

THE REGULATION ON STUDENT ENERGY CHALLENGE INTELLECTUAL TEAM COMPETITION¹

1. General

This Regulation determines the rules and procedures for conducting Student Energy Challenge Intellectual Team Competition (“Regulation”).

2. Key Terms/Definitions used in the Regulation

“**Student Energy Challenge Intellectual Team Competition**” (“competition”) means an event aimed at identifying the most promising projects announced by students. The Competition consists of five phases, each phase is described herein. The number of teams wishing to take part in the competition is not limited.

“**Competition Organizer**” means KAZENERGY Association

“**Competition Sponsor**” means Shell Kazakhstan.

“**Competition Coordinator**” means a person assigned on the Organizer’s behalf to be in charge of coordinating the teams and conducting the Competition.

“**Contestants**” means the teams represented by students of the higher education and/or postgraduate education institutions of Kazakhstan (“HPEI”) aged between 18 and 29 years old. A team should consist of three to five members. The teams are advised to keep a gender balance and include members of both genders. The Organizer and the Sponsor encourage applications both from boys and girls and follow the principle of equal opportunities.

“**Academic Advisor**” means a person from among the faculty of the university of the represented team who can act as the team’s curator and undertake the general project management, monitor tasks and the team’s work as part of the Competition in accordance with this Regulation based on his/her knowledge and expertise, can help the team in their research and experiments to implement the project.

“**Mentor**”² means an independent adviser. A mentor can be engaged from business, academic or expert communities. The mentor’s tasks include analyzing and assessing the team project’s prospects, assisting in the goal-setting process and developing ways to achieve the goals set, demonstrating his/her example in the implementation of similar projects, startups, providing psychological support, conducting evaluations and giving recommendations to the team for further activities (e.g., potential commercialization).

In order to assist in the development of projects, the teams may involve either Academic Advisor or Mentor, or both.

Neither Academic Advisor nor Mentor can be a team member.

“**Team Leader**” means a leader of the team with additional leadership responsibilities, who manages and arranges activities and instructs the team to achieve the key result in the competition.

“**Registration**” means submission of an application by the team on the Organizer’s website <http://kazenergy.com> meeting the deadlines specified herein.

¹ The Organizer and the Sponsor reserve the right to amend this Regulation by sending a prompt notice to the teams and other Contesters.

² Travel and accommodation expenses are covered from the funds allocated by the Competition only for the period of final project review by the teams for either Academic Advisor or Mentor.

“Selection Committee” means a committee established by the Organizer, with independent experts or the Sponsor’s representatives (as agreed) involved to select the teams at Phase II of the Competition.

“Project Appraisal” means activities related to the assessment of relevance, commercialization potential, potential technical or production risks, commercial appeal and the unique nature of the project (plagiarism to be avoided). The projects are appraised by independent experts providing services under the effective contracts for expert services.

“Expert” means an individual who presents an independent expert opinion in the project evaluation, with higher or postgraduate background, a total length of service of ten years or more, or research activities of five years or more; a scientific degree of a Candidate of Science, Doctor of Science or PhD is advisable in the discipline the expert is going to act.

“Seminar (training, webinar, workshop)” means an educational interactive/online event aimed at building the potential of the Contesters, consolidating their soft skills, including project work/teamwork, sharing knowledge and experiences, etc.

“Video Resume” means a short presentation video (up to 3-4 minutes) of the team and a brief presentation of the project summary.

“Competition Judges” means a commission consisting of the representatives of the oil and gas/power sectors, scientific and research institutions, including representatives of the Sponsor, Organizer and/or featuring the representatives of government bodies, scientific institutions to decide on the award of prizes based on the results of the competition.

“Competition Winners” means the teams defined as the winners based on the decision made by the Competition Judges.

“Project Deliverables” means innovative and/or transfer knowledge, technologies, solutions, etc. produced in the course of the project implementation, including in a hard and soft copy, and adapted to the modern economic environment.

“Decision made by the Competition Judges” means a protocol containing details about the decision and the prize to be awarded based on the evaluation sheets completed by the Competition Judges present at the final phase of the Competition.

