Energy Challenges:
The Views of Chinese University Students

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Abstract:

This paper uses a survey at six universities in China to analyze university students' views on China's energy problems. It finds that gender, the nature and location of a student's original community, and their level of education affect various aspects of our students' views about China's energy problems, as well as the types of solutions that are most appropriate for this looming crisis. University students are quite concerned about China's energy situation, fearing dependency, seeing the U.S. as China's primary energy competitor all the while advocating a more hawkish attitude towards Japan. They look foremost to domestic solutions, such as enhanced conservation, more efficient use of energy, new technologies, enhancing the strategic reserve, and government taxation, particularly of large enterprises. When they look abroad, they support diversifying energy sources, increased energy cooperation, particularly with Russia and Central Asia (but not with Japan), and some increase of the navy's role in enhancing energy sea lanes and energy security.

This paper remains a first draft; we have much more data analysis to carry out. The authors want to thank Wang Pengyang, an undergraduate student at HKUST, who, with Professor Zweig, first began this project and carried out the first survey in Shenzhen.

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Introduction

China is the world's number two energy consumer and is will soon become the world's second largest importer. The issue of energy supply is now critical for China's sustained growth. But how do Chinese view this situation? Does increased global dependency on international resources worry China's citizens? Do they support cooperation with other countries on issues related to energy supply, or does nationalism translate into a hawkish view on cooperation? Do they see cooperation with the US as a possible solution—and do they have similar views about their arch rival, Japan? How does energy play back into the government's and the CCP's legitimacy—do Chinese think that the central government is doing a good job in dealing with this issue? As members of China's bourgeoning middle class, its future elites, and a group that pays some attention to Chinese foreign policy, the views of Chinese university students are suggestive of how this policy issue is playing out around China today.

Public Opinion, Energy and Foreign Policy

Karl Deutsch, in a seminal piece on foreign policy, emphasized that society possessed an "attentive public," that engaged in foreign policy making. Many of these people would be members of the media, academics, and the business community and many may exert their influence through foreign policy associations.

In the past, the Communist Party monopolized the inputs and outputs of foreign policy making. At best, foreign policy was influence by intra-bureaucratic conflicts or competition, which might allow for competing views to enter the foreign policy making process. Beginning in the 1980s, students began to express their opinions on foreign policy, though it was largely expressions of anti-Japanese feelings (Whiting, 1988). Recently academics, business leaders, directors of think tanks, and perhaps even non-affiliated intellectuals can influence foreign policy, as the entire process has become far more pluralistic (Fewsmith and Rosen, 2001). In the first decade of the 21st century, think tanks, some under the Foreign Ministry, have convened a series of conferences, where directors of national oil companies, government officials, retired foreign policy makers, military personnel, and academics, have deliberated

the future of China's energy policy (Zweig and Bi, 2005). In general, then, while the central government has rejected competition from "critical intellectuals," who might challenge its monopoly on legitimacy, it has become far more open to social input into its foreign policy making, affording an "attentive public" to emerge in China.

Given this more pluralistic environment, we need to ascertain the viewpoints of various social sectors on key foreign policy issues. Johnston found differing views on economic integration and interdependence between middle and lower classes in China, with the former being more cooperative and less worried about economic interdependence. Yet, while viewpoints are important, we need to ask as well the extent to which citizens are acting upon those views.

As mentioned above, the 1980s was characterized by student activism (Calhoun, 1995). College students and young academics were not just active in 1989, but the cohort of tremendously talented students who entered campuses in 1977-79 played an active role in protesting about foreign (and domestic) policy throughout the entire decade. In particular, Japan was a major target of student ire in the 1980s. As the 1980s rolled out, a new generation of college students, suddenly influenced by foreign ideas from Sartre to democracy, which triggered their intellectual curiosity (Schell), became more concerned about Chinese foreign policy. [Rosen in Tow] And while June 4th and the subsequent clampdown on campuses put this genie of student activism back in the Chinese bottle, their comrades studying overseas were actively involved in the early 1990s is trying to punish China for its violent assault on Beijing in June 1989. By the mid-1990s, concern about foreign policy reemerged within the student community in China, and nationalistic feelings among college students has been riding high since the mid-1990s (Zheng, 1998). We have since seen massive student protests following the U.S. bombing of the Chinese embassy in Belgrade and the forcing down of the U.S. military spy plane, the EP-3, over Chinese airspace. In 2005, the world was shocked by the massive anti-Japanese protests that swept China. Whether these protests were in part mobilized and manipulated by the Chinese government, or arose independently, forcing government intercession in order to limit the political fallout, remains a point of debate. Nevertheless, it is clear that Chinese public opinion, and college students in particular,

pay some attention to foreign affairs (Rosen in Tow), and are easily mobilizable when China's international prestige comes under assault.

Gender, Energy, and Participation

Does gender affect the affinity towards political participation, and more important for international affairs, towards cooperation? Dowse and Hughes (1971: 53) found women "to vote less than men, to participate in political parties less than men, to know less about politics than men, to have less interest in politics than men and to be more conservative than men." However, Guo argued that both sexes have similar levels of self-awareness and self-motivation in terms of political participation (Guo 2003).

As or their tendency towards cooperation, does the fairer sex find it easier to work with others in political settings? Using dictator experiments, Eckel and Grossman (1998) show that women are more socially-oriented, while men more individually-oriented, a view shared by Tannen (1998). Based on two experiments, Stockard, van de Kragt and Dodge (1988) found that gender's influence on cooperation is overstated, while Anthony and Horne (2003: 239), studied micro-credit borrowing groups to find that "it is not gender itself that affects behavior, rather, the composition of groups accounts for differences in cooperation levels." Some scholars even find that women cooperate less than men. However, Simpson (2003: 35) argued that "previous research has failed to find differences because researchers have consistently used the Prisoner's Dilemma game (or its public goods variants) to investigate whether sex affects cooperation." However, the literature cited above analyzes how gender affects interpersonal cooperation, not women's views on international cooperation, which is the focus of this paper.

Gender difference analysis was employed in the study of Chinese politics, especially in the fields of political awareness and participation (Rosen 1995, Jennings 1998). [more to come here—DZ]. Still, in a study of rural China, differences among the sexes in terms of political attitudes were not strong enough to warrant a separate report (Zweig and Chung, 2007).

Methodology and sample distribution

This project was initiated in the summer of 2006, when Wang Pengyang, an undergraduate students at HKUST, and Zweig designed a questionnaire which Wang administered to students at Shenzhen University. Thereafter, Ye Shulan, under Zweig's supervision, administered the survey in six universities: Beijing University, Qinghua, Fudan, Zhongshan University, Guangdong Business College, in Guangzhou, and the Hong Kong University of Science and Technology. Because the mainland students came to college from all over China, their views can reflect different regions in China. We also did the survey in Hong Kong, in order to gain both a comparative perspective and to assess just how attentive Hong Kong students are to issues of energy and their knowledge of the situation in the mainland . We handed out 1,100 questionnaires in total and collected 994 effective cases.

