was handed out to the students during class. Even though the survey was anonymous, it must be considered that some students might have been influenced by the wish to give desired answers, since the teacher handed out the questionnaires during class.

As there is very little existing research on energy consumption behavior in Iran, at least in English language, the survey contained many open questions in order to allow for new aspects to arise.

The survey was divided into the following sections:

- I. Environmental Protection
- II. Climate Change
- III. Energy and Mobility
- IV. Energy and Housing
- V. Information and Communication
- VI. Personal Information

Altogether, 188 Iranian and 202 German students were surveyed over the two years. As not all the students answered all of the open questions, the number of answers is given in the diagrams of these questions as (n). This study presents the results of the survey from both years.

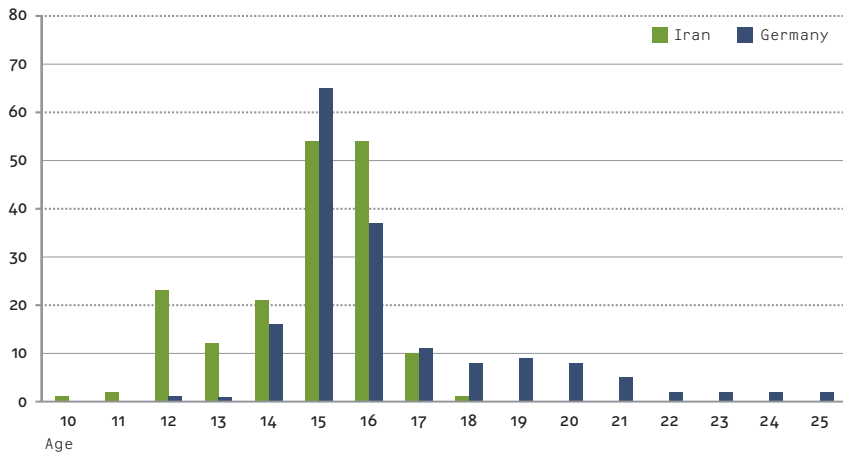


Fig 1: Ages of the surveyed students (of those who stated their age)

3 Results of the Surveys

3.1 Relevance and Important Aspects of Environmental Protection

At the beginning of the survey, the students were posed an open question about the significance or meaning that environmental protection has to them. It is interesting to observe that almost all of the Iranian students deem environmental protection to be very important. Most of the students argued that the survival of mankind is dependent upon the environment and nature; thus, they argued, it is important to protect the environment in order to be able to continue living in it. This argument is linked to the argument presented by many Iranian students that it is important to protect and preserve the environment for future generations. Some of the students even answered by stating specific actions that they had already taken to preserve the environment (e.g. not throwing garbage on the ground, active membership in an environmental association) or that should be taken. Altogether, the Iranian students demonstrated a great awareness of the issue of environmental protection.

Among the German students, more than two thirds consider environmental protection to be important or very important. This amounts to a smaller proportion than that of the Iranian students. Just like the Iranian students, the German students argued that environmental protection is important in order for people and animals to survive. The German students also argued that the environment must be protected for future generations and for their own generation, which is still quite young and will be living on this earth for many more years. Some of the German students also mentioned the separation of garbage and not throwing garbage on the ground as one concrete association with environmental protection. Interestingly, some of the German students, contrary to the Iranian students, also mentioned climate change when asked about the significance of environmental protection.

Some German students stated that they know the topic is important, but that they do not do anything or not enough for the protection of the environment. Also, several students mentioned that environmental protection has to be a concerted action, that it is only useful if everybody takes part and/or that it is more so an issue for organization than for individuals.

Approximately one-sixth of the German students stated that environmental protection has little or no significance to them. Some of those added that they know that it is important in general, but that it has only little significance to them personally.

Altogether, a greater percentage of the Iranian students attached great importance to environmental protection than of the German students. Thus, a greater percentage of the German students sees little or no importance in environmental protection than of the Iranian students. The answers given by the German students are more diverse and argue with a greater variety of aspects; also, the answers seem to be more (self-)critical or reflected. One of the reasons for this could be that the German students surveyed were a bit older on average than the Iranian students.

Regarding the next question, on environmental protection issues that are especially important to the students, some differences can be observed between the Iranian and German students. For the German students, the three most crucial aspects in regard to environmental protection are energy saving/renewable energy (27%), protection of trees and forests (25%) and animal protection (22%). For the Iranian students, waste pollution and the avoidance of waste (35%), protection of trees and forests (35%) and air pollution (23%) are the biggest concerns. Thus, the topics of “waste” and “air

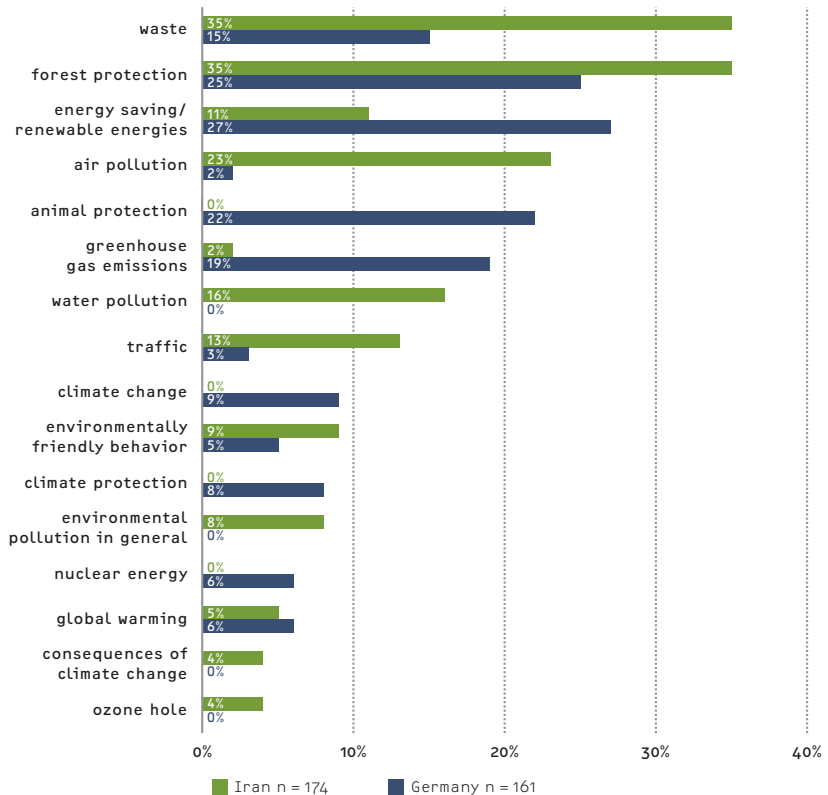


Fig. 2: Which aspects are most important to you, when thinking of environmental protection?

pollution” seem to have a far greater significance to Iranian students than to German students. A reason for this may be the fact that in the mega city of Tehran, where the surveyed Iranian students live, waste and air pollution are major problems that influence everyday life. In Bonn and Berlin, on the other hand, air pollution and/or waste are not alarming issues. For the German students, topics that are linked to the issue of climate change, such as CO₂ emissions, climate change itself, climate protection and energy saving/renewable energy, are of greater importance. This leads to the assumption that the German students are more aware of the issue of climate change than the Iranian students are. Furthermore, the issue of nuclear energy, as a link to environmental protection, was mentioned only by German students, while the ozone hole was mentioned only by Iranian students, but not by German students. One reason for this might be that the topic of the ozone hole was important in the German media in the 1980s and 1990s, and has now been superimposed by the topic of climate change in the media, awareness raising campaigns and in school curricula in Germany.

