SAINT-PETERSBURG STATE UNIVERSITY OF ECONOMICS
HIGHER ECONOMIC SCHOOL

ENERGY CHALLENGE
YOUTH DAY
SPIGF

IBC
International Business Congress

"YOUTH DAY – 2021" PROJECT

September 15, 2021

ENERGY CHALLENGE

ЭНЕРГЕТИКА БУДУЩЕГО

pilot

ENERGY CHALLENGE RESEARCH PROJECT

1

ENERGY CHALLENGE VIRTUAL ACADEMY

2

ENERGY CHALLENGE YOUTH DAY SPIGF

IBC

International Business Congress

August 2020 - May 2021

ENCH RESEARCH PROJECT

VIRTUAL ACADEMY

YOUTH DAY

January - February | February - April | April - July | August - December | 1st week of October | December - January

PREP WORK

QUALIFICATION STAGE

PREP WORK

SUMMING-UP

SAINT-PETERSBURG STATE UNIVERSITY OF ECONOMICS
HIGHER ECONOMIC SCHOOL

IBC
International Business Congress

GAZPROM

uniper

wintershall dea

gasunie

ENERGY DELTA INSTITUTE
Part of New Energy Coalition

OMV

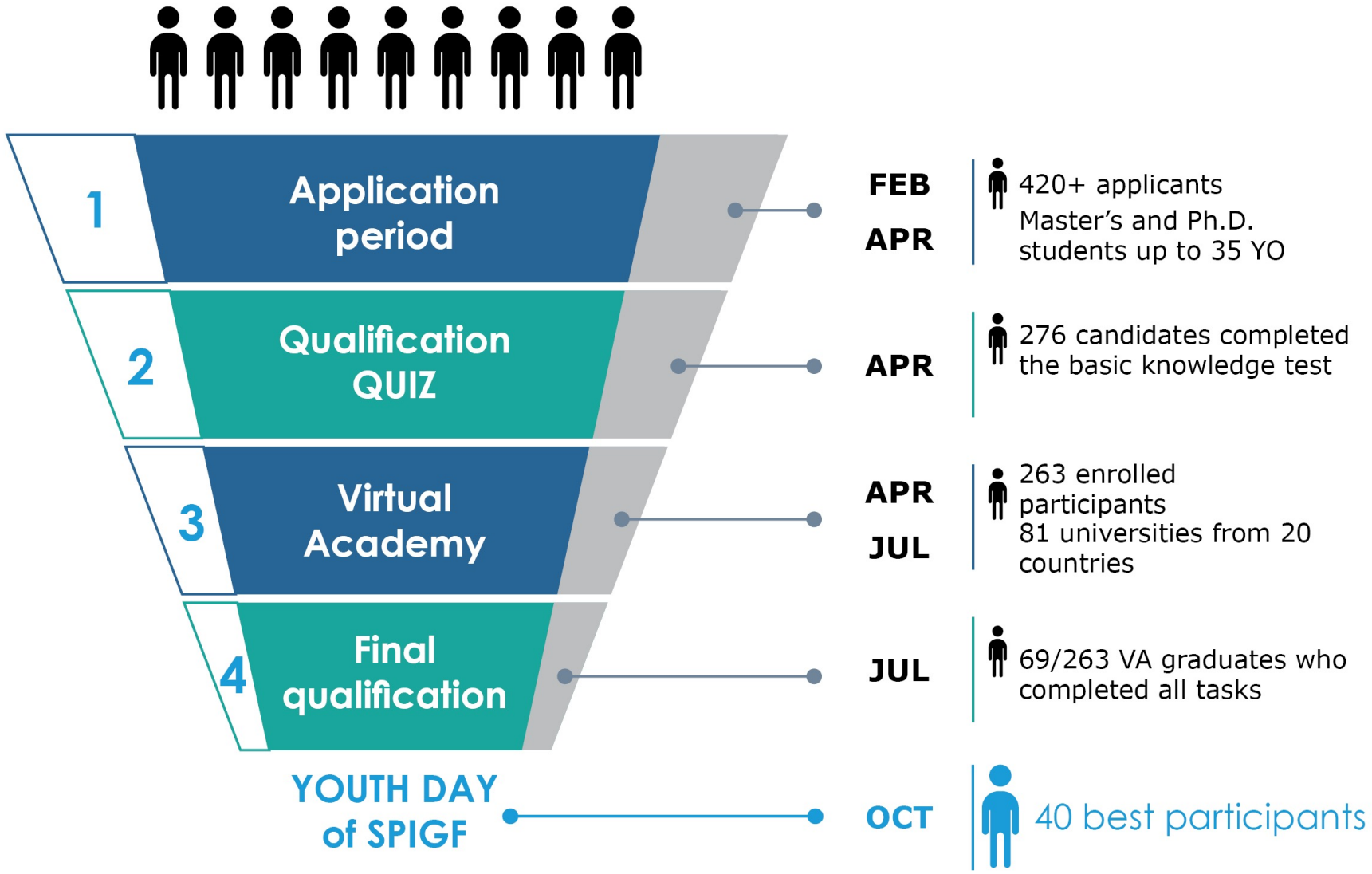
ESMT BERLIN

Shell

1. VA results
    - enrolled participants
    - VA program
    - webinars
    - challenges
    - final rating and top 40 participants
2. Case study
    - teamwork
    - individual assignment
3. Youth Day plans

ENERGY CHALLENGE
VIRTUAL
ACADEMY

VIRTUAL ACADEMY RESULTS