“Prize” means funds provided free of charge to three teams following the decision made by the Competition Judges.

3. Purpose

Provide the students of Kazakhstan with opportunities to develop potential innovative solutions to energy problems.

4. Objectives

- assist in the development of professional and personal potential of the students of Kazakhstan;
- encourage a wider understanding of the importance of power industry, environment, green economy and any challenges associated with the above;
- support the development of engineering thinking and creativity;
- help strengthen networking, exchange experiences and gain relevant knowledge between participants;
- share best practices and technical skills in the industry with the students of Kazakhstan; and
- instill experience in the accumulation and capitalization of competencies in the field of their future participation in grant projects and their motivation for scientific and entrepreneurial activities in the future, etc.

5. Requirements for Submitting a Solution/Project to Participate in the Competition and Submission Procedure

Areas and topics of the projects for submission³

a) Improving Efficiency in the Mining and Refining Industries

(Upstream/Midstream/Downstream)

topics:

- reduced well watering in oil production;
- technologies to reduce sand ingress in oil and gas production;
- deep oil and gas refining;
- improving oil and gas refining processes;
- eliminating scaling in wells;
- raising reservoir recovery;
- deep coal conversion. Producing carbon materials, composites and nanostructures, etc.

Areas and topics of the projects for submission

b) Electrical Power Engineering/Renewable Energy Sources and Alternative Energy Sources

topics:

- improving energy efficiency;
- environmentally friendly methods of using combustible fuel to generate electricity in coal and combined cycle power plants;
- improving the operational efficiency of existing capacities (lower fuel costs, etc.);
- reducing transmission losses;
- using modern equipment for power distribution;
- energy accumulation: introducing new energy accumulation technologies;
- new approaches to the power distribution, etc.

Areas and topics of the projects for submission

c) Environment/Health

topics:

- improving the quality of the environment;
- reducing pollutant emissions from industrial activities;
- recycling and disposal of urban/rural (municipal) and industrial waste;
- introducing BAT (Best Available Technologies) at energy providers of Kazakhstan;
- technologies for reducing CO₂ emissions from oil and/or gas, coal production; in the production of final products at oil refineries and petrochemical plants;
- technologies for reducing CO₂ emissions from vehicles;
- portable breathing filter technology, etc.

Areas and topics of the projects for submission

d) Implementing Digital Technologies and Effective Innovative Solutions in the Mining Industries (Big Data, Cloud Computing, Artificial Intelligence, Machine Learning, Intelligent Robotic Systems, VR and AR Systems, Smart Technologies and Other Intelligent Control and Decision-Making Systems)

topics:

- a smart well;
- clean coal innovations and technologies;
- using and applying smart technologies in power generation, transmission and consumption (Smart Grid, etc.);
- providing safety (traffic, personal and occupational safety), etc.

Areas and topics of the projects for submission

³ The proposed topics (a, b, c, d, e) are advisory in nature and can be changed within the framework of the main directions

e) Water-Efficient Technologies

topics:

- industrial use; commercial use; home use, etc.

6. Requirements for Presentation of the Solution/Project

1. Each university can present several teams. Requirements for teams are described in Appendix 1 hereto. A solution/project to be submitted for the Competition in Kazakh, Russian and English as a project summary as described in Appendix 2 hereto with a team name, team establishment principle and names of all team members. It is advised to attach materials about the project phases, drawings, diagrams, photographs, graphs, reference letters and other details, if any.
2. The Organizer recommends the teams on the short list (at Phase III of the Competition) to start searching for potential suppliers of visual creative facilities to develop presentation videos in order to visualize the projects according to the guidelines (as provided in Appendix 6 hereto) and watch the video guide available at

However, the Organizer draws attention to the fact that only **eight teams**⁴ that have reached the semifinals (Phase IV) will need to work out all the technical aspects when developing presentation videos with their chosen providers, whose services will be paid from the Competition funds within the period of time specified and within a limited amount.

These presentation videos will be demonstrated by the teams in the critical review of the projects at Phase V.