3.2 Climate Change—Knowledge, Responsibility, Actions To Take

Associations with climate change

Regarding the topic of climate change, the students were first posed an open question about what comes to mind when they think of climate change.

Approximately one-half of the Iranian (53%) and nearly two-thirds (62%) of the German students think mainly of the negative consequences of climate change, such as extreme weather events (e.g. floods, droughts, water shortage, melting of the polar icecaps) or (only in the case of the German students) of the extinction of animal species. The greater importance of animal protection among the German students was also reflected in the question about important environmental issues (see above). Thus, the negative impacts of climate change seem to be very present in the minds of students in both Germany and Iran. The emission of greenhouse gases and the greenhouse effect, as being the main causes for climate change, constituted the second most given answer and demonstrated the knowledge of the students on climate change.

Especially in the Iranian survey quite a few students (24%) associated certain human behavior as a cause of climate change, like use of cars that cause gas emissions, industry and waste of energy resources. Much less of the German students (7%) first thought of human behavior as cause for climate change as a direct association to climate change.

It is remarkable that the topic of climate change and global warming caused some of the Iranian and German students to think of issue-solving strategies or actions that should be taken to mitigate climate change. Examples included the use of renewable energy sources and efficient technologies (especially the German students) and the reduced use of cars (especially the Iranian students). Also, some of the students associated the hole in the ozone layer with climate change. The answers are categorized in the following figure.

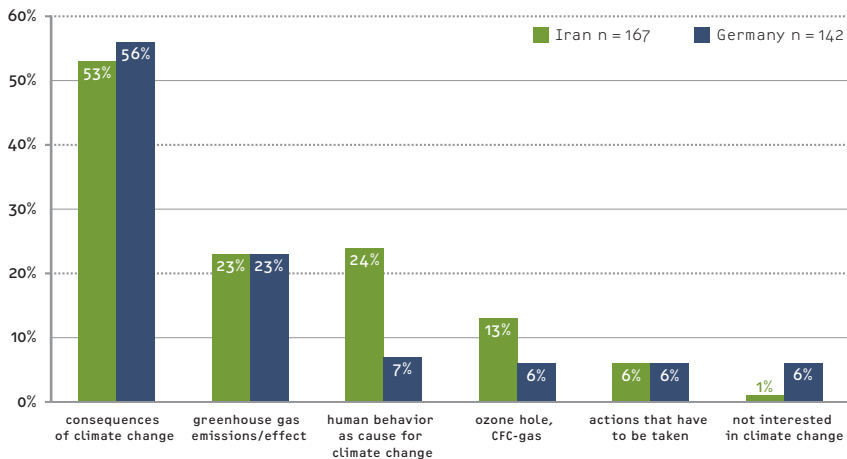


Fig. 3: What comes to your mind when you think of climate change or global warming?

Knowledge on climate change and concerns

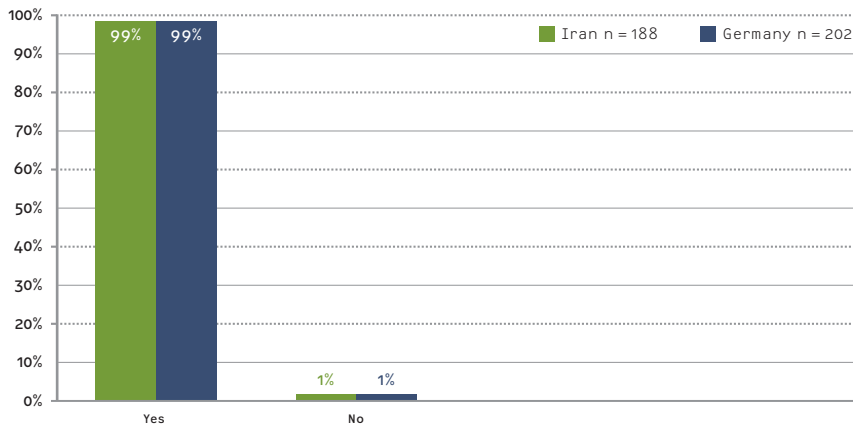


Fig. 4: Have you ever heard about the consequences of global warming?

As could already be seen in the answers to the preceding questions, almost all of the Iranian and German students had already heard of climate change (see Fig. 4). When asked about their concerns in regard to climate change, the majority of the Iranian and German students feels concerned, which is also reflected in the preceding question about associations with climate change. Many of the Iranian and German students think that climate change threatens the basis of human and animal life. Additional, major concerns are the extreme weather events (e.g. floods and droughts), which were already mentioned above, that are occurring more frequently. Interestingly, one-third of

the German students stated that they are not worried about climate change, in contrast to only a few Iranian students (circa 8%). This is surprising, since a greater percentage of the German students than of the Iranian students stated the different negative consequences of climate change as associations with climate change in the preceding questions. One reason for the greater concern of Iranian students could be that the existing and predicted consequences of climate change are more severe in the regions of the Middle East than of Central Europe.

Responsibility and actions to take

In the following part of the questionnaire the students were asked if they consider humans to be at least partly responsible for climate change or not, if they think that something should be done against climate change and whom they consider to be mainly responsible for taking actions against climate change. Almost all of the surveyed students (94% of the German and 98% of the Iranian students) consider people to be responsible for climate change, although the percentage of German students is slightly lower. Furthermore, all of the Iranian students think that actions have to be taken against climate change, while only nearly all German students (95%) share that opinion and the remaining 5% think that actions against climate change are not necessary.

When looking at the question of whom the students consider to be mostly responsible for taking actions against climate change, the differences between the students from the two countries are quite astonishing. Both the Iranian (99%) and German (88%) students consider the biggest responsibility to take actions among the citizens (although it is not clear if “citizens” is to be interpreted here as “individuals or people in general”). However, among the German students, almost just as many think that politics (76%) and the

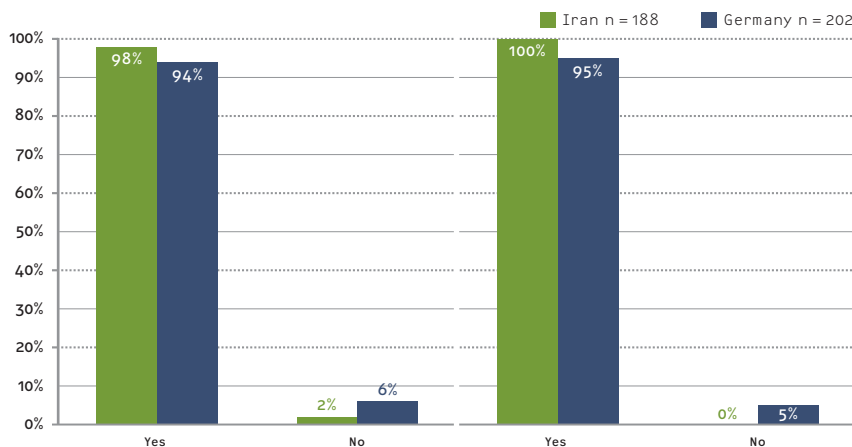


Fig. 5: Can you imagine that people are partly or completely responsible for climate change?

Fig. 6: Do you think that something has to be done against climate change?