1
Application period
FEB
APR
420+ applicants
Master's and Ph.D. students up to 35 YO
2
Qualification QUIZ
APR
276 candidates completed the basic knowledge test
3
Virtual Academy
APR
JUL
263 enrolled participants
81 universities from 20 countries
4
Final qualification
JUL
69/263 VA graduates who completed all tasks
YOUTH DAY of SPIGF
OCT
40 best participants

Geography of VA2021 participants

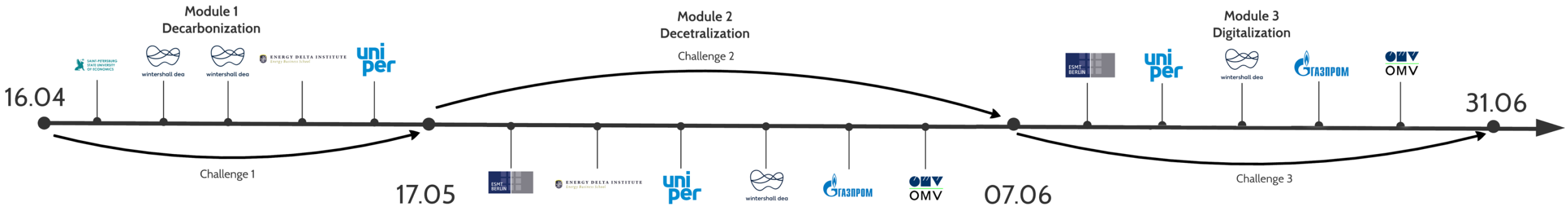
263 participants

81 universities

20 countries of study

46 countries of citizenship

Embracing Uncertainty with 3D



Platform – UNECON training system for distance learning on Moodle base https://de.unecon.ru

Learning base:

- Analytical materials for self-study
- Videos for additional study
- 16 webinars by the partner companies
- 3 challenges to complete
- Final case-study – team-work

Individual rating of participants (sum of scores for all tasks + additional points for activity during training sessions):

- Qualification QUIZ
- CHALLENGE #1_Decarbonize urban transport
- CHALLENGE #2_Decentralize city energy system
- CHALLENGE #3_Digital ocean

WELCOME!

Dear Participants!

Welcome to the Virtual Academy!