As readers will note, we addressed six components in our survey. These include: personal background, knowledge about China energy issues, awareness of China's energy problems, their level of concern and opinions about energy problems, their level of activism on the issue, and finally, we canvassed the students for their suggestions on how the central government might better manage its energy policy.

Describing the Respondents

This section outlines the basic data about our respondents. The average age of the respondents is 21.4, with a minimum of 16 and a maximum of 36. Males comprise 45.2% of our sample, while 54.8% are female. Table 1 shows their academic fields. Does one's academic field affect one's level of cooperation? Zweig and Han show that Chinese who had studied business and management in Japan before returning to China were more likely to engage in international cooperative projects with Japan than people who had studied any other subject (Zweig and Han, 2007)..

Table 1. Major Field of Study

Major	Freq.	Percent	Cum.
Natural science	118	11.9	11.9
Engineering	196	19.8	31.8
Business	195	19.7	51.5
Social science and Humanities	297	30.1	81.6
Law	175	17.7	99.3
Others	7	0.7	100.0
Total	988	100.0	

In terms of educational attainment, the majority of students were undergrads (71%), while 22 percent held an MA degree, and 4% with Ph.D.s. We also had four percent who were enrolled in a junior college (table 2).

Table 2. Current Degree Student

Education	Frequency	Percent	Cumulative
Junior college student	39	4.0	4.40
Undergraduate	696	70.6	74.5
Master	213	21.6	96.2
PhD	38	3.9	100.0
Total	986	100.0	

One common theme of the literature on participation is that organizational affiliation has an important impact on activism (Nelson, 1975??). Members of a political party, a union, or other political organizations are easily to mobilize for participation. But what about membership in a Communist Party that supports mobilized, rather than autonomous, participation (Townsend, 1975)? We asked our students if they were party members, and to be frank, we were surprised by the high degree of CCP penetration onto college campuses, as over 25% of our respondents reported membership in the CCP (table 3). But these numbers are believable, as the efforts of the CCP to gain a stronger foothold on university campuses has accelerated over the past few years. No doubt, this is related to the CCP's effort to become a middle class party. But party affiliation is now seen as an important predictor of upward mobility in post-Mao China, a finding corroborated by numerous studies.

Table 3. Membership in Political Parties

Party	Frequency	Percent	Cumulative.
Chinese Communist Party	203	25.2	25.2
Communist Youth League	552	68.5	93.7
Other party	2	0.3	93.9
No party affiliation	49	6.1	100.0
Total	806	100.0	

Some scholars believe that the higher the status of one's neighborhood, the greater the level of political participation, suggesting that the political context can affect political participation. For example, Matsubayashi (2004) argues that the macro-environment exerts a considerable influence on how actively individuals engage in politics. He tested several hypotheses regarding social interaction as a possible mechanism binding high status contexts to greater participation. Similarly, Giles and Dantico (2001) used responses from the 1972 American Election Study and found that neighborhood social status is related to socially base participation.

All our students are currently living in the same environment, but these students did grow up in significantly different environments. Some regions of China are political more liberal, while others may be more conservative. Big cities may have different types of political cultures from small cities. So, we asked people to describe both the nature of the community where they grew up (table 4), and the region (table 5). Table 4 shows that our informants come from all types of communities: big, medium and small cities, as well as the countryside. This result should allow us to assess the different energy experiences of residents in different types of urban settings, as well as to see if where one grows up—and one's energy experience—affects one's view on energy problems (and solutions). Here, though, we hypothesize a relationship between region and attitude towards energy policy because different regions of the country have, over the past few years, faced different energy issues. Guangdong, for example, suffered serious energy shortage in 2004. To the extent that experiential factors, such as whether or not someone has experienced frequent blackouts, may affect their attitude towards China's energy problems.

Table 4: Nature of the Student's Home Community

Type of Town	Freq.	Percent	Cum.
Large city	260	32.30	32.30
Media and small city	224	27.83	60.12
Town	172	21.37	81.49
Village	149	18.51	100.00
Total	805	100.00	

Table 5: Regional Location of original home

Location	Freq.	Percent	Cum.
Western provinces	87	10.90	10.90
Middle provinces	157	19.67	30.58
Eastern provinces	554	69.42	100.00
Total	798	100.00	

Social class is a critical determinant of levels of participation, in part because social class affects education which in turn affects level and types of information, attitudes, and opportunities for participation. Thus, a student's social background may affect their attitudes towards China's energy situation as well. Children of peasants are most likely to have faced brown-outs. People of lower social class should have had less access to information, though all university students should share the same access to the information. Social class could correlate with CCP membership. And people of lower classes may be more concerned with issues of upward mobility than post-modern issues of quality of life. Nevertheless, these are only hypotheses that we will test in the latter part of the paper. It is still worth noting that the number of students with worker and peasant background seems quite high, while the share of children of intellectuals seems quite low. This may result in part from the inclusion of the Hong Kong data, as the parents of most students from HKUST would probably fall into the working class.

Table 6: Family Social Background

Social Class	Freq.	Percent	Cum.
Senior cadre	11	1.38	1.38
Ordinary cadre	142	17.75	19.13
Intellectual	154	19.25	38.38
Businessman	92	11.50	49.88
Worker	212	26.50	76.38
Peasant	189	23.63	100.00
Total	800	100.00	

Table 7: Student's University Affiliation

School	Freq.	Percent	Cum.
Zhongshan University	187	18.9	18.9
Qinghua University	159	16.1	35.0
Beijing University	181	18.3	53.2
Guangdong Business College	187	18.9	72.1
Fudan University	91	9.2	81.3
HKUST	185	18.7	100.00
Total	990	100.0	

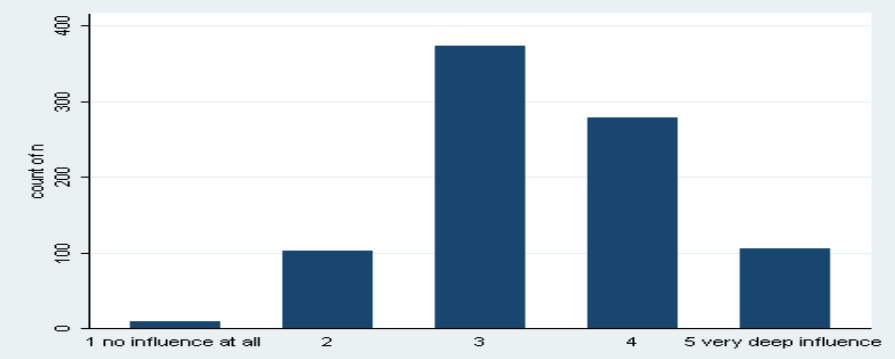
Energy knowledge sources and knowledge level

The literature in political participation often first seeks to ascertain if citizens possess knowledge about the issues. The assumption, of course, is that knowledge precedes activism. But first, what is the source of that information? As in most societies, our students get most of their information from the media. However, we did not differentiate among different types of media, a serious oversight given the important role that web-based information flows play in people's information inflows. Moreover, it is distinctly possible that the content of that information—and the extent to which it is critical of the government—may depend upon the source of that information. What we did find, however, is that most students get their knowledge about China's energy from the media and their university's educational program. Thus, 72% of students report that media is their primary channel of information about energy , while 74% see their school education as their second most important source of knowledge about energy (table 8). Another 16% of our respondents' knowledge about energy comes first from personal experience. With media as the most important channel for energy knowledge, most students feel that it has a deep influence on their energy knowledge (mean score = 3.42 (figure 1).