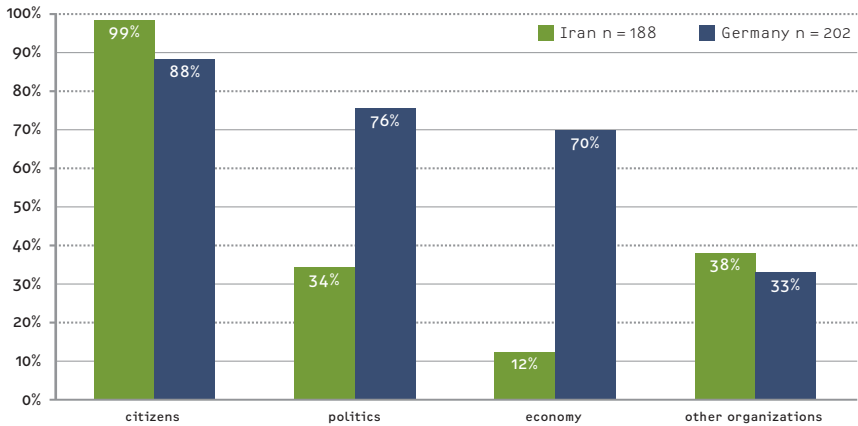


Fig. 7: Who do you think is mostly responsible to do something against climate change? (Multiple answers permitted)

economy (70%) are equally important actors in the taking of actions against climate change. The German students consider organizations as being least responsible. On the other hand, the Iranian students see the economy as being least responsible; politics and organizations are only seen by a third of the Iranian students to be important actors in the taking of actions against climate change. Reasons for this might be the higher or respectively lower trust in the willingness or power of politics and economy in regard to this matter. Another explanation could be a higher or respectively lower level of resignation opposite these actors or the wish, among the German students, to pass some of the individual responsibility on to institutional actors.

Regarding the actions that should be taken to mitigate climate change, the Iranian students named changes to individual behavior and behavioral changes in regard to transportation (e.g. increased use of public transportation and decreased use of cars, cars with alternative engines and improvements to public transportation systems) most often. Furthermore, the Iranian students consider awareness-raising measures, to inform people about climate change and possible actions, to be quite important. On the contrary, only a few of the German students mentioned awareness-raising measures as a necessary action. It seems that the German students consider people to already be well informed about the issue. Interestingly, the Iranian students often used statements, such as “people have to act” or “people have to take over responsibility”, that assign responsibility to people. The German students often used general statements, such as “energy saving” or “reduction of CO₂ emissions”, that do not assign responsibility to a certain actor.

When mentioning the role of industry, another observable difference is the emphasis by Iranian students on the reduction of industrial emissions or the (re)location of polluting industry far away from cities. The German stu-

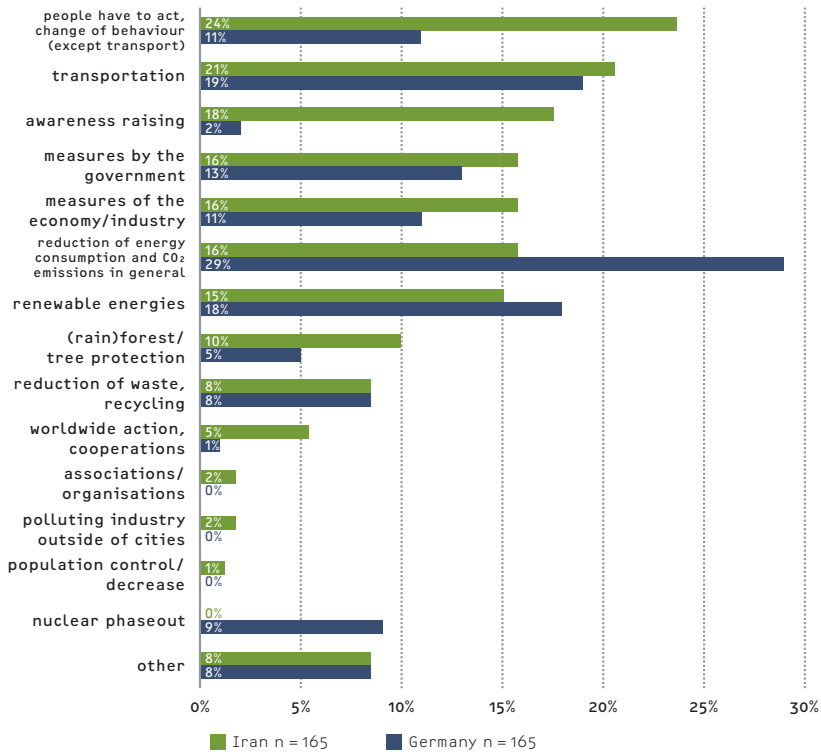


Fig. 8: Which actions should be taken?

dents rather saw the responsibility of industry in developing new and more efficient technologies or products that cause less CO₂ emissions.

Students from both countries mentioned measures that should be taken by the government, such as the passing and enforcing of rules and regulations and the promotion of renewable energies. Students from both countries mentioned the protection of trees and forests. However, this seems to have a greater significance in Iran. While the German students mainly mentioned the protection of the rain forest, the Iranian students emphasized the need to protect trees and forests in general. This leads to the assumption that the protection of domestic trees and forests is an issue discussed in Iran more widely than in Germany. Also, an equal percentage of students from the two countries mentioned the reduction and recycling of waste.

Not surprisingly, the German students also named nuclear phase-out as an action to be taken. In Germany, this issue has been discussed and demanded by various groups since the 1980s. The Iranian students did not mention this option, which is not surprising, as Iran only officially began to produce energy from nuclear power plants in 2010.

3.3 Energy and Mobility

Modes of transport

As the transport sector is one of the main emitters of greenhouse gases, finding out about the mobility behavior of the students was one important aim of the questionnaire.

