

**REGULATION
OF INTELLECTUAL TEAM COMPETITION
«STUDENT ENERGY CHALLENGE»**

1. General provisions

Present Regulation determines the rules and procedure for the conduct of the intellectual team competition «Student Energy Challenge» (hereinafter – Competition).

2. Organizers:

KAZENERGY Association and the Shell Kazakhstan Company.

3. Objective:

the support development of innovative solutions to energy problems among Kazakhstan's student youth.

Purposes:

- to promote development of professional and personal potential of students;
- to promote a broader understanding of the importance of energy and related problems;
- to support the development of engineering thinking and creativity;
- to promote the strengthening of relationships, the exchange of experience and the acquisition of relevant knowledge among participants;
- to transfer the best practices and technical skills of the industry to Kazakhstani students.

4. Themes and focus areas that can potentially provide solutions to energy problems *:

1. Generation of energy

- a. Energy production from waste. Receiving energy from urban sewage;
- b. Individual Wind Turbines;
- c. Innovative energy-saving oil and gas production and transportation systems.

2. Accumulation of energy

- a. Lithium is the «white oil» of Kazakhstan;
- b. Autonomous thermal energy complexes with alternative energy sources for the oil and gas industry;
- c. Development and operation of solar systems (a device for converting the energy of solar radiation into other types of energy convenient for use (for example, thermal or electric through thermal)).

3. Energy transmission

- a. Wireless power transmission technology;
- b. Smart Networks, Smart Grid, Net Metering, Quantum Computing;
- c. The use of modern equipment for the distribution of electrical energy and management of technological processes of automation of the oil and gas industry.

4. Energy consumption

- a. Energy-efficient housing services utilities of the future. Thermal insulation materials. Construction of housing with zero waste effluent;
- b. Increase in energy efficiency and equipment durability;
- c. Application of digital and smart technologies in the oil and gas industry using artificial intelligence methods.

** The proposed themes (a, b, c) are of an advisory nature and can be changed within the framework of the main directions*

5. Stages of competition

First stage (April-May)

1. Form a team of 3-5 people and register on the website of the KAZENERGY Association **till May 15, 2018** (reference: www.kazenergy.com)
2. The selected theme at registration can be changed and clarified before providing a video summary.

Second stage (May – June)

1. Draw a confirmation of the team registration.
2. Take part in the «How to work in a project team» online seminar*.
3. To provide the organizers with a video summary **till June 15, 2018** (taking into account the requirements given in Annex No. 1).

Third stage (July – September)

1. Take acknowledgement of the 1st qualifying stage.
2. Take part in online seminars «Creating an effective presentation» and «Attention. Time. Pitch».*
3. To submit the passport of the project of the established form (Annex No. 2) in Kazakh, Russian, and English to the organizers **till August 25, 2018**, taking into account the requirements specified in Annex No. 1.

Fourth stage (September – October)

1. To put in full project proposals, abstracts of speeches (in the form of presentations, mock-ups or in other forms) **till 20 September 2018**.
2. To take part in the project presentation against the jury (according to the Regulation 15 minutes) **on October 2, 2018** in Astana. According to the results of the presentation, 3 teams from eight will pass to the final.
3. Participate (teams-finalists) on the presentation of the project against the jury in the manner of elevator-pitch (according to the Regulation 3 minutes) **on October 3, 2018** in Astana.
4. All participants of eight teams to take part in the two-day training NXplorers «New Thinking Technologies» **on October 4-5, 2018** in Astana.

6. Project evaluation procedures

Consideration and evaluation of the competitive video summaries will be conducted by the members of the Selection Board, formed from the representatives of the companies of the organizers. The Selection Board selects 8 teams for the final stage based on the completed score sheets for each team (Annex No. 3) **till July 10, 2018**. The list of these teams is posted on the official sites of the organizers.

A jury is formed, which will include representatives of the organizers, possibly government bodies and representatives of member companies of the Association in order to select the best 3 of the 8 teams. Teams are invited to present the project ** against the jury. The jury considers the work of the teams on the basis of the score sheets of the established form (Annex No. 4) and determines the winners.

* *The team is assigned 1 score for the participation of the entire team in each of the online seminars.*

** *Representatives of the companies of the organizers are not responsible for the use of projects that are subject to copyright by competition participants.*

7. Winners awarding

Teams-winners will be announced and awarded by representatives of Shell Kazakhstan on **October 3, 2018** in Astana in the framework of the Youth Conference of the World Petroleum Congress. At the end of the competition for all members of the eight teams will be held training NXplorers «New Thinking Technologies».