Table 8. The Two Most Important Channels for Information about Energy

Channel	First choice	Second choice
Media	72.4%	20.6%
School education	6.3%	73.9%
Personal experience	15.8%	0%
Friend's experience	6.0%	0.4%
Participating in related activity	0.2%	5.1%

Figure 1: Influence of the Media on Students' Views on China's Energy Problems



The question was: **To what extent do media reports on energy influence you?**

Besides the media and school education, experiential factors have influenced students, with almost half of them reporting that they have suffered at least one energy blackout in their lives. Then again, that may not be a very important factor in determining their energy consciousness. But as table 9 shows, 14% have experienced three or more shortages, which could have an influence. Also, about 20% of the students have friends who have energy chortages three or more times (table 9).

Table 9: The Number of Experiences of Local Energy Shortage in the Past Half Year

No. of Times	Personal Experience	Friend's Experience
None	50.86%	43.76%
One time	20.04%	18.88%
Two times	15.26%	17.36%
Three times	5.09%	6.29%
Four times or above	8.75%	13.71%

How knowledgeable are our college students about energy issues. To test their knowledge we asked six questions (table 10).[1] Each correct response earned one point, to a maximum of six points. While the results are normally distributed, more than half received more than 3 points, suggesting that the students relatively knowledgeable about energy problems. However, students appear to be more knowledgeable about domestic energy issues than international aspects of the energy dilemma, a factor which while not suprising, should be noted

Figure 2: Students' Energy Knowledge Scores

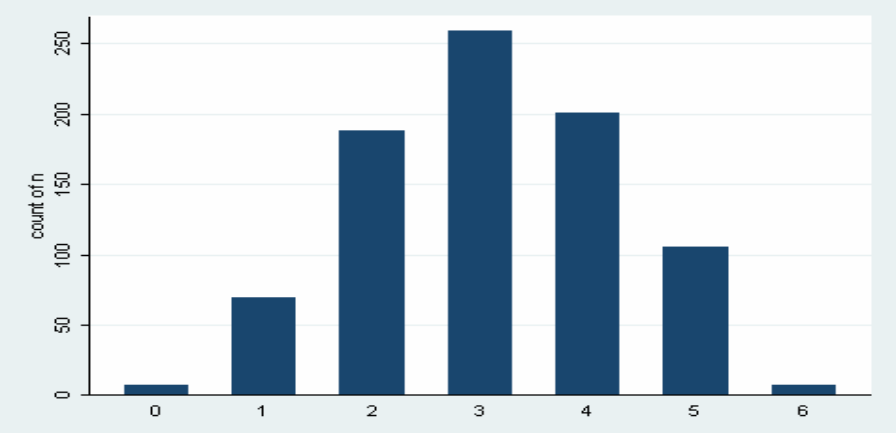


Table 10: The percentage of Correct Answers for our Six Questions

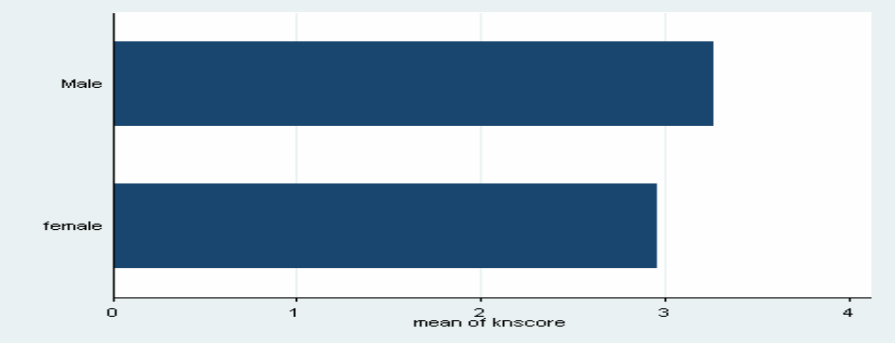
Question:	Percentage with the Correct Answer
1. China's richest energy resource	76.9%
2. Leader of the Office of the National Energy Leading Group	69.0%
3. China's largest source of foreign oil, 2006	59.6%
4. Location of the Daqing oil field	53.8%
5. The country which recently opened a pipeline for oil to China	46.0%
6. China's external energy dependence	3.4%

Men, it turns out, are more knowledgeable than women about China's energy situation, although

[1] In our original survey in Shenzhen, the questions we asked were too difficult, so most students scored very poorly. This fact meant that we had not serious distribution among the students in terms of their knowledge about energy. So we revised the questions for the post-Shenzhen survey.

the differences in terms of scores on this test are rather small. A t-test shows that the gender difference in terms of energy knowledge is statistically s significant ($p<0.00$), however, the average score for males is only 0.3 points higher (figure 3).

Figure 3: Gender differences in terms of the mean scores of students' energy knowledge



One common perspective is that social class affects participation rates. Verba, Nie and Kim (1978: 11), in their seven-nation study of participation, argued that "Education, wealth, and high-status occupation--the usual components of upper status--provide the resources that individuals can convert into political activity." The hypothesis that those with higher social status are more knowledgeable about energy problems is confirmed. Both social class background and the size of the community of origin are related to the students' energy knowledge. Also, the level of education is highly correlated with level of education, as the average scores for energy knowledge for junior college students, undergraduates, MAs and Ph.D.s are 2.75, 3.04, 3.25 and 3.68, respectively (Figure 4). CCP members score higher than CYL members, other party members and non-party members (figure 5). The quality of the university is also important as students from our lowest quality university, Guangdong Business College, are less knowledgeable than students from first-tier universities (figure 6). Hong Kong students are the least knowledgeable about mainland energy affairs, which is not at all surprising.