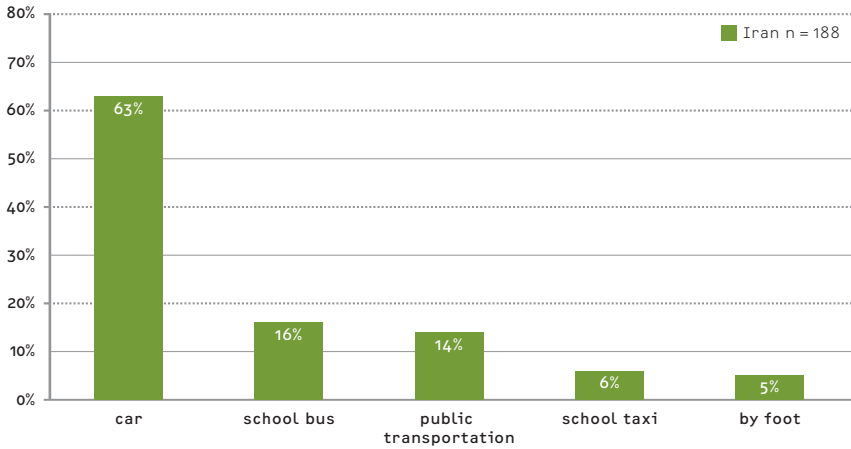


Fig. 9a: Which means of transportation do you use to go to school? Iran

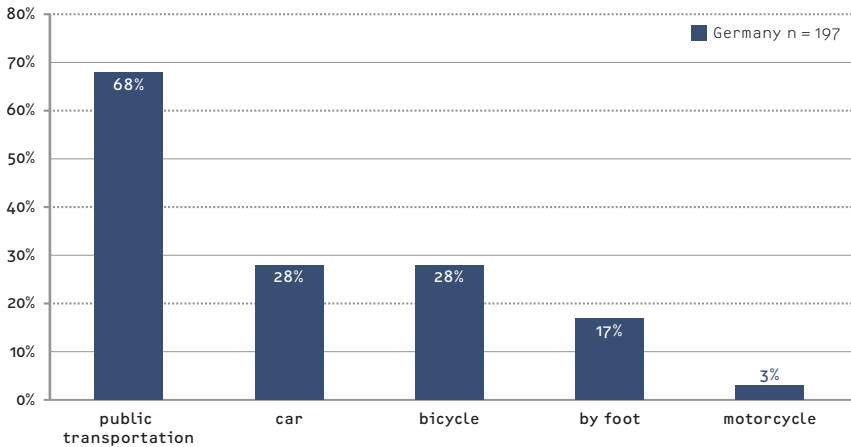


Fig. 9b: Which means of transportation do you use to go to school? Germany

Nearly every household, of both the Iranian and German students, owns a car. To get to school, 68% of the German students use public transportation, 28% ride a bicycle, 28% go by car and 17% walk. Among the Iranian students sixty-three percent (63%) use the car for going to school. Twenty-two percent (22%) ride a school bus or school taxi and only 14% use public transportation (e.g. bus, minibus, metro), of which the metro makes up only 1%. Only

5% of the Iranian students walk to school. None of the Iranian students rides a bicycle to school.

The responses were similar in regard to the choice of transportation during leisure time. Again, the majority of the German students use public transportation (57%), while 45% ride a bicycle and a fourth (24%) go by car.

During their leisure time (e.g. to get to sporting or other leisure activities), most of the Iranian students go by car (58%), which is slightly less than the percentage that go to school by car. Fifty-one percent (51%) walk to their sporting or leisure activities and 19% ride a bicycle. For the Iranian students, walking and riding bicycles play a more important role during leisure time than on the way to school.

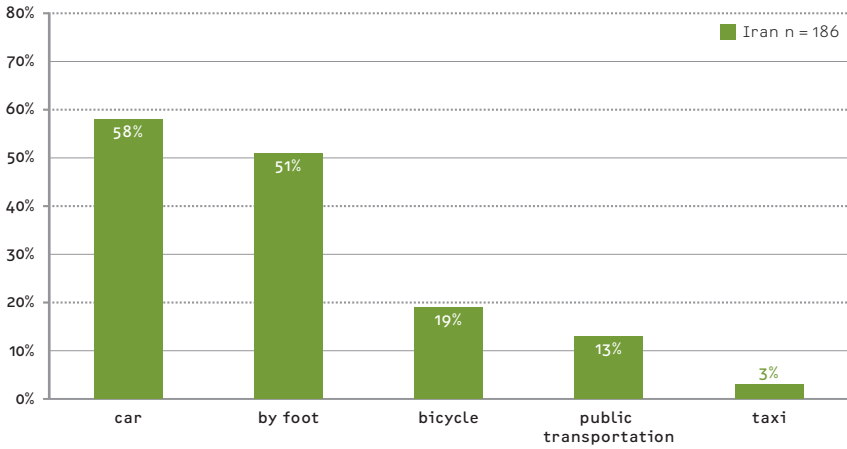


Fig. 10a: Which means of transportation do you use to go to sport or Leisure activities? Iran

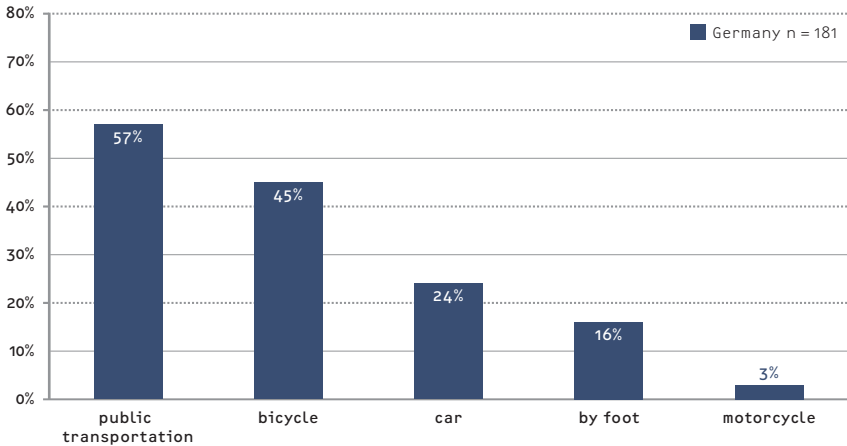


Fig. 10b: Which means of transportation do you use to go to sport or Leisure activities? Germany

In addition to a car, almost all of the German households and two-thirds of the Iranian households own a bicycle. However, as could be observed in the preceding questions, the Iranian students use bicycles much less frequently as a mode of transportation. When asked for reasons not to use a bicycle, the German students named too long traveling distances (25%) and unsuitable weather conditions (19%) most often. Meanwhile, the main reasons named by the Iranian students include safety (29%) and the lack of cycling paths (16%). This is not surprising, as the Iranian students come from Tehran, which is an emerging mega city with a high density of cars and only few cycling paths. Many Iranian children and young people use the bicycle more so as a sporting or recreational activity than as a means of transportation to cover distances. In addition, 16% of the Iranian students stated that societal conventions keep

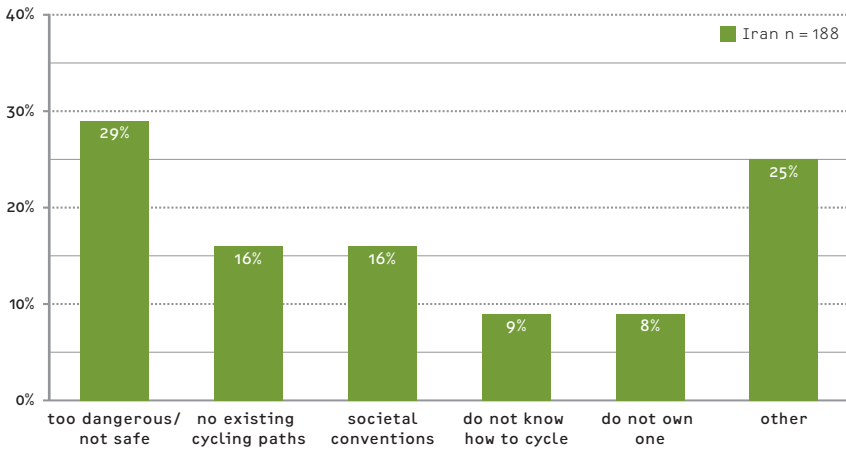


Fig. 11a: What reasons do you have not to use the bicycle? Iran

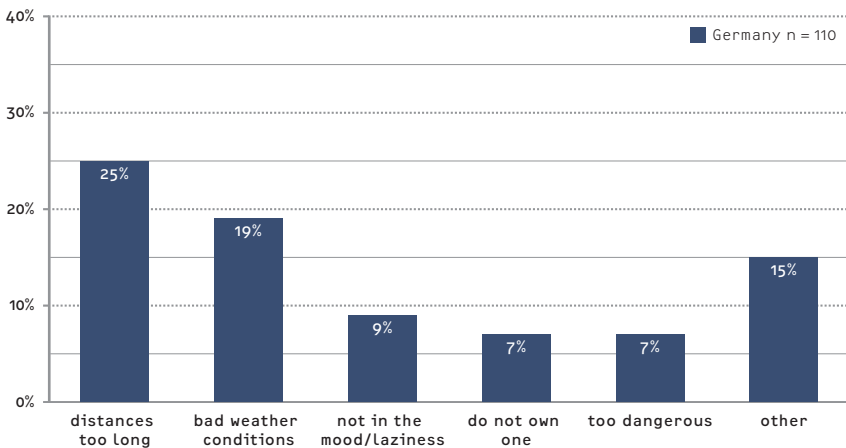


Fig. 11b: What reasons do you have not to use the bicycle? Germany

them from riding the bike. For example, according to cultural conventions, it is not common or considered appropriate for women to ride bicycles.