We believe in your potential and talent! We'll be glad to open new horizons in the energy business for you. Best experts from the world leading energy companies are waiting to broadcast and share their industry knowledge and professional experience.

Your participation is free of charge, but we expect you to speak English fluently, work hard and be highly motivated to find your place in the energy sphere.

Good luck!

Team of Energy Challenge project

Let's look how the final events went in 2020!

Announcements

F.A.Q.

EnCh Promo

QUIZ

To be enrolled in the Virtual Academy, a candidate should score a passing grade for the qualification test (QUIZ). The test includes questions on professional knowledge and analytical skills.

Quiz

Please, answer the questions of the quiz.
You will have 1 hour and 1 attempt.

Good luck!

Module 1 "Decarbonization" (April 26 - May 16)

- *Webinar 1.1. (28.04.2021 / 4 p.m. UTC+3)* ***Introductory webinar by moderators:*** *Rob Veersma and Pavel Metelev*
- *Webinar 1.2. (30.04.2021 / 4:30 p.m. UTC+3)* ***Global climate framework*** *by Tatiana Krylova, Wintershall DEA*
- *Webinar 1.3. (05.05.2021 / 4 p.m. UTC+3)* ***How can the European gas infrastructure support the green transition (in the EU 27)?*** *by Arne Kupetz, Wintershall DEA*
- *Webinar 1.4. (11.05.2021 / 4 p.m. UTC+3)* ***Renewable and decarbonized energy system*** *by Leon Stille, EDI*
- *Webinar 1.5. (13.05.2021 / 3 p.m. UTC+3)* ***Hydrogen (and PtG technology)*** *by Daniel Hammes, Uniper*

ADDITIONAL MATERIALS

Additional readings

Usefull links

CHALLENGE#1

Challenge 1

Upload your Challenge#1 here

You can choose any format and design for sending your challenge (preferably in pdf)

RECORDINGS AND PRESENTATIONS

Webinar 1.1_Introduction

Webinar 1.2 by Tatiana Krylova

Presentation_1.2_by_Tatiana_Krylova

Webinar 1.3. by Arne Falk

Presentation_1.3_by_Arne_Falk

Webinar 1.4 by Leon Stille PART 1

Presentation 1.4 by Leon Stille

Webinar 1.4 by Leon Stille PART 2

Webinar 1.5 by Daniel Hammes VIDEO PART1

Webinar 1.5 by Daniel Hammes VIDEO PART2

Presentation 1.5 by Daniel Hammes

MODULE 1
DECARBONIZATION

Introductory webinar by moderators
Pavel Metelev
Rob Veersma

April 28, at 4 p.m. UTC +3

Webinar 1.2.
Global climate framework
Tatiana KRYLOVA

April 30, at 4 p.m. UTC +3

Webinar 1.3.
How can the European gas infrastructure support the green transition (in the EU 27)?
Arne KUPETZ

May 5, at 4 p.m. UTC +3

Webinar 1.4.
Renewable and decarbonized energy system
Leon STILLE

May 11, at 4 p.m. UTC +3

Webinar 1.5.
Hydrogen (and PtG technology)
Daniel HAMMES

May 13, at 3 p.m. UTC +3

MODULE 2
DECENTRALIZATION

Webinar 2.1.
Downstream innovation: new competitor groups and business models.
Jens WEINMANN

Christoph BURGER

May 17, at 4 p.m. UTC +3

Webinar 2.2.
CCUS: From power to industry
Leon STILLE

May 19, at 4 p.m. UTC +3

Webinar 2.3.
Markets in transition: case of the EU
Roman BOBRICHTCHEV

May 31, at 5 p.m. UTC +3

Webinar 2.4.
Turquoise & Blue Hydrogen - demand, production and co-products and Geological storage of CO2: A key technology to stop/reverse climate change
Stefan SCHWARZ

Patrick KOWOLLIK

June 2, at 5 p.m. UTC +3

MODULE 3
DIGITALIZATION

Webinar 3.1.
Artificial Intelligence and Blockchain in the energy sector: fundamentals and use cases.
Jens WEINMANN

Christoph BURGER

June 7, at 4 p.m. UTC +3

Webinar 3.2.
Living in the Carbon Pulse
Hans van der Loo
Chairman IIER
Energy & Eco-system Expert
STEM Ambassador.