Prize fund

- 1 place – 10 000 US dollars (in tenge, including taxes)
- 2 place – 5000 US dollars (in tenge, including taxes)
- 3 place – 3000 US dollars (in tenge, including taxes)

8. Training for all eight teams

The NXplorers program «New Thinking Technologies» provides opportunities for young people and enlightens them with tools, techniques and skills to solve real-world problems in a cooperative spirit and using innovative and interdisciplinary approaches.

NXplorers – this movement towards change and the method of solving complex problems:

- System thinking – RESEARCH
- Scenario planning – CREATION
- Theory of change – MODIFYING

Stimulating the development of basic qualities:

- Leadership and empowerment of students
- Global stewardship and activities as agents based on the Astana Business Campus

The training will be held on October 4-5, 2018 in Astana. Upon completion, certificates will be issued. More information on the link: www.nxplorers.com

Team requirements

1. Only student teams of Kazakhstani universities at the age from 18 to 29 (bachelor's and master's) are allowed to participate in the competition. From one university can participate several teams.
2. Teams that won prizes in the «Student Energy Challenge» competition in 2017, with similar themes or workings are not allowed to participate.
3. The team should consist of 3-5 students (different specialties, courses, universities).
4. Teams are encouraged to strive for a gender balance and by forming a team shall consist of representatives of both sexes.
5. The team captain is responsible for all members of his team within the competition rules (responsibility for his actions to the organizers) and guarantees the participation of the whole team at all stages of the competition and in training events.
6. Any information messages informed to the team captain during the competition are deemed to be informed to the entire team.
7. The teams are obliged to inform both project organizers in the framework of information coverage of their projects (Shell Kazakhstan Company and KAZENERGY Association).
8. Teams shall follow the requirements of using brands of organizers, in case of using logos of organizers in video and presentation materials.
9. The party of the organizers covers travel expenses, accommodation in Astana for the period of the final fourth stage of the competition.

Requirements for providing video summary

Video summary - a short presentation video (up to 4 minutes) about the team and a brief description of the project. It is recorded in free form in a horizontal resolution, by any available device. Video summary is the first stage of competitive selection. A creative video summary ensures the team's passing to the next stage of the competition. Installation is allowed. Questions that need to be covered by the team members in the video summary:

- Why do you want to take part in the competition?
- What are the objectives of your project? How are you going to achieve them?
- Why did you choose this direction from the presented themes? Justify your choice. Tell us about your achievements in the chosen direction.
- Tell us briefly about each of the participants, about their hobbies and achievements.
- Why do you think that your team is better than others?
- What are your expectations of participation in the competition?

Requirements for design of projects

1. Language – Kazakh, Russian, English.
2. The total volume is up to 20 pages in A 4 format.
3. The project is provided: in Kazakh, Russian, English in electronic form in Microsoft Word format, Times New Roman font, size - 14, indention - 1.25 cm, line spacing - 1, alignment in width. Document fields: left - 3 cm, right - 1.5 cm, upper and lower - 2 cm. Text without hyphenation. Page numbering - at the bottom of the page, centered.
4. Heading design - all lines shall be in bold. The first line (right alignment) indicates the name of the team. On the second line: the name of the higher educational institution. On the third line: the theme of the direction of the project.
5. If available, additional documents are attached on the implemented stages of the project, drawings, diagrams, photographs, graphs, letters of recommendation, etc.

During the implementation of the competition, the organizers can make minor changes to the project passport, which participants will be notified in advance.

PASSPORT OF THE PROJECT

1. Project title _____
2. Relevance of the project _____
3. Ecological feasibility report _____
4. Economic feasibility _____

Your project:

- The theme and direction of your project?
- Project name (max 50 words).
- The total scope of the project should not exceed 20 pages of A4 format:
 - Brief description of the project (max 1000 words).
 - What problem does your project solve?
 - What is the expected result / what is the benefit of your project? (max 1000 words)
 - What is the final result (project / solution / technology, etc.)?
 - How can your project/solution/technology fill existing gaps in the market?
 - Was your project proposed for participation in any competitions? If so, in which? What was the result?
- Has any market research done on your project? If yes, please describe (max 600 words).
- Are third parties considering your project? If so, who?
- Please provide us with the necessary supporting documentation, if available (max. 5 pages of the A4 format).
- Please determine the market/consumer group of your project.

Your team

- The name of the University.
 - The name of the team.
 - Please indicate the contact details of the team captain - email, phone.
 - Please write a short biography of each member of the team, including qualifications, academic information and a role in the team (max 150 words per biography).
- Please note that any projects/solutions/technologies or any other intellectual property developed for the competition will remain the property of the authors.