Improvements to public transportation systems

One of the goals of the Young Cities project is to promote the use of public transportation as an alternative to the use of private cars as a measure to reduce CO₂ emissions. Therefore, it was of interest to find out how, from the students' perspective, the public transportation system should adapt to the needs of users, especially in Iran, in order to be used more often.

In the previous sections, it could already be observed that the German students use the public transportation system very frequently as a main means of transportation. This suggests that the local public transportation systems are at least somewhat satisfying, well functioning and comfortable to use. However, the students from Iran use the various possible means of public transportation much less frequently. This is reflected in answers to the open question of how the public transportation system should be adapted in order for it to be used more frequently by the students and their families. Approximately one-fifth of the German students and none of the Iranian students responded with the statement that no improvements are necessary. The Iranian students requested the expansion of the public transportation system, improvements to the quality, comfort and cleanliness of the vehicles, improvements to security and the extension of certain routes or the change of the location of stops.

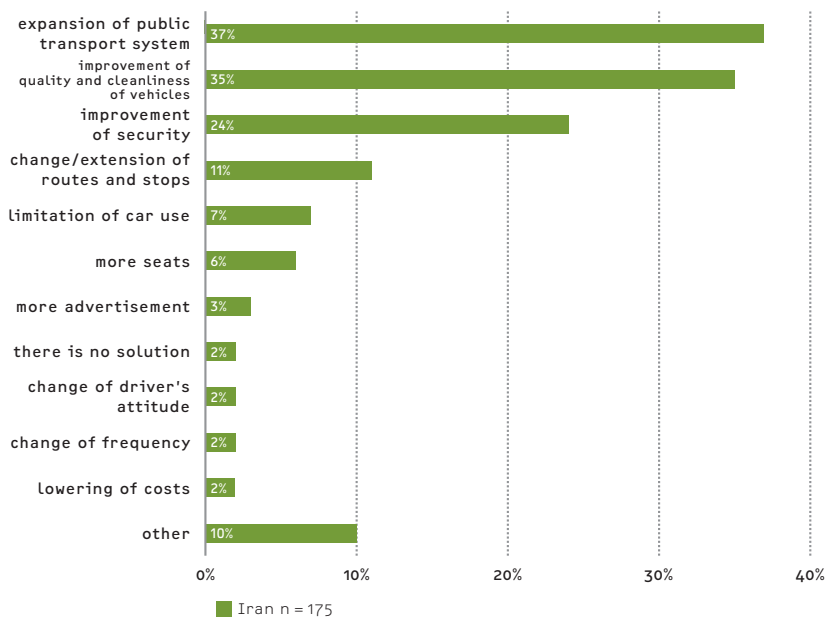


Fig. 12a: How should the public transport system be adapted, so that you and your family would use it more often? Iran

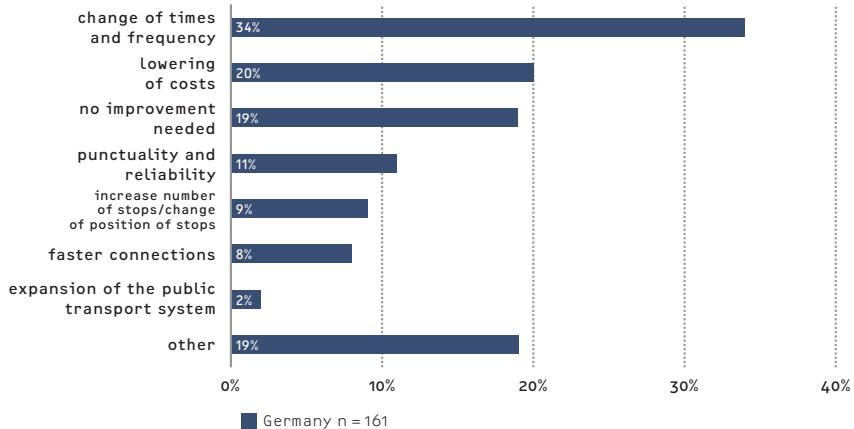


Fig. 12b: How should the public transport system be adapted, so that you and your family would use it more often? Germany

The German students requested changes to the times or frequencies of trains and a decrease in ticket prices. For the German students—who seemingly enjoy a rather comfortable and satisfying public transportation system in comparison to the Iranian students—the steep ticket prices play a bigger role. Ticket prices do not seem to be considered to be an urgent problem by the Iranian students. For the German students, punctuality and reliability, an increase in the number of stops, and the relocation of stops, are considered to be potential improvements as well.

3.4 Energy and Housing

Energy consumption and energy saving in the household

Another main sector of individual energy consumption, alongside transportation, is the household sector. The results of this survey demonstrate that according to the answers of the students the majority of both, the German and Iranian households, are considerate in regard to the use of energy. Ninety percent (90%) of the Iranian and 81% of the German students said that they are conscious of saving energy at home.

Although it is not the most efficient option, the conscious use of lamps seems to be the most common energy-saving issue at home. Almost all of the Iranian and approximately 80% of the German students stated that they are conscious of the energy use of lamps at home. More than one-half stated that they are also conscious of the energy consumption of electrical household appliances and entertainment electronics. The smallest percentage, which is still more than one-third, stated that they are conscious of the energy consumption of motorized vehicles—even though these are the main emitters of greenhouse gases and it would be most efficient to save energy through these. All in all, the percentage of Iranian students that considers the energy consumption of different commodities is a bit higher than that of the

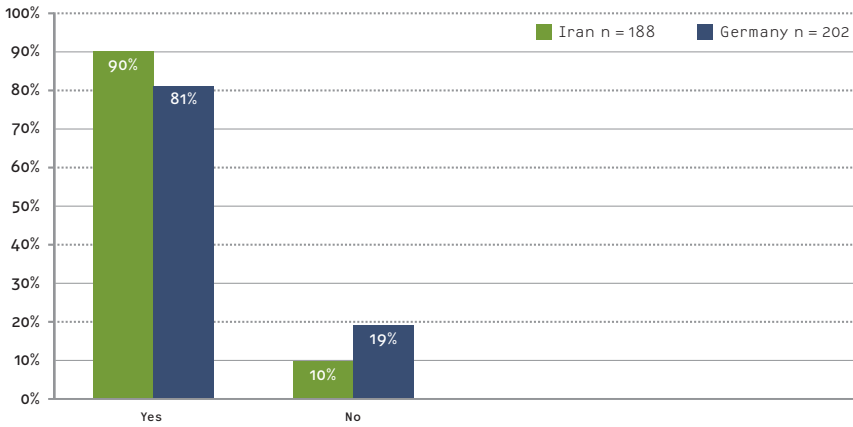


Fig. 13: Does your family pay attention to saving energy at home?