7. Competition Phases

Competition Phases	Responsible Persons	Deadline
<u>Phase I:</u>		
1. Announce the Competition by: 1) posting on the social media (Instagram, Facebook) 2) posting a video guide on the Organizer's and Sponsor's websites (as agreed) 3) publishing in KAZENERGY Magazine 4) publishing in KAZENERGY Bulletin 5) distributing invitation letters to HPEI of Kazakhstan	Organizer, Sponsor (as agreed)	From February 18
2. Establish and give names to teams of three to five members	Teams	March
3. Register the teams online on www.kazenergy.com – Educational Program – Student Energy Challenge (a topic and project selected upon registration can be changed/amended before the teams submit their video resumes)		
<u>Phase II:</u>		
1. Notify the teams that their registration has been accepted within three days after the registration	Organizer	Before April 1
2. Establish the Selection Committee to evaluate the video resumes submitted by the teams	Organizer, Sponsor (as agreed)	By April 10

⁴ If based on the results of an independent expert appraisal of the project summaries the teams have the same score, then the number of semifinalist teams can either increase or decrease.

3. The teams submit video resumes in accordance with the requirements provided for by Appendix 1 hereto	Teams	Before April 25
4. Send an evaluation sheet and requirements for video resumes to be made by the teams to the Selection Committee members to be reviewed and assessed	Organizer	Before May 4
5. The Selection Committee members evaluate video resumes submitted by the teams and submit the completed evaluation sheets to the Organizer as specified in Appendix 4 hereto	Selection Committee	Before May 25
6. Send absentee ballots with a ranked team list to the Selection Committee members	Organizer	Before May 27
7. Collect the absentee ballots and a ranked team list from the Selection Committee members	Organizer	Before May 30
8. The Selection Committee members sign the selection protocol for 12 (twelve) teams of the Competition	Organizer	
9. Post the team list on the Organizer's, Sponsor's website (as agreed)	Organizer, Sponsor (as agreed)	Before May 31
Phase III:		
1. The teams on the short list after Phase II of the Competition proceed to the development of the project summaries as required by Appendix 2 hereto	Teams	From June 1
2. Participate in the critical thinking training provided by Shell NXplorers in Nur-Sultan	Teams	July 2-3
3. E-mail the project summaries in Kazakh, Russian and English to the Competition Coordinator	Teams	July 22
4. Start developing the terms of reference for the presentation video of the project summaries as described in Appendix 10 hereto. In addition, it is advised to watch the video guide on how to make up the terms of reference for a presentation video.	Teams	From July 22
5. Start searching for a service provider for presentation video production	Teams	From July 22
Phase IV:		
1. Submit the team project summaries for independent appraisal	Organizer	July 27
2. Monitor the timely independent appraisal of the project summaries	Organizer	On or before August 7
3. Independent Experts submit evaluation sheets and expert opinions on the project summaries to the Organizer	Independent Experts	August 8
4. Make a ranked list based on the independent expert opinions and select semifinalist teams	Organizer	August 12
5. Post the list of semifinalist teams on the Organizer's, Sponsor's website (as agreed)	Organizer, Sponsor (as agreed)	August 13
6. Distribute invitation letters to semifinalist teams to take part in a project critical review	Organizer	Before August 30
7. Submit terms of reference for presentation videos for the project summaries to the Organizer	Semifinalist Teams	Before August 16
8. Provide the details of service provider for presentation video production to sign contracts	Semifinalist Teams	
9. Sign contracts with the visualization service providers assigned (selected) by the semifinalist	Organizer	Before August 21