Figure 4: Knowledge Scores by Academic Degree

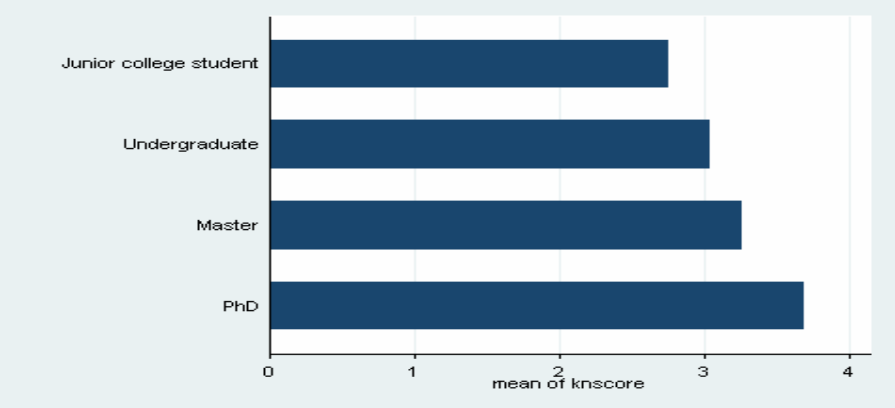


Figure 5: Knowledge about Energy, Mean Scores by Party Affiliation

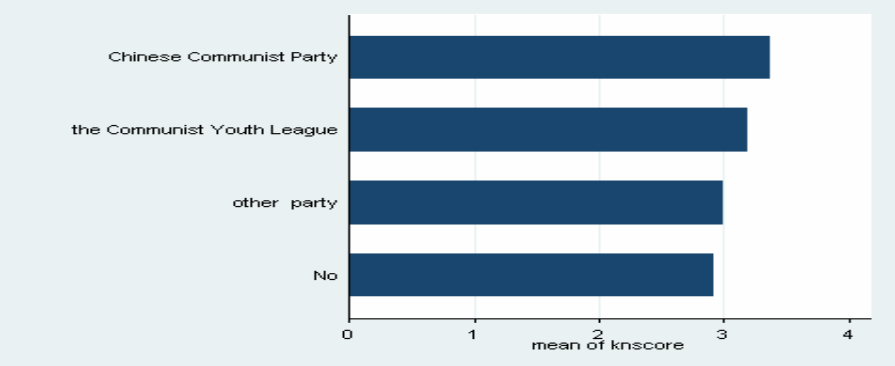
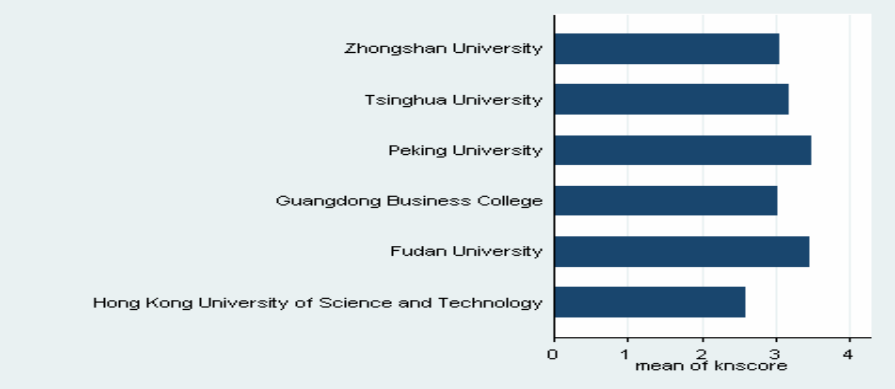


Figure 6: Energy Knowledge, by University (mean scores)

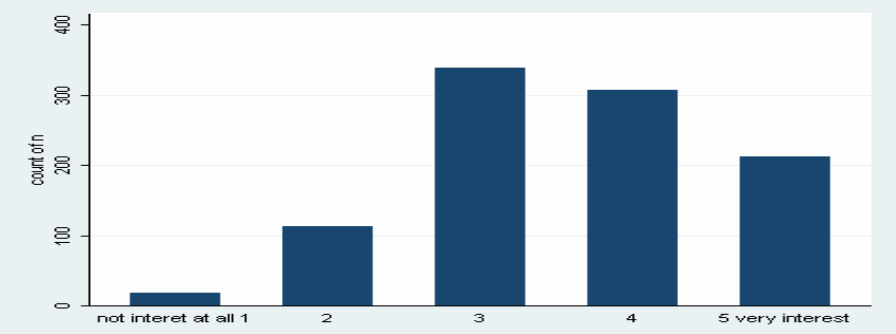


Concern about Energy and Political Participation

University students say they are interested and concerned about China's energy situation (figure 7), as the means score for their level of interest about energy is __. Overall, they believe that China is facing

an energy “crisis,” and they are quite critical of efforts at conservation. The mean score for whether China faces an energy crisis is 3.98, which means that most of them see it this way (figure XXX—will supply later), with many people selecting point 5, a “crisis.” Similarly, when asked to evaluate China’s energy conservation efforts, the mean score on a five-point scale is 3.54 (figure XXX), suggesting that people were not that enthusiastic for the job that was being done..

Figure 7: To what extent are you interested in China’s energy problem?



ways to solve China’s energy problems, including using water sparingly, though this is more an issue of conserving the environment, than energy. Yet, like consumers around the world, they generally do not support raising the price of oil as a way to dampen demand and increase conservation (figure 10).

Figure 8. Do you Consciously Try to Conserve Water?

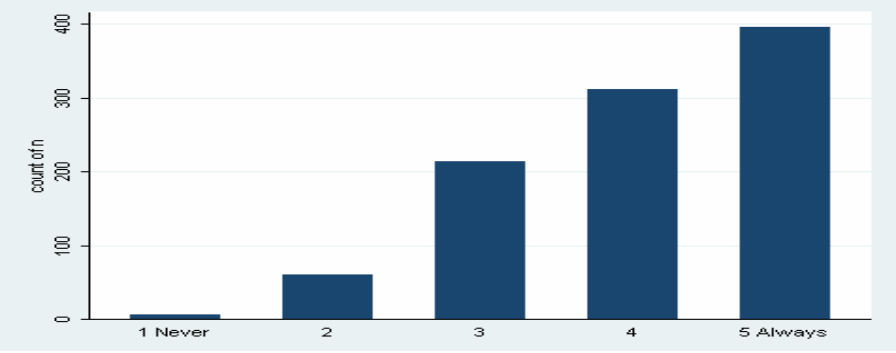


Figure 9. Do you Consider Ways of Solving China's Energy Problems?