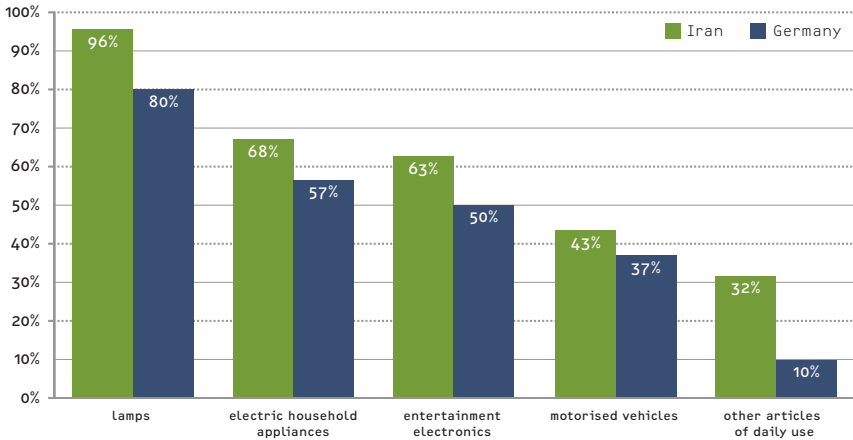


Fig. 14: Do you think about the energy consumption of the following commodities in your family? (Multiple answers permitted)

German students. Altogether, the numbers seem very high. However, they do not enable us to draw concrete conclusions about how and to what degree energy is saved in the students' homes. The results of the following open question offer additional insight, though.

Most of the Iranian students stated that they switch off unnecessary equipment or that they save energy and gas in general, without naming concrete measures. The most common response given by the German students was the switching off of light sources. This was followed by water saving, the use of energy-efficient lamps and the switching off of unnecessary equipment. The Iranian students also named water saving as being a measure.

The measures named are mostly measures that have little impact (with the exception of insulation, which was named by some Iranian students)

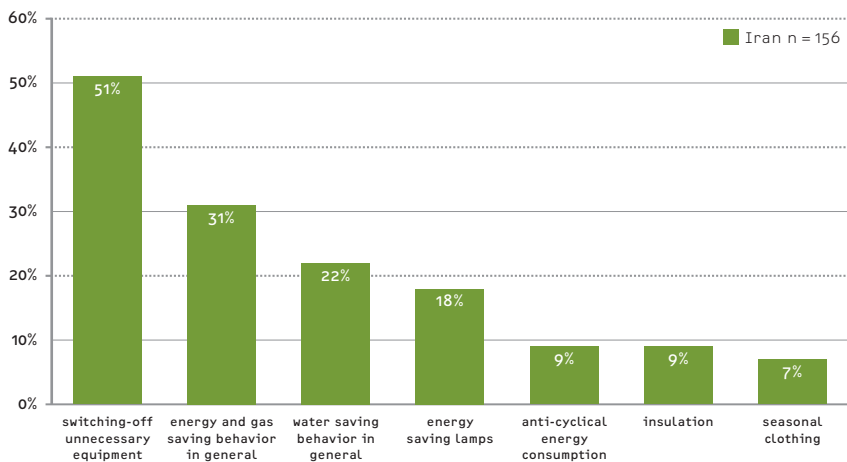


Fig. 15a: How does your family save energy at home? Iran

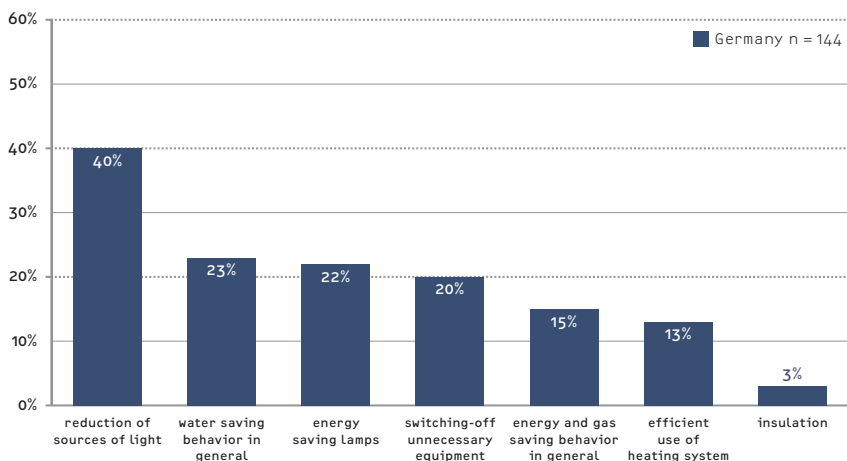


Fig. 15b: How does your family save energy at home? Germany

when compared to measures like the reduction of heating or the purchasing of energy-efficient appliances. This could be due to the fact that some measures that would have a higher potential of saving energy are linked to parental responsibilities, such as the buying and use of household appliances (e.g. heating system, washing machine etc.) and therefore did not come to mind of the students at first.

However, when explicitly asked if the level of energy consumption matters when buying a product, only two-thirds of the Iranian and one-half of the German students answered affirmatively.

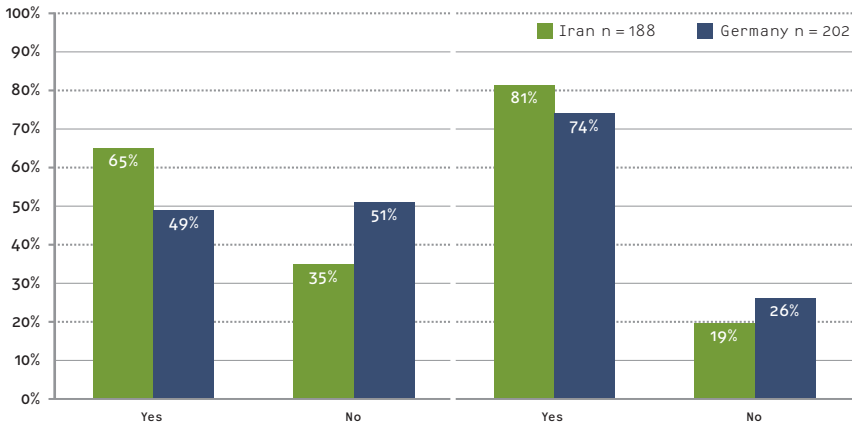


Fig. 16: Does the level of energy consumption matter when buying a product in your family?

Fig. 17: Do you watch the energy consumption of heating in your family?

Saving Water

As northern Iran is a semi-arid region, water scarcity is an important issue. Therefore, it is not surprising that two-thirds of the Iranian students stated that saving water is a concern in their families. However, half of the German students also said that it is a concern in their families.