teams		
10. Ensure the teams participate in a webinar	Semifinalist Teams	during the month of August
Phase V:		
1. Submit the project summaries provided by the semifinalist teams and expert opinions to the Competition Judges for consideration	Organizer	Before September 10
2. Distribute invitation letters to semifinalist teams to take part in the project summary critical review	Organizer	Before September 10
3. Semifinalist teams develop presentation videos in accordance with the requirements specified in Appendix 6 hereto	Semifinalist Teams	Before September 15
4. Visualization service providers (contractors) submit presentation videos of semifinalist teams to the Organizer in accordance with the terms and conditions of the contracts	Organizer, Semifinalist Teams	Before September 15
5. Semifinalist teams participate in the project summary critical review by the competition judges within a fixed period of time (15 min) when announced by the Organizer	Semifinalist Teams	Sep 30, 2020, Almaty
6. Determine finalist teams based on the results of the project summary critical review in the semifinals (Day 1 of the critical review by the competition judges)	Organizer	
7. Critical review of the projects presented by the finalist teams in an elevator-pitch style (3 min) by the competition judges	Semifinalist Teams	Oct 1, 2020, Almaty
8. Post details of the competition winners on the Organizer's, Sponsor's website (as agreed), on social media	Organizer, Sponsor (as agreed)	Based on the final results
9. Send letters of appreciation to HPEI for participation of the student teams in the competition	Organizer	Within 10 days

The team leaders should register their teams at: www.kazenergy.com → Home → Activities → Educational Program → Student Energy Challenge → Registration Form **before March 20, 2020.**

8. Project Evaluation Procedure

1. The teams from the regions are awarded 1 point for participating in the Competition (except for those from Nur-Sultan and Almaty).
2. The Selection Committee evaluates the video resumes made by the teams participating in the Competition in accordance with Appendix 4 hereto. Based on the results of the evaluation by the Selection Committee members, the Organizer makes up a list of the teams that have managed to Phase III of the Competition.
3. The teams that have managed to Phase III of the Competition proceed to developing project summaries on the chosen topic and according to the development requirements specified in Appendix 2 hereto.
4. The teams that have managed to Phase III of the Competition are awarded 1 point for participating in the critical thinking training by "Shell NXplorer".
5. Independent Experts evaluate project summaries provided by the teams that have managed to Phase III of the Competition, with an expert opinion given on each project. The results of the independent appraisal (evaluation sheets, expert opinions) to be submitted to the Organizer. Based on the results of an independent appraisal of the project summaries, a short list of the semi-finalist teams of the Competition that have managed to Phase IV to be made.

6. At Phase IV of the Competition, the semifinalist teams proceed to developing presentation videos in accordance with the recommendations specified in Appendix 10 hereto.
7. The semifinalist teams are awarded 0.5 points for participating in the webinar(s).
8. The Competition Judges review the project summaries submitted by the teams, the appraisal made by independent experts, expert opinions, and based on the same complete the evaluation sheets in accordance with Appendix 7 (Tables 1 and 2) hereto.
9. At Phase V of the Competition, project summaries to be presented by the semifinalist teams to the judges (time limit is 15 min). Based on the results of the critical review, the Competition Judges make a decision on the finalist teams to participate in the critical review of their projects in a form of an elevator pitch (up to 3 min).
10. Based on the results of the presentations made by the finalist teams, the Competition Judges decide on the winners of the Competition with the award of the prize money according to the places won in the Competition.

9. Awarding Winners

The Organizer as agreed with the Sponsor reserves the right to appoint the date and place of the semifinals and finals of the “Student Energy Challenge”.

The announcement of the semifinals and finals of the competition will be posted on the Organizer’s website, social networks, etc. Additionally, the semifinalist teams will be informed by e-mail (and/or instant messengers, e.g. WhatsApp, Telegram, etc.) sent to Team Leaders by the Competition Coordinator.

The winning teams will be announced and awarded by the Competition Judges in the finals of the Competition. The place, date of the Competition will be specified a few months before the critical review of team projects.

Prize fund (equivalent in KZT without taxes):

- **1st place** – 10,000 USD;
- **2nd place** – 5,000 USD;
- **3rd place** – 3,000 USD.