June 9, at 5 p.m. UTC +3

Webinar 3.3.
Blockchain and energy trade
Grigory SHEVCHENKO

June 11, at 4 p.m. UTC +3

Webinar 3.4.
Digitalization and the Data Ecosystem
Peter DABROWSKI

June 15, at 4 p.m. UTC +3

Webinar 3.5.
Strategy of an international energy company in current conditions
Irina MIRONOVA

June 17, at 5 p.m. UTC +3

Webinar 3.6.
Ecology and decarbonization. Keeping track of CO2 and methane emissions: measures and technologies
Konstantin ROMANOV

June 21, at 4 p.m. UTC +3

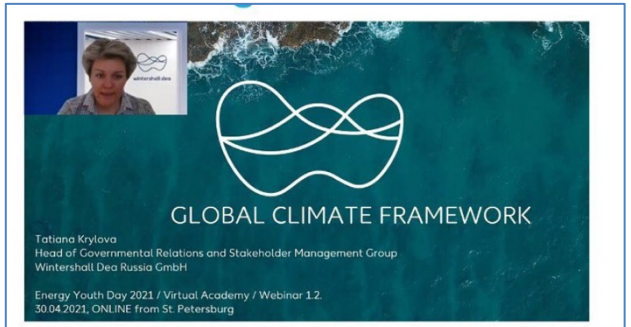
Webinar 3.7.
AI: from landing this key technology in an Upstream organization to realizing its potential in first Visual inspection use cases
DI Doris WINKLER

Joerg PEISKER

June 24, at 5 p.m. UTC +3

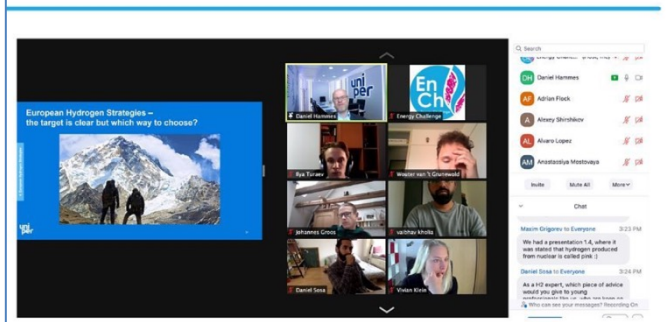
Webinar 3.8.
Using todays opportunities for hydrogen
Dr. Sorin IVANOVICI

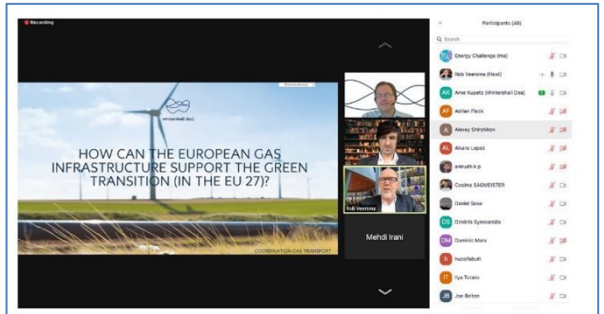
July 6, at 5 p.m. UTC +3

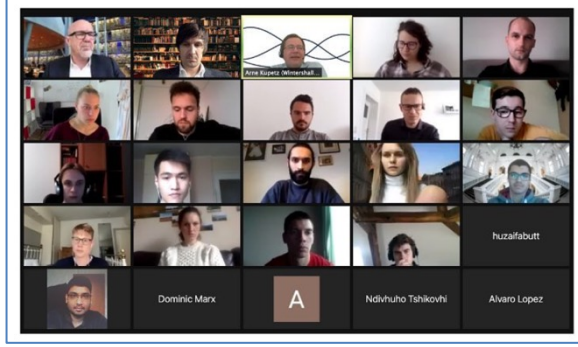

GLOBAL CLIMATE FRAMEWORK
Tatiana Krylova
Head of Governmental Relations and Stakeholder Management Group
Wintershall Dea Russia GmbH
Energy Youth Day 2021 / Virtual Academy / Webinar 1.2.
30.04.2021, ONLINE from St. Petersburg