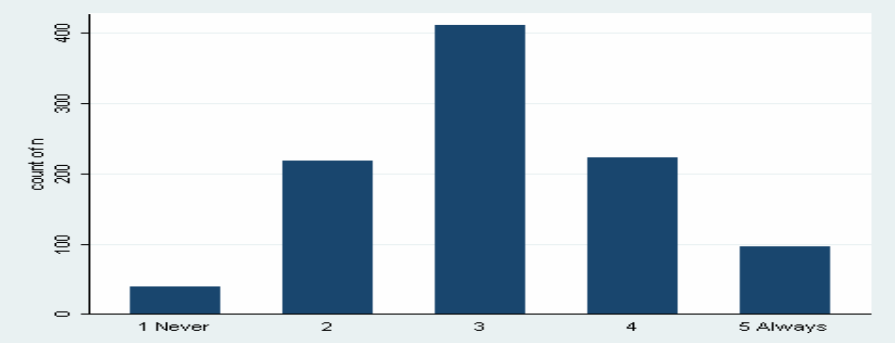
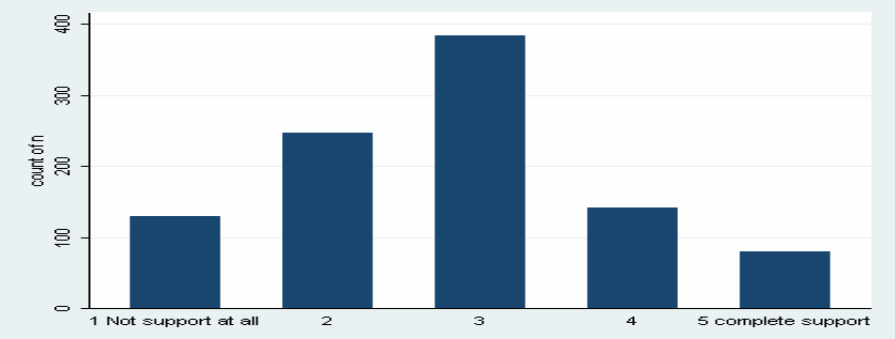
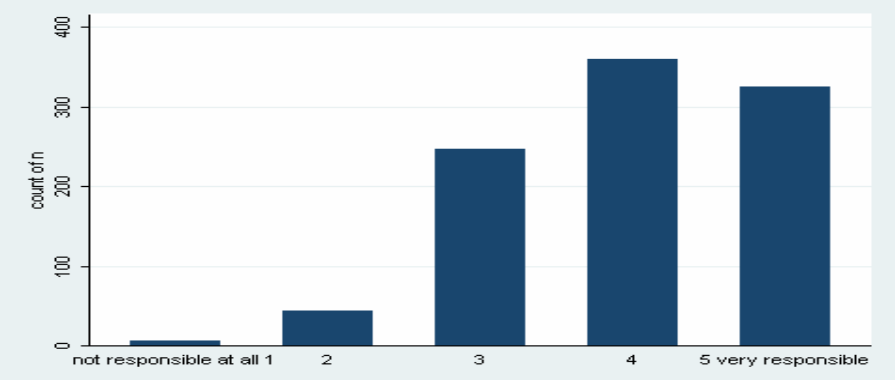


Figure 10. Support for Raising Oil Prices to Save Energy



Not only are students highly concerned about energy, but they also believe that citizens have the responsibility to help save energy (figure 11). This finding suggests a rather strong consciousness among the students (though "talk is cheap"). Still, this positive view towards involvement does lead many of them to get involved in some form of activity. Table 11 presents data on the students level of participation in energy related activities.

Figure 11. Are ordinary people responsible for participating in energy activity?



We found that 30% of students have signed some kind of petition related to energy policy or action. Some have written academic papers on this topic (13.8%) or have distributed flyers with information

about energy (8.8%). Few have participated in protest (1.3%) or writing letters to newspapers on energy problems (1.1%) (table 11).

Table 11. The frequency of participating in the following energy related activities?

Items	One time	Two times	Three times	Above	Total	Percentage
Signature activity	201	63	28	7	299	30.10%
Writing papers on energy	98	26	7	6	137	13.80%
Distributing propagandistic pamphlets	65	14	5	3	87	8.80%
Protest	8	3	2	0	13	1.30%
Writing to newspaper on energy problems	9	1	0	1	11	1.10%

Still, students have discussed this issue with their friends. Again, drawing on their answers to this series of questions—modes of activities and talking to friends—we created a participation index which will serve as one important dependent variable.

Table 12. Discussed Energy Problems with Friends During Past Six Months

Frequency	Percentage
Never	23.5%
Once	15.4%
Twice	25.2%
Three times	8.5%
Four times or more	27.7%

Who among our students actually engages in political activity related to energy? Men have a higher participation than females (figure 11). Students from small and medium size cities are more active than students from either big cities or rural towns and villages (figure 12). These people probably have experienced serious levels of brown-outs. More active students also originate from less developed regions of the country—where energy supply is likely to be a more serious problem (figure 14). Undergraduate students are the most active, perhaps because graduate students are too busy (figure 13).