10. Procedure of Payment for the Expenses Incurred by the Contesters for Training and Competition

1. So that the teams that have managed to Phase III could participate in the critical thinking training by “Shell NXplorers” in Nur Sultan, the Organizer covers the expenses of the Contesters for a round trip to Nur-Sultan and back (*whether by air or by rail, as agreed by the organizers*), accommodation and meals on a free-of-charge basis at the expense of the Competition funds.
In order to participate in the training, semifinals and finals of the Competition, team members are paid a round trip from/to the location of the university represented by the team.
2. At Phase IV, so that semifinalist teams could make a presentation video (according to Appendix No. 6 hereto), the Organizer allocates limited funds to visual creative service providers on a contractual basis. The teams may choose a company to produce the presentation video.
3. At Phase IV, so that the semifinalist teams could participate in the project critical review by the Competition Judges, the Organizer covers the expenses of the Contesters for a round trip to the place (city) of the critical review and back (*whether by air or by rail, as agreed by the organizers*), accommodation and meals on a free-of-charge basis.

1.1. Requirements to the Teams

2. Only teams represented by university students of Kazakhstan aged between 18 and 29 years old – Bachelor students and Master students – are allowed to participate in the competition.
3. No teams that won prizes in the previous Student Energy Challenge Competitions with similar topics or developments are allowed to participate.
4. A team can consist of three to five people and represent one of the universities of Kazakhstan (students of different majors and years are allowed).
5. The teams are encouraged to keep a gender balance by establishing teams of both genders.
6. A team leader is responsible for all members of his/her team under the competition rules (liable for his/her actions to the Organizer) and ensures the participation of the team in all phases of the Competition, including the participation of at least two team members in the “Shell NXplorers” training in Nur-Sultan.
7. Any notices communicated to the team leader during the Competition are considered as communicated to all team members.
8. The teams undertake to provide information of the project Organizer and Sponsor (KAZENERGY Association and Shell Kazakhstan) as part of the information coverage of their projects.
9. The teams shall observe the requirements for using the Organizer’s and Sponsor’s brands when using their logos in any paper or electronic materials, messages, including video and presentation materials related to the Competition.

1.2. Requirements for Video Resume Submission

A video resume is a short presentation video (up to 3-4 min) about the team and the project summary. It is recorded in a desirable form in horizontal resolution using any available device.

The video resume is an initial phase of the competitive selection. A creative video resume is encouraged. Video editing is allowed.

The questions to be answered by the teams in their video resumes:

- 1) Introduction of the team leader and team members.
- 2) The project topic and the rationale for its selection. Tell us about your achievements in the chosen area, if any.
- 3) List several ways to achieve the goal.
- 4) What makes the project idea unique? Tell us what innovations you can apply to achieve the project goal.
- 5) What economic and environmental effects of the project are expected, if implemented? Do you find your project appealing for investment?
- 6) Introduce each of the team members briefly – tell us about their hobbies and achievements.
- 7) Why do you want to take part in the competition?
- 8) What are your expectations from participating in the competition?

1.3. Design Requirements for the Projects Submitted on Paper

1. Language: Kazakh, Russian and English.
2. 10 to 20 pages in total.
3. The project to be submitted as an electronic copy of a Microsoft Word file; font: Times New Roman; size: 14; indent: 1.25 cm; line spacing: 1; justified. Document margins: left, top and

bottom margins: 2.5 cm; right margin: 1.5 cm. Hyphenless justification. Page numbers to be centered at the top of the page.

- 4. Titles – all lines in bold.
- 5. The first line (justified) contains the team name. The second line contains the HPEI name. The third line contains the topic of the project area (*please find a sample below*).

Sample of the Title Page of the Project Summary

“Student Energy Challenge” Team Intellectual Competition

Team name _____

University name _____

Project area and topic

Team member names:

1. _____

2. _____

3. _____

4. _____

Academic Advisor:

(Name) _____

Mentor:

(Name) _____

Design Requirements for PROJECT SUMMARY

1. Project title _____
2. Project relevance _____
3. Environmental feasibility _____
4. Economic feasibility _____

The project summary should cover the following issues/aspects:

- Which area (a, b, c, d, e) does your project belong to?
- Project title (max 50 words).
- The total project size is between 10 and 20 pages.
- Brief summary of the project (max 1,200 words).
- Provide project details.
- What problem can your suggestion solve? How does it work?
- What is the expected outcome/what is the benefit provided by your project?
- What is the project deliverable (product, process, service, technology, etc.)?
- Has your product been offered to participate in any competitions? If yes, which ones? What was the result?
- Has any market research been done on your product? If yes, please describe (max 600 words).
- How will your product/process/service/technology help solve existing problems/challenges in the market?
- Are any third parties considering your product? If yes, please specify.
- Please attach the necessary supporting documentation (graphs, diagrams, drawings, etc.), if any (max five A4 pages).
- Please identify the target market/consumer group of your product.
- Economic feasibility, commercialization potential

Team Description

- University name.
- Team name.
- Contact details of the team leader and members, including name, year of study, department, major, e-mails, phone numbers.
- Contact details of the academic advisor and mentor (if both or any of them engaged) – e-mails, phone/fax numbers (name, job title and/or employer).

(Please list all members of your team with a brief CV of each of them, including the major, year of study, qualification of the academic advisor/mentor (if both or any of them is available), academic data and team role (max 500 words for each CV)).

Please note that any products, processes, services, technologies or any other intellectual property developed for the competition will remain the property of the authors.

Team Leader _____ (signature)

Academic Advisor (if any) _____ (signature)

Team Mentor (if any) _____ (signature)

Registration Form For a Team participating in the Student Energy Challenge	
Team name	
Name <i>(please provide a full name)</i> of the Team Leader	Department (major, year)
Name <i>(please provide a full name)</i> of the Team Members	Department (major, year)
Name of Academic Advisor <i>(if any)</i>	
Academic Advisor's contact details	
Name of Team Mentor <i>(if any)</i>	
Project topic <i>(can be changed/amended before a video resume submission)</i>	Please choose <i>(scroll the topics offered)</i> The topic chosen upon registration can be changed/amended before a video resume submission
Educational institution	Please choose <i>(scroll the universities)</i>
Contact details of the Team Leader and Members	
E-mails of the Team Leader and Members	
Social media accounts <i>(if any)</i> Facebook, Instagram	

Statement

We, the above team, hereby confirm our participation in the Student Energy Challenge. We have read and understood the terms and conditions of participation as specified in the Competition Regulation and are fully liable for the accuracy of the data provided. We agree to the processing of all the data provided upon registration, authorize photo and video shooting and do not object to the use of materials by the Organizer, Sponsor in order to promote the competition

Confirmation * (you should accept the terms and conditions above)

We accept the terms and conditions	√
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*- mandatory field

EVALUATION SHEET FOR VIDEO RESUMES SUBMITTED BY THE TEAMS PARTICIPATING IN THE STUDENT ENERGY CHALLENGE⁵

Commission Member Name _____ Date _____ Signature _____

#	Team name	Team introduction		Purpose and outcome of the team project		Justification of the competition topic chosen		What makes the project idea unique? Please tell us about innovations the team can use to achieve the project goal		Please tell us about the economic and environmental effects of the project if implemented		Expectations (deliverables) from participating in the competition		Please tell us about the investment appeal of the project		Justification of the team competitive ability		Reason for participation in the competition		TOTAL SCORE max 100 points		
		max 5 points		max 15 points		max 10 points		max 15 points		max 15 points		max 10 points		max 15 points		max 10 points		max 5 points				
		Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating	Score	Rating
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1																						
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
....																						

⁵ The evaluation sheet to be printed out as an A3 page

	> 37%	38-58%	59-79%	80-100%
Max score - 5	0-1.85	1.9-2.9	2.95-3.95	4-5
Max score - 10	0-3.7	3.8-5.8	5.9-7.9	8-10
Max score - 15	0-5.55	5.7-8.7	8.85-11.85	12-15

Note:

- 1) 80-100% – Excellent
- 2) 59-79% – Good
- 3) 38-58% – Fair
- 4) >37% – Poor

Project Expert Appraisal Sheet⁶

Expert Name _____
Date _____
Signature _____

Final score is as follows:
 41 – 50 points (excellent)
 31 – 40 points (good)
 21 – 30 points (fair)
 10 – 20 points (poor)