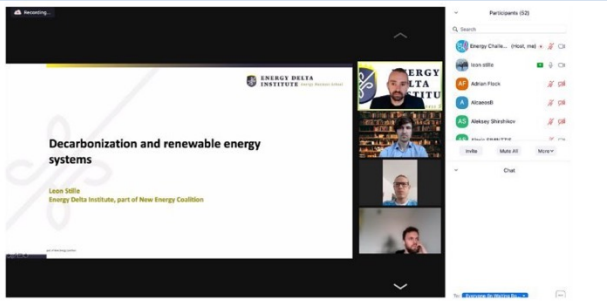

Tatiana Krylova
Energy Challenge

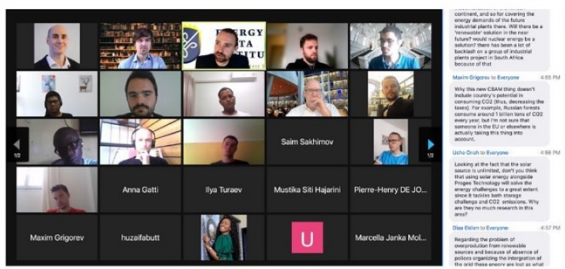

uni per
Daniel Hammes

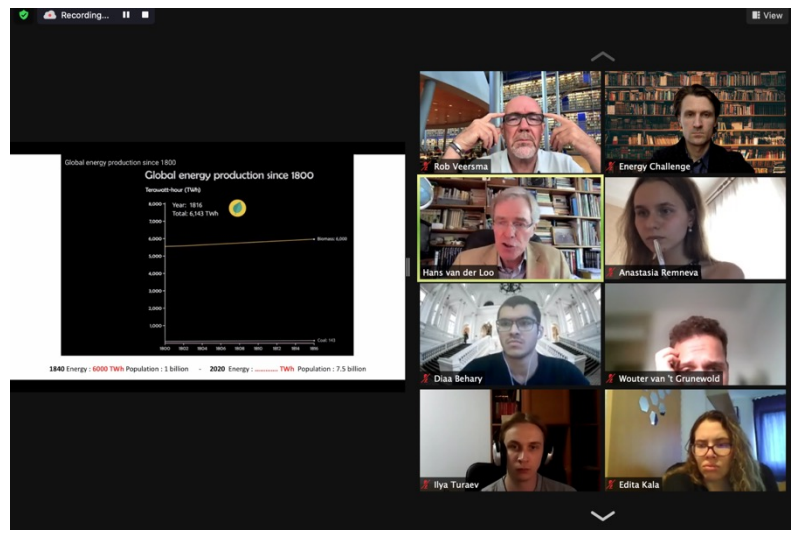

European Hydrogen Strategies –
the target is clear but which way to choose?