Figure 11: Level of Energy Participation, by gender

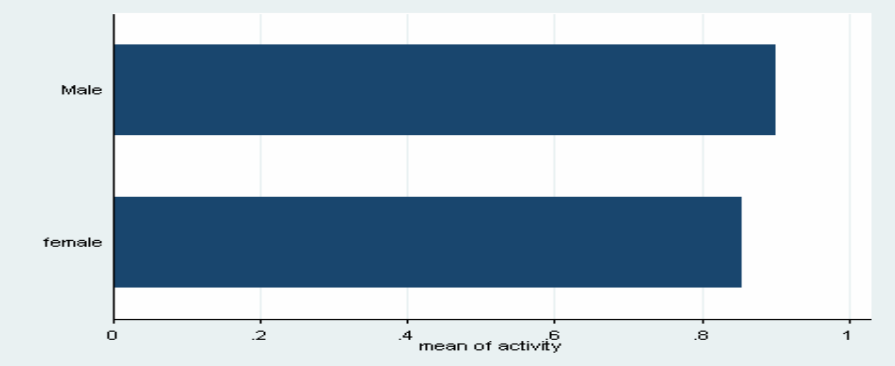


Figure 12. Energy Participation, by size of student's original community

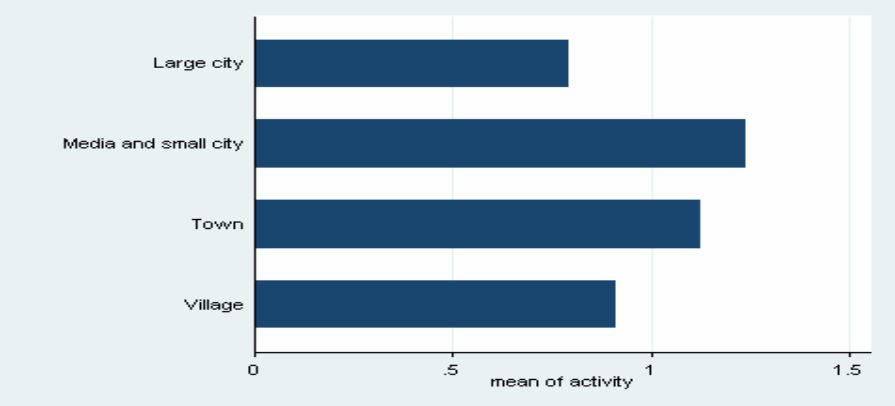


Figure 13. The relationship between education and energy participation

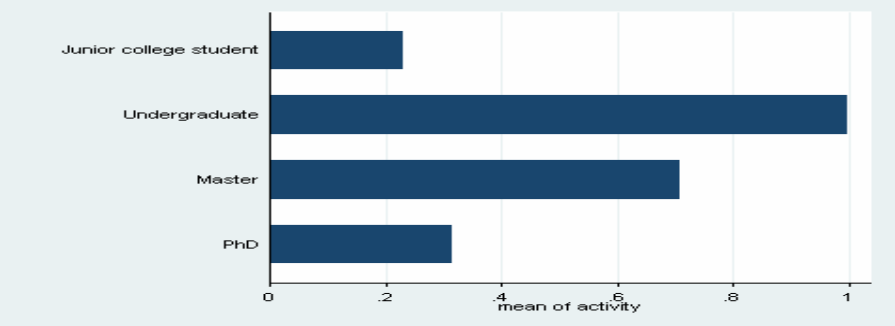
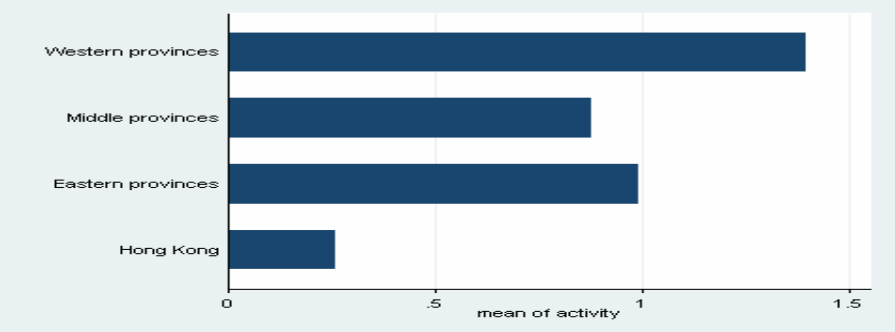


Figure 14. Energy participation, region of origin

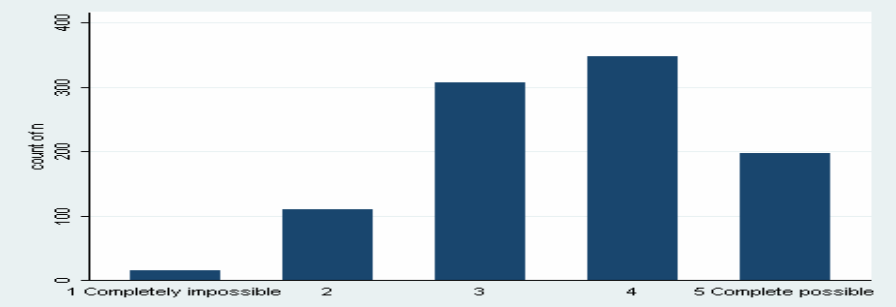


We also consider whether higher social status leads to greater participation on energy issues. Our cross-tab on status and energy participation shows……[to be supplied later]

Student Views on China's Energy Diplomacy

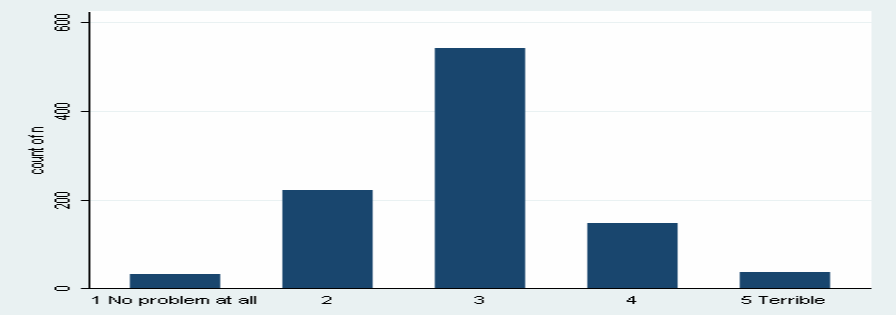
The Chinese government recognizes that it must engage in foreign activities that will enhance the country's energy security. China, they realize, has become dependent on the global economy and its resources, for continued economic growth and prosperity. Gone are the days of "self-reliance" (*zili geng sheng*). Nevertheless, Johnston found Beijing's middle classes to be relatively accepting of increased economic interdependence. Perhaps because our questions focused more directly on energy dependence, rather overall economic interdependence, our students were rather worried. When asked whether "energy imports will allow other countries to control China," most students believe that such a scenario is very possible (figure 14). On a 1-5 point scale, 21% selected 5 ("completely possible"), 36% choose point 4, while 31% choose the median point. Only 13% believe that energy imports cannot possibly lead to control by other states. Thus they both see a crisis and believe that unless China does something about it, they will become a dependent nation.

Figure 15. Will Energy Imports Allow other countries to control China?



Nevertheless, when asked to evaluate China's "energy diplomacy," optimism reigns, as the mean score is 2.94 (figure 16)..

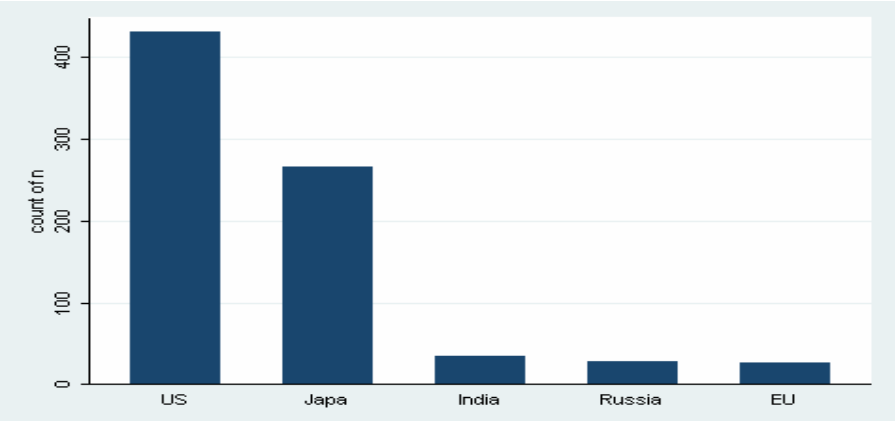
Figure 16. Evaluating China's "Energy Diplomacy"



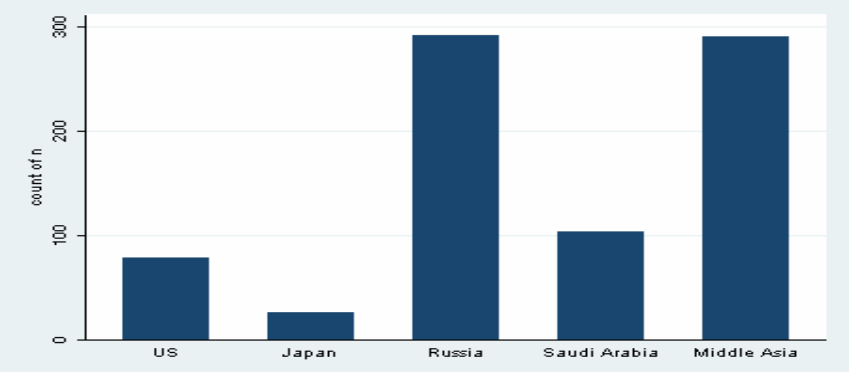
As China scours the globe for energy, concerns are raised that unless the world, and particularly the United States, learns to accommodate an enormous increase in energy demand from China, conflict could be on the horizon. The U.S. and China are engaged in energy competition around the world, and competition will only increase. But what do our students think about this issue?