Team captain

(*Full name, signature*)

VIDEO SUMMARY SCORE SHEET OF THE TEAM OF THE COMPETITION «STUDENT ENERGY CHALLENGE»

№	Criterion for providing a video summary	Score
1	Reason for participation in the competition	10
2	Objective of the project and ways to achieve it	25
3	Rationale for the choice of the theme of the competition, with a story about achievements in the chosen direction	25
4	Representation of each team member	15
5	Rationale for team competitiveness	10
6	Expectations (results) from participation in the competition	15
TOTAL		100

	90-100%	70-91%	45-69%	до 44%
Max.score-10	9-10	7-9,1	4,5-6,9	0-4,4
Max.score-15	13,5-15	10,7-13,7	6,7-10,3	0-6,6
Max.score-25	22,5-25	17,5-22,7	11,3-17,3	0-11

Notes:

- 1) 90-100% - excellent
- 2) 70-91% - good
- 3) 45-69% - adequate
- 4) до 44% - unsatisfactorily

№	Name of the team	Name of educational institution	The reason and expectations from participation in the competition		Objectives of the project and ways to achieve it		Rationale for the choice of the theme of the competition, with a story about achievements in the chosen direction		Representation of each team member		Rationale for team competitiveness		Expectation (results) from participation in the competition		TOTAL	
			Max. score -10 scores		Max. score -25 scores		Max. score - 25 scores		Max. score -15 scores		Max. score -10 scores		Max. score -15 scores		Overall rating	Total score
			Rating	Number of points	Rating	Number of points	Rating	Number of points	Rating	Number of points	Rating	Number of points	Rating	Number of points		
1																
2																
3																
4																
5																
6																
7																
8																

Score sheet of the intellectual team competition «Student Energy Challenge»

Full name of the jury _____

Date _____

Signature _____

10 rating scale

9-10 (excellent)

6-8 (good)

4-5 (adequate)

1-3 (unsatisfactorily)

Table 1

Criteria for the passport of the draft teams (included in the shortlist)								
№	Team name (UNIVERSITY)	Project theme	Ecological feasibility report	Economic feasibility	The significance of the project in addressing the issue related to the national and / or global	Scheme of work / stages of project implementation	Outcome / Effectiveness	Total score (max. 50 scores)

					energy problem			
			Max.score -10 scores	Max.score -10 scores	Max.score -10 scores	Max.score -10 scores	Max.score -10 scores	
1								
2								
3								
4								
5								
6								
7								
8								

Table 2

Evaluation criteria during project presentation										
№	Team name (UNIVERSITY)	Project theme	Clarity in rationale for the objective, purpose and practical significance of the project	Rationale for the project implementation from a technical and economic point of view and compliance with the current state of science, technology and production technology	Persuasiveness / understanding and theme awareness and a clear statement of the project solution	Rationale for the expected result	Ability to answer questions of the jury (demonstration of the material awareness)	Using visuals in work (layouts / samples / diagrams, etc.)	For participation in online seminars	Total score (max. 63 scores)
			Max.score -10 scores	Max.score -10 scores	Max.score -10 scores	Max.score -10 scores	Max.score -10 scores	Max.score -10 scores	Max.score -3 scores	
1										
2										
3										

Table 3

Evaluation criteria for protection in the manner of an elevator pitch						
№	Team name (UNIVERSITY)	Project theme	Clearnes /clarity (intenseness, latitude, realism) of project content presentation	Ability to reason conclusions and expected results of the project	Conviction / mastery of the theme and the colorfulness of the speech (speech, contact with the audience, sense of time)	Total score (max. 60 scores)
			Max.score -20 scores	Max.score -20 scores	Max.score -20 scores	
1						
2						

Recommendations for the jury

- *In addition to the criteria above, the jury must evaluate the compliance of the written works of the teams with the requirements of the passport of the “Student Energy Challenge” competition (filling in the score sheets according to Table 1) that was sent to them earlier;*
- *The jury must submit completed score sheets of the Association Association, after which a consolidated score sheet will be prepared based on the results of all jury who will be guided by them during the final stage of the competition;*
- *Jury is recommended to focus mainly to written works;*
- *If several teams have the same scores, the judges will try to come together to a unanimous decision. If consensus can not be reached, the Chairman, who will be elected by the jury, has the right to make a final decision;*
- *To determine the prize for 1, 2, 3 places, it is recommended to focus on the results of the written work of the three teams, and then the results of the protection of presentations, as the main stages of the competition. Scores for participation in online seminars are added to the total scores of the teams.*