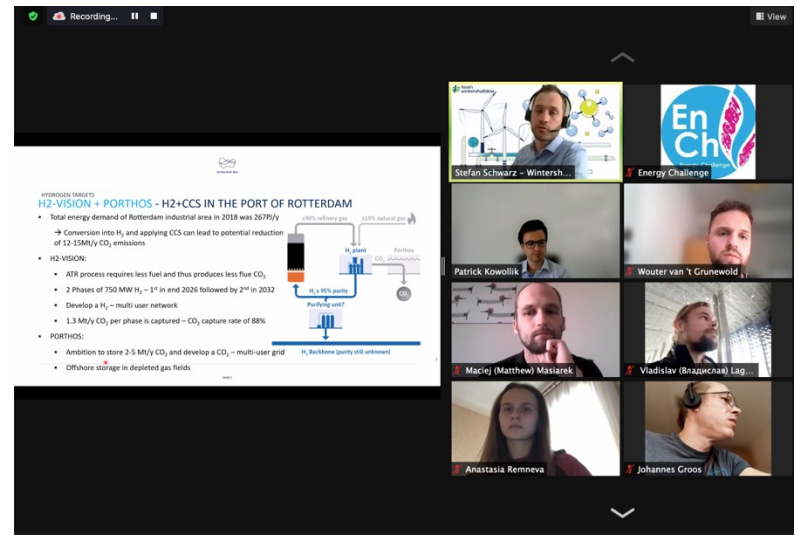

HOW CAN THE EUROPEAN GAS INFRASTRUCTURE SUPPORT THE GREEN TRANSITION (IN THE EU 27)?
Mehdi Irani


Dominic Marx
A
Ndivhuho Tshikovhi
Alvaro Lopez
huzaifabutt


ENERGY DELTA INSTITUTE
Decarbonization and renewable energy systems
Leon Stille
Energy Delta Institute, part of New Energy Coalition

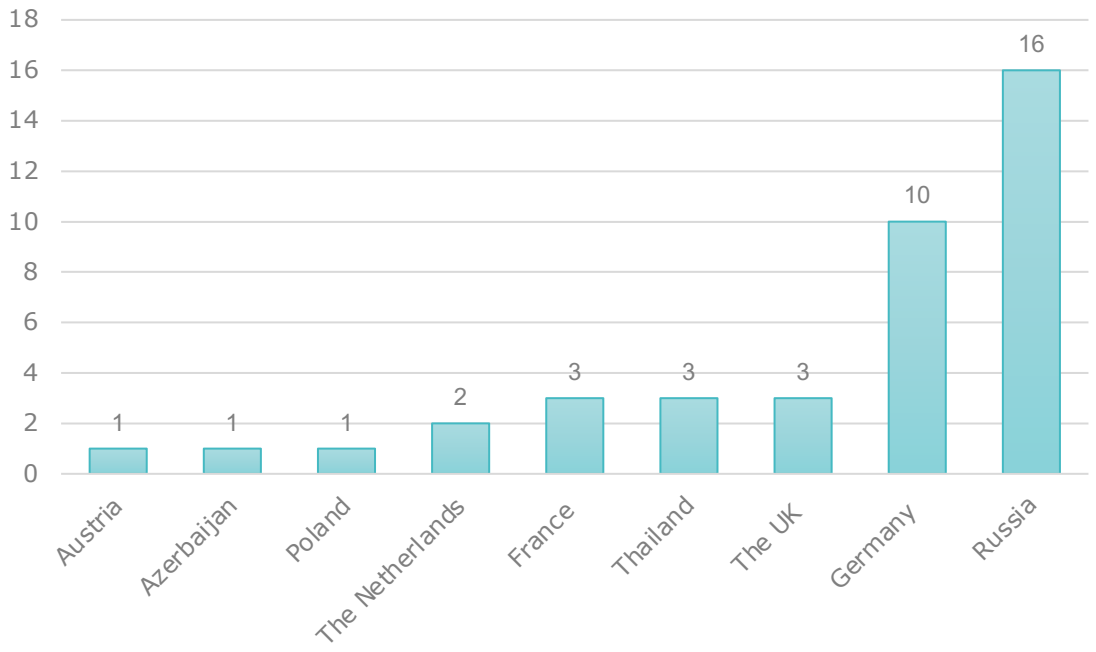

Saim Sakhimov
Anna Gatti
Ilya Turaev
Mustika Siti Hajarini
Pierre-Henry DE JO...
Maxim Grigorev
huzaifabutt
Marcella Janka Mol...