First, they see the United States as China's major energy competitor. When asked which country is China's biggest rival for energy, 57% see the U.S. in that role, while 30% grant that honorific position to Japan (figure 17). Less than 5% select either India or the EU. And with whom should China cooperate? First, with Russia (35%), second with Central Asia (35%), and third, with the Saudis. Only 10% believe that China emphasize cooperation with the U.S., but that may also be because the U.S. does not sell oil to China, while the previous three regions or countries do. Cooperation with Japan is the priority of only 3.6% of respondents.

Figure 17. China's current biggest rival for energy

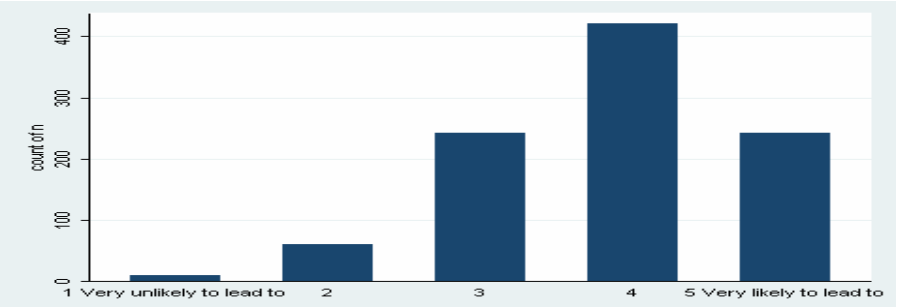


Graph 28: Who should China try best to cooperate with about energy issues?



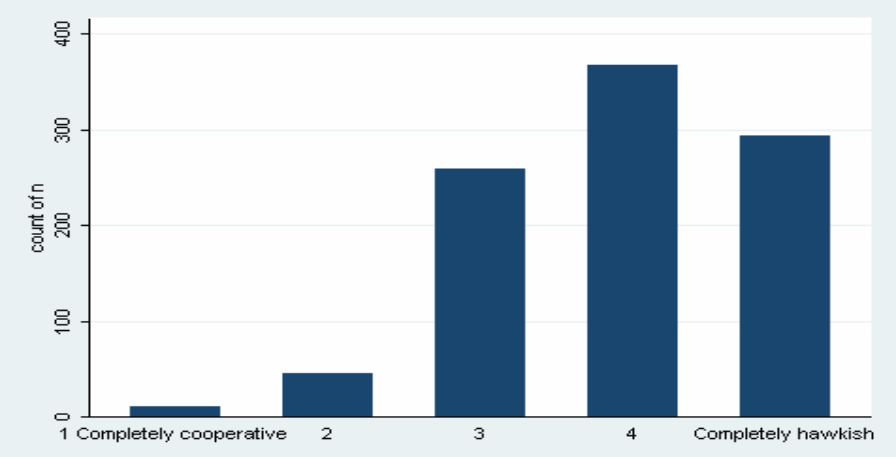
When asked if "disagreements over energy will lead to military conflict among countries," most students think such conflict is very likely. As figure XXX shows, 25% of students believe that energy disputes among nations will definitely led to military conflicts, while 43% believe such conflict would be likely. Only 25% chose the mid-point, while 7.2% choose "very unlikely" or "unlikely.". Again we find pessimism reigning with the campuses of China.

Graph 20: Will disagreements over energy lead to military conflict among countries?



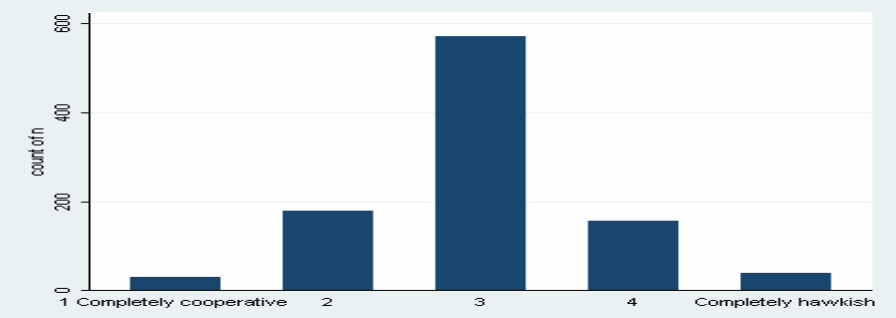
When asked specifically about the appropriate strategy that China should adopt vis a vis the U.S. and Japan, in terms of cooperation vs. competition (hawkishness), our students are far more accommodating to the U.S. than to Japan (figure XXX), as most students advocate a hawkish position toward discussions with Japan over oil and gas in the East China Sea. The mean score of 3.91 shows students to be quite hawkish. In contrast, when asked what position China should take vis a` vis the U.S. on energy issues, a mean score of 2.99 was registered, slightly in favour of cooperation.[2]

Graph 29: What position do you think China should adopt towards Japan in their discussions on the oil and gas field in East China Sea?



Graph 30: Views on China's position towards the U.S. on Energy Issues

[2] Still, the more hawkish position against Japan may also have been generated because we raised a specific foreign policy dispute, rather than a broad principle of cooperation. The question for the U.S. reflected that broader viewpoint.



But not all parts of China are so pessimistic, as students at HKUST hold a more positive view. In fact, the differences between mainland and Hong Kong students on China overall energy situation, its resource diplomacy and whether disagreement will lead to military conflict, are more positive towards efforts by the Chinese government and the possibility of peace. Table XXX shows the mean scores for mainland the HKUST students for three important questions.

Table Here: Hong Kong Versus Mainland Students Views on Energy Diplomacy

Thus, in terms of China's overall energy situation, mainland students are 0.43 points more pessimistic HKUST students; in terms of evaluating China's energy diplomacy, mainland students are 0.11 points more pessimistic; and whether disagreements will lead to military conflict, mainland students are 0.25 point more pessimistic than Hong Kong university students.

Who are the hawks? Clearly, in terms of confronting the Japanese, males are more hawkish than females ($p < 0.01$), though the differences are not too great (men are 0.13 higher). Students from Beijing are more hawkish toward both Japan and US than those from Guangzhou, Shanghai and of course Hong Kong.