Expert Appraisal Criteria for the Project Summaries								
#	Team name (HPEI)	Project topic	Environmental effect	Economic effect	Importance of the project in solving a national and/or global power challenge	Project workflow/ implementation phases	Outcome/benefits	TOTAL SCORE (max 50 points)
			max 10 points	max 10 points	max 10 points	max 10 points	max 10 points	
			1	2	3	4	5	6
1								
2								
3								
4								
5								
6								
7								
8								

⁶ The appraisal sheet to be printed out as an A3 page

**Requirements
for Preparation and Visualization
of the Projects Presented by the Teams**

Purpose: the teams selected provide comprehensive project suggestions in a form of presentations to the Organizer at Phase V (**from August 14 to September 15**) to visualize the project work.

Amount of funds for development: 300,000 (three hundred thousand) KZT (VAT included) is allocated to each of the selected team under a contract by and between the Customer (KAZENERGY Association) and Provider (visual creative service provider selected by the teams).

Expected deliverables: a presentation video up to 3 min with the use of 2D graphics or mixed with 3D graphics, animation (content or information elements). The task is considered completed if the video meets the statements made by the teams.

Requirements for the Presentation Video:

1. Describe the product, purpose, process, technology, etc. - up to 30 s⁷ (title, purpose, etc.);
2. The video should be made with the use of 2D graphics or mixed with 3D graphics, animation and contain both the principles of operation of the device model and design features (modeling objects, mechanisms, structures, environment, moving/stationary machinery, constituent components, workflow, etc.) required to achieve the goals set, etc. (100-120 s);
3. Explain the main benefits of the device/appliance (50 s);
4. Demonstrate the device in operation using examples (50 s);
5. Submit the video on an electronic media to the Organizer.
6. Visualization does not replace the project presentation; however, it is an additional effective tool to help teams strengthen their positions in the critical review.

Please find the link to the video guide on how to develop terms of reference for a presentation video www.kazenergy.com.....

⁷ Please note the length is indicative

Evaluation Sheet for the Student Energy Challenge Intellectual Team Competition⁸

Judge Name _____ Date _____ Signature _____

The evaluation is based on a 1-to-10 scale, where:

9-10 (excellent)

6-8 (good)

4-5 (fair)

1-3 (poor)

* Note: Appendix 5 contains Tables 1 and 2.

Table 1

Evaluation Criteria for the Project Critical Review										
#	Team name (HPEI)	Project topic	Project expert appraisal	Clear justification of the project purpose, objectives and practical relevance	Justification of the project from a technical and economic point of view and compliance with the current state of science, technology and production technology	Power of conviction/ understanding and mastery of the topic and clear presentation of the project solution	Justification of the expected outcome	Ability to answer questions asked by judges (demonstration of the material mastery)	Visualization of visual aids in work	TOTAL SCORE (max 60 points)
				max 10 points	max 10 points	max 10 points	max 10 points	max 10 points	max 10 points	
				1	2	3	4	5	6	
1										
2										
3										
4										
5										
6										
7										
8										

⁸ The evaluation sheet to be printed out as an A3 page

Evaluation Sheet for the Student Energy Challenge Intellectual Team Competition⁹

Judge Name _____

Date _____

Signature _____

The evaluation is based on a 1-to-10 scale, where:

9-10 (excellent)

6-8 (good)

4-5 (fair)

1-3 (poor)

Table 2

Evaluation Criteria for the Elevator Pitch Project Presentation							
#	Team name (HPEI)	Project topic	Project expert appraisal	Comprehensiveness/clarity (depth, breadth, realism) of the presentation of the project	Ability to justify conclusions and expected outcomes of the project	Power of conviction/mastery of the topic and brilliance of the presentation (speech, contact with the audience, sense of time)	TOTAL SCORE (max 30 points)
				max 10 points	max 10 points	max 10 points	
				1	2	3	4
1							
2							
3							
4							
5							
6							
7							
8							