Most often, the Iranian students stated that they are generally using water economically, but did not name concrete examples. Furthermore, students from both countries stated that they are saving water while showering or bathing (e.g. shorter showering times, not filling up the whole bath tub), while dish washing or using the washing machine and by not leaving water running unnecessarily. Quite a few Iranian students said that care is taken in

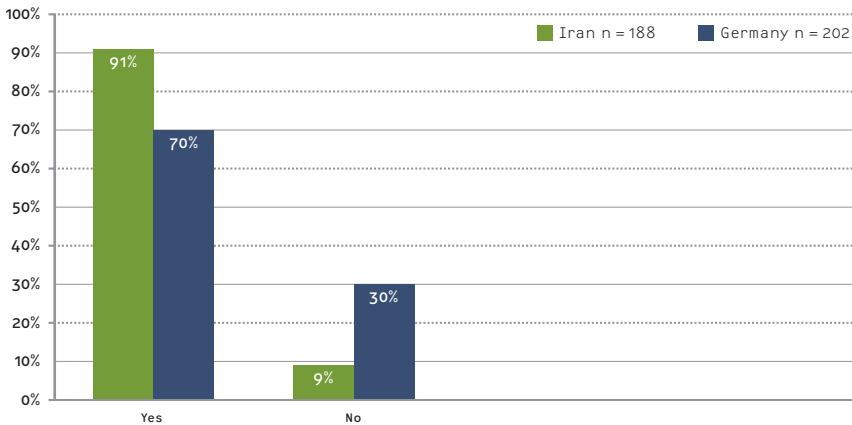


Fig. 18: Is saving water a concern in your family?

their households that water taps are not dripping. A few mentioned that they have water saving armatures. A few Iranian students also said that they are saving water by washing the car less often and by not using drinking water to wash the car. The results of a different survey of residents of Hashtgerd New Town, a small New Town 65 km west of Tehran, also show that the washing of cars and carpets are seen as being activities that consume a lot of water. The survey also showed that less frequent washing of cars and carpets was considered to be an option to save water (Schröder et al. 2013).

Energy-efficient building

One objective of the Young Cities project is to design energy-efficient housing solutions for the Iranian context. Therefore, it was of interest to find out if the students are familiar with the term “energy-efficient building” and, if so, what they associate with it. Approximately 40% of the German and one-third of the Iranian students that answered this question had not heard about energy-efficient building. The Iranian students that were familiar with the term associated it to the greatest part with insulation and double-layered windows. A few mentioned solar cells. Some mentioned that they had heard of “Code 19”, which is an Iranian code for energy-efficient building. The German students also associated mainly the insulation of walls and/or ceilings with the term “energy-efficient building”; a much greater percentage mentioned solar cells as association with energy-efficient building.

3.5 Information and Communication

The television is the main source of information on climate change and energy saving for both the Iranian and German students. Ninety percent of the German and 89% of the Iranian students stated that they had recently heard about these topics via the television. For the Iranian students, the second most important source of information on environmental issues is the Internet (69%), followed by the newspaper. Radio, informational campaigns and flyers/brochures play a much smaller role. Only one-fifth of the Iranian students stated that they had heard about climate change or energy saving via these channels.

The answers of the German students paint a similar picture. However, for the German students, newspaper plays a bigger and the radio a much bigger role as sources of information than for the Iranian students. However, it cannot be said whether the Iranian students read the newspapers and listen to the radio less frequently in general, or whether newspapers and the radio offer less information on environmental issues. Interestingly, the Internet plays a slightly bigger role as a source of information for the Iranian students than for the German students.

Schools are another important source of information on environmental issues. One would even assume that it would be the most important source of information. However, although many of the Iranian (83%) and German

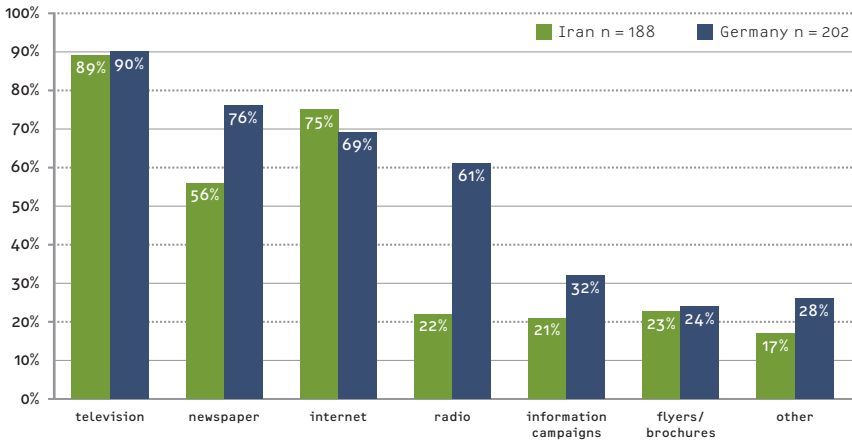


Fig. 19: Where did you hear or read about climate change or saving energy lately? (Multiple answers permitted)

(70%) students stated that they had learned about climate change and energy saving in school, this is a smaller amount than those that had heard about environmental issues via television.

In German school lessons, the focus is primarily on climate change and its consequences (55%), as well as on possibilities to protect the environment (27%). According to the Iranian students they were taught about environmental measures in general (48%), global warming (42%) and less the consequences of climate change (23%).

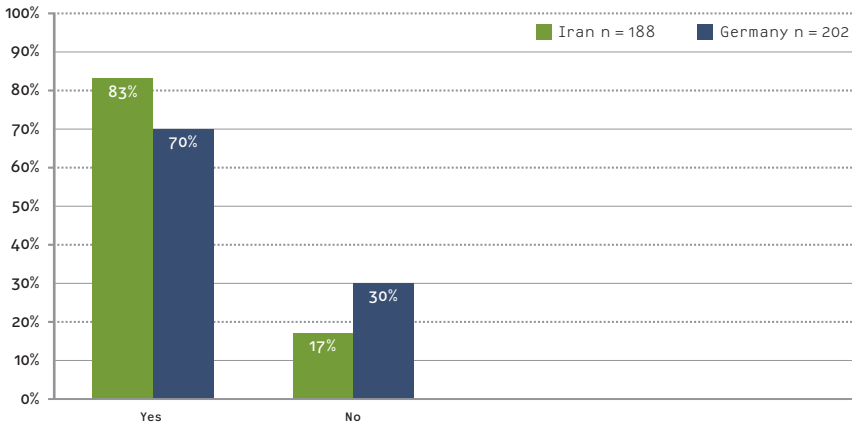


Fig. 20: Have you learned about climate change or possibilities to save energy in school?