Recording...
View
Global energy production since 1800
Global energy production since 1800
Teravatt-hour (TWh)
Year: 1816
Total: 6,143 TWh
1840 Energy : 6000 TWh Population : 1 billion
2020 Energy : ..... TWh Population : 7.5 billion
Rob Veersma
Energy Challenge
Hans van der Loo
Anastasia Remneva
Diaa Behary
Wouter van 't Grunewold
Ilya Turaev
Edita Kala

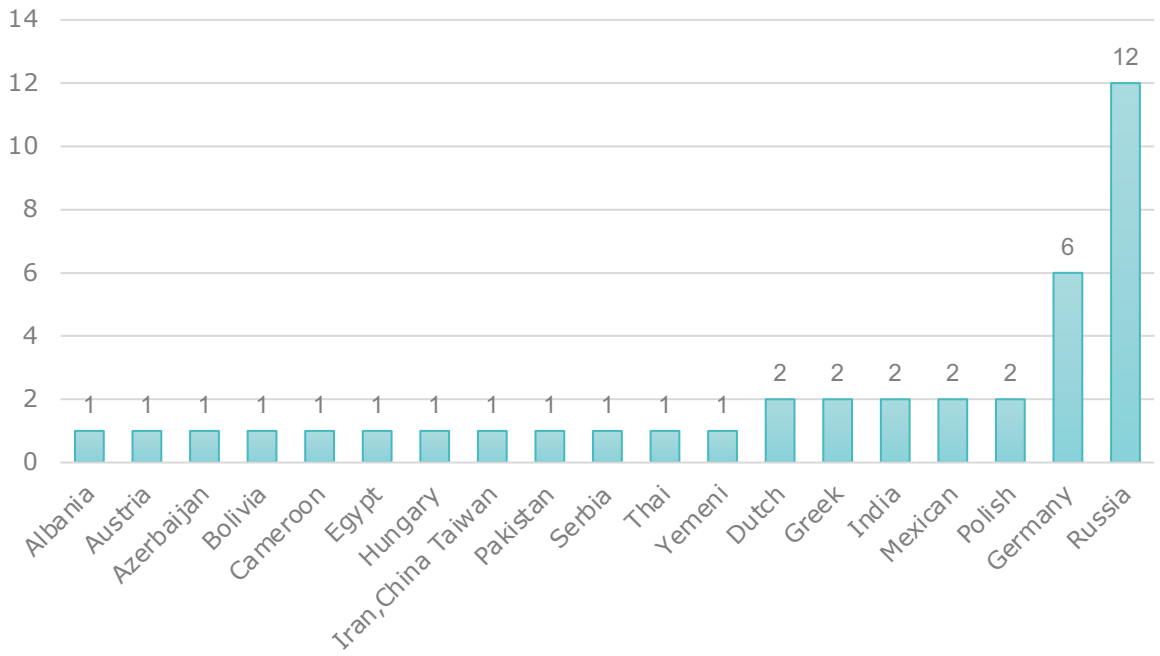

Recording...
View
HYDROGEN TARGETS
H2-VISION + PORTHOS - H2+CCS IN THE PORT OF ROTTERDAM
Total energy demand of Rotterdam industrial area in 2018 was 267PJ/y
→ Conversion into H2 and applying CCS can lead to potential reduction of 12-15Mt/y CO2 emissions
H2-VISION:
ATR process requires less fuel and thus produces less flue CO2
2 Phases of 750 MW H2 – 1st in end 2026 followed by 2nd in 2032
Develop a H2 – multi user network
1.3 Mt/y CO2 per phase is captured – CO2 capture rate of 88%
PORTHOS:
Ambition to store 2-5 Mt/y CO2 and develop a CO2 – multi-user grid
Offshore storage in depleted gas fields
Stefan Schwarz – Wintersh...
Energy Challenge
Patrick Kowollik
Wouter van 't Grunewold