⁹ The evaluation sheet to be printed out as an A3 page

SCORE SHEET OF THE STUDENT ENERGY CHALLENGE COMPETITION

#	Team name (university)	Chairman of Judges		Judge		Judge		Judge		Judge		FINAL SCORE				
		Name		Name		Name		Name		Speech score overall	For Elevator Pitch	Project expert appraisal	For participation in critical thinking training by Shell NXplorers (1 point)	For participation in Creating an Efficient Presentation webinar (0.5 points)	Extra point for regional teams (1 point)	FINAL SCORE FOR THE COMPETITION
		Speech score	Elevator pitch	Speech score	Elevator pitch	Speech score	Elevator pitch	Speech score	Elevator pitch							
1																
2																
3																
4																
5																
6																
7																
8																
9																

Information for Judges

- If several teams have the same scores, the Judges will try to come to a unanimous decision together. If the Judges have failed to agree, the Chairman elected by the Judges, has the final decision-making authority;
- When determining the 1st, 2nd and 3rd places, it is advised to pay special attention to the results of the expert appraisal and visualization of the projects of the three teams and then to the results of the critical review of presentations as to the main phases of the competition.
- For participation of all team members in the webinar, 0.5 points are awarded.
- For participation in the critical thinking training by “Shell NXplorers”, 1 point is awarded.
- For the teams from the regions (except for those from Nur-Sultan and Almaty), an extra 1 point (max) is awarded.

Expert Registration Form

EXPERT DETAILS:			
Name:			
Country:			
Degree:			
Expert knowledge of research and areas of interest:			
Experience, level of expert appraisal:			
Employer's and entity name (university, company, etc.):			
Contact details:	Tel. (Office):		Tel. (Cell):
	E-mail:		Website:
Level of English proficiency:	<input type="checkbox"/> Native <input type="checkbox"/> Second language (please rate yourself) <input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor		

* By signing below, I give my consent to the processing of my personal data.

Signature _____

Date _____

Recommendations for the Preparation of Terms of Reference for the Development of Presentation Video by Visualization Service Providers

*Appendix 1
to Service Contract
No. _____ dated ____, 2020*

Terms of Reference for Production of a Presentation Video of the Project (“Service”) for the Team Participating in the Student Energy Challenge Intellectual Team Competition (“Team”)

Purpose: *Visualizing and drawing attention of the judges to the key aspects of the project presented by Team (“Team”).*

Expected deliverables:

A presentation video explaining key aspects of the project of 3 min, with the use of 2D graphics or mixed with 3D graphics, animation (“video”).

Requirements for the presentation video

1. The Team collects and transfers all the materials necessary to produce a presentation video.
2. Ensure the introduction of the video contains the logo of the Student Energy Challenge, and the conclusion contains the logos of the Organizer (Customer) and Sponsor (Shell Kazakhstan).
3. Correct (review) the script taking into account the comments made by the Team, and also as agreed with the Customer, if necessary.
4. Get the script approved by the Team and agreed by the Customer, if necessary.

The presentation video shall contain:

5. Description of the product, purpose, process, technology, etc.;
6. 2D/3D format. Demonstrate both the principles of operation of the device model and design features (modeling objects, mechanisms, structures, environment, moving/stationary machinery, constituent components, workflow, etc.) required to achieve the goals set, etc.;
7. Explanation of the key benefits of the device/appliance;
8. Demonstration of the device using examples.
9. The general graphic design of the presentation video (text inserts, graphics, color correction) should be done in the same style.
10. Text inserts and/or captions in the presentation video should be made in Kazakh, Russian and English in each separate video, respectively.

Conclusion

10. Record the video on DVD/CD or other media, if necessary, and provide 2 (two) copies to the Customer and e-mail the same, as required.
11. The assignment is considered completed if the presentation video meets the requirements stated by the Team.

Quality requirements

1. The Provider (Contractor) guarantees delivery of high-quality services and ensures compliance with the Terms of Reference, the requirements of the Customer and Team.
2. The Provider (Contractor) ensures the specified scope of work to be completed within the time period specified in the Contract.
3. The Provider (Contractor) works in close cooperation with the Customer and the Team.
4. The Provider (Contractor) fulfills all recommendations given by the Customer and Team.

Deadline: before, 2020.