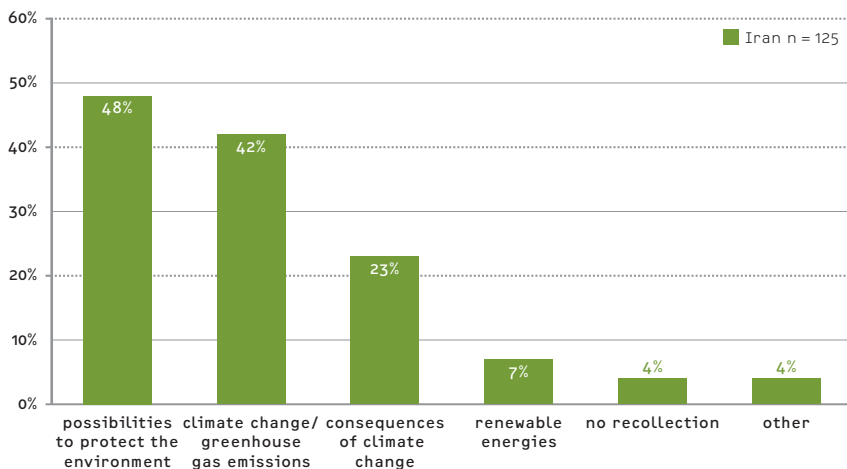


Fig. 21a: What topics did you talk about in school? Iran

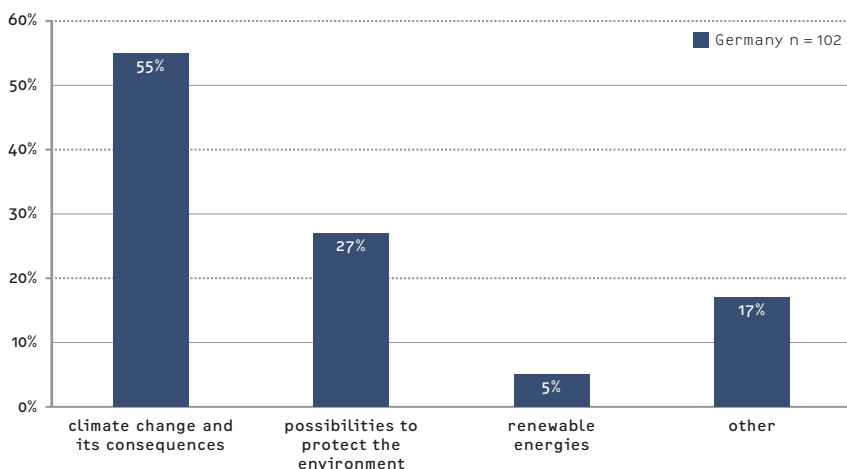


Fig. 21b: What topics did you talk about in school? Germany

The majority of students from both countries discuss topics that concern the environment or climate change with people in their social environment; the percentage of Iranian students in this regard was slightly higher. Compared with the answers to other questions regarding awareness and knowledge about environmental topics and climate change, the percentage of students that talks with family, friends and/or neighbors about these topics seems rather small.

When talking about these issues, climate change and its consequences are of great importance to the students from both countries. Some of the Iranian students mentioned the ozone hole as being one of the topics that they talk about while the German students did not mention the ozone hole

as being a topic of discussion. Again, this might be due to the fact that in the German media this topic has been superimposed by topics such as climate change and renewable energies in recent years. The saving of energy is another main topic for both the German and Iranian students. For Iranian students, the saving of water was also important.

The answers given by the German students are often more general (“everything”, “what we have heard lately/through the media”) and, in some cases, apocalyptic (“Apocalypse”, “How long will the earth survive?”).

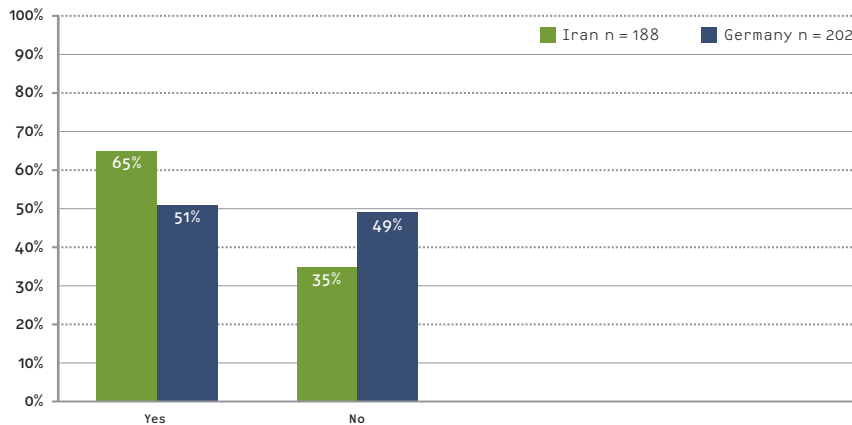


Fig. 22: Do you talk with family, friends or neighbors about these topics?

4 Conclusion

The results of the survey show that the environmental consciousness of both Iranian and German students is generally high. Especially the Iranian students attach great importance to environmental protection, more than the German students. The in-depth analysis of the interviews identified one probable reason for this observation: The Iranian students are more strongly and directly affected by certain environmental issues in their everyday life, which is reflected by the fact that most Iranian students deem such environmental issues as important which they are directly confronted with in an emerging mega city such as Tehran namely: waste pollution, protection of trees and air pollution. In contrast, it can be assumed that German students are not as much directly confronted with such environmental problems in their everyday lives. This is also reflected by the fact that Iranian students rather associate a change of people's behavior such as decreasing the use of cars more often with climate change than German students. Tehran faces repeating periods of smog in winter and thus the effects of car use are directly visible, while the even more excessive use of cars in Germany does not lead to such visible effects.

However, it is remarkable, that among German students energy saving and renewable energies are among the most often named associations with environmental protection, although they are not directly affected by energy issues such as energy shortages. Energy saving or renewable energies are rather indirect measures of environmental protection and thus the German students' attitude shows a certain ability to abstract from their own direct concerns that they are confronted with.

While a higher proportion of Iranian students deem environmental protection as important, the German students show a slightly higher awareness compared to the Iranian students for the issue of climate change as a more recent issue vis-à-vis "traditional" environmental issues. However, both Iranian and German students show an astonishingly high awareness for the issue of climate change and its consequences. The consequences of climate change are very present in the minds of the Iranian and German students, but students from both countries also show a high degree of knowledge on the causes of climate change. However, the consequences of climate change are perceived as threatening by a higher number of Iranian students.

Altogether, the German students seem to have a more distanced view on

climate change, which is also reflected by the fact that they see a higher responsibility to fight climate change in representative actors such as politics, economy and organizations.

Regarding mobility behavior, German students use public transportation much more frequently, while Iranian students go by car more often. The choice of the car as preferred mode of transportation vis-a-vis public transportation suggests a public transportation system in Tehran that does not sufficiently meet the needs of the users, which is supported by the many requests of the Iranian students regarding improvements to the public transportation system in Tehran. Partly this can also have societal reasons, such as that public transportation is seen mainly as a mode of transportation for those who cannot afford to drive a car. However, such perceptions are also closely linked to the quality of the public transportation system.

Furthermore, the bicycle as an environmentally friendly mode of transport is much less being used as a means of transport to get from A to B by the Iranian students than by the German students. On the one hand this is due to the traffic situation in Tehran (high volume of traffic, security, insufficient bicycle paths etc.), on the other hand this is due to societal norms for girls and women.

The results of the survey also show that the rather high environmental awareness also leads to concrete actions of saving energy, like turning off unnecessary lights or electrical appliances, although the named actions were actions with a comparably smaller impact. When buying new appliances, environmental considerations play a much smaller role in Iranian and especially German households according to the students.

Interestingly, a higher percentage of the Iranian and German students stated that they had heard about environmental issues on television than in school. This shows the high importance of the television as source of information in both countries. Again, the percentage of Iranian students who had learned in school about climate change or energy saving was slightly higher than among German students.

Although the results of the survey show that there is a high awareness and knowledge among German and Iranian students on environmental issues including climate change in general and often slightly higher among Iranian students, and that this awareness leads to energy saving actions, it can only limitedly be judged in the context of this survey to what extent this awareness is followed by which concrete actions or behavioral changes. The survey suggests that despite the high awareness and knowledge, topics like climate change and energy saving to a much lesser degree enter the private sphere of communication and discussion of the students. However, this does not allow for any assumptions on the degree of concrete actions of the students. This will have to be further researched.

5 References

BMU, IPCC, BMBF (Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, Deutsche Koordinierungsstelle des International Panel on Climate Change, Bundesministerium für Wissenschaft und Forschung) (2007): 4. Sachstandsbericht (AR4) des IPCC (2007) über Klimaänderungen. Teil III – Verminderung des Klimawandels. Kurzzusammenfassung. http://www.bmu.de/files/pdfs/allgemein/application/pdf/ipcc_teil3_kurzfassung.pdf

Schröder, S. et al. (2013): Energy Consumption Behavior and Attitudes towards Climate Change in Hashtgerd New Town. Results of a Qualitative Survey, Young Cities Research Brief No. 01, Technische Universität Berlin University Press.

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