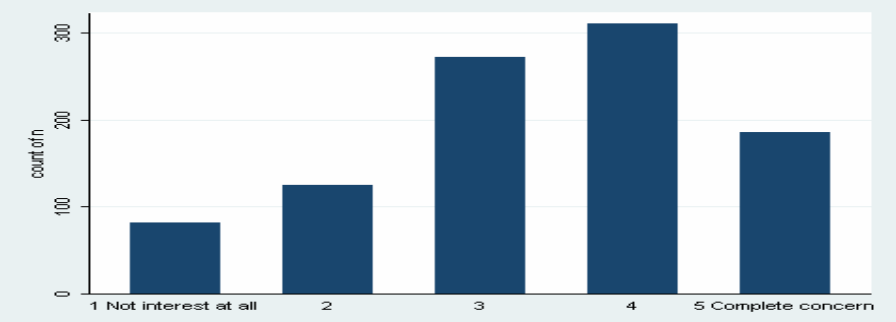
Energy Diplomacy and the Non-Interference Principle

China is often criticized for importing energy from so-called "pariah states," such as Sudan, Venezuela and Iran. Even the Chinese foreign ministry employs the sovereignty argument to assert that

China should not get involved in domestic affairs of its energy suppliers. Recently, a department level official in the foreign ministry insisted that China did not engage in “resource diplomacy,” as it had strong ties with countries, such as Sudan, long before China became resource dependent. Yet the criticism is strong.

Our mainland students seem to fall on the side of the foreigners on this issue, demonstrating greater sensitivity to it than Chinese government officials. When asked whether or not they are concerned about the political system of the states from which China imports its energy, they showed a strong predilection to be concerned Those choosing point 5, “completely concerned,” totaled 19%, while 32% were “concerned” (point 4). Only 8% were “not interested at all.”

Figure XXX. Student Attitudes Towards the Political System of Energy Exporters



Suggestions about China’s Energy Policy

Finally, we asked the students to comment on how China might “improve its energy security,” 41% chose “improving energy technology and applications” as their first choice. “Exploit domestic energy more efficiently” and “diversify oil import countries,” each received 18% of the vote (table XXX). Clearly, most students do not see this problem as a strategic one, as only 4.6% favoured “enhancing military power” as their primary solution, while only 2.7% said that improving oil transit by sea should be the government’s number one priority..

“Improving technology” was also the most common second choice (24%), but in what seems to be a very rational and educated response, 24% of the students also selected “rapidly improving China’s

energy reserve capacity as the appropriate government focus. However, strategic solutions also rose to greater prominence as 13% chose “enhancing military power” as their second choice.

Overall, then students focus on improved technology, more efficient exploitation of domestic energy sources, and improving energy reserves—all of which reflect domestic solutions and keep the initiative in China’s own hands. True, diversify suppliers does reflect a global strategy, but energy cooperation, enhanced naval capabilities and safer oil transfers rank as only complementarity strategies for China’s energy security. These views seem to reflect the views of the Chinese government as well, as both Wen Jiabao and Hu Jintao have placed domestic improvements in technology and efficiency as core to resolving China’s looming energy crunch, and have called on China to decrease its energy dependency.

Table XXX. Ways the government should improve energy security

Suggestions	First one	Second one	Third one
Improving technology and its application	41.4%	24.4%	13.2%
Exploit domestic energy more efficiently	18.2%	17.0%	14.1%
Diversify oil imports	18%	18.5%	27.0%
Rapidly improve national energy reserves	10.2%	24.4%	13.2%
Cooperate with other countries more smoothly	5.1%	12.5%	16.5%
Enhance China’s military power	4.6%	13.1%	8.1%
Enhance the safety of oil shipping by sea	2.7%	8.2%	7.3%

We also asked two open ended questions at the end of the survey, seeking suggestions on saving energy and the government energy’s policy. Students enthusiastically answered these questions. First, most students favour increased propaganda about energy conservation, as they have demonstrated that they believe that energy conservation depends on the efforts of all citizens; and, they believe, Chinese clearly need to develop good conservation habits. Secondly, they favour more oil substitutes and sustainable sources of energy, believing that new technology and inventions are needed quickly. Third, many students suggest that the government use price or tax policy to limit energy consumption and the target of those increased taxes and fees should be Chinese industry, [Recall that they did not favour raising the price of oil in an earlier question.] In addition, the government should strengthen legislation.

Finally, the student's eyes looked outward, as they advocated that the government strengthen overseas energy exploitation and help large firms buy energy production sites; along with this strategy, they say that the government should strengthen diplomacy and the military.

As for government decision-making, many students complain that the government is not hawkish enough. National interest must be paramount in solving energy problems. The government is not tough enough domestically, letting offenders get away with minimal fines, while internationally, the government is not aggressive enough in international energy markets. Many suggest that China strengthen its energy diplomacy, seeking exploitation rights for the oil fields in the East China Sea and not compromising too much with Japan. China should also cooperate more with developing countries, especially in the Middle East, Venezuela, etc. China should be self-reliant in solving its energy problems and not be too dependent on developed countries. Finally, China should improve its strategic energy reserves and the naval capacity to promote energy security..

Conclusion

Let us bring all this data to bear on Sino-American relations. While numerous studies have addressed the energy component of Sino-American relations , this paper affords a unique opportunity to assess popular views of Chinese citizens (albeit a select group of citizens) on this topic. The students we interviewed were generally well informed, concerned, and engaged in political and intellectual endeavours to address this problem. Why, because they have a high level of energy consciousness and see citizens having the responsibility to engage in solving this dilemma.

These young adults are worried. They see an energy crisis, at best looming, at worst, already here. But their search for solutions primarily turns them inward—as they see external reliance for energy as the path to external dependency and external control. So, they call on the government to harshen its

punishments, fees and taxes to pressure large users energy to do so more judiciously. They themselves save water and try to increase popular awareness of these issues through pamphlets, writing essays and petitions, though they are not willing to pay more for oil.. But this inward focus for solving this problem is one we should applaud, as China has much room to cut its energy consumption through improving its domestic economic system.

Internationally, they see the U.S. as China's major competitor for energy—a statement that is essentially correct. And while cooperation with the U.S. is not, in their perspective, the core component of China's energy diplomacy—perhaps because the U.S. does not export energy--students generally support cooperation with the U.S. in the abstract. This view is again useful, because if China wants to improve technological innovation and increase efficiency, the U.S. can be a good partner, so long as it does not see China's energy hunger as solely an issue of American national security. Interestingly, while the world sees India rising and competing with the PRC for energy, Chinese college have yet to target in on the Indian challenge. Finally, one of America's major responsibilities over the next decade may be to ensure that the hawkish views of these youths towards Japan on energy issues do not spill over into the foreign policy realm, as Sino-Japanese competition benefits few of the good guys in the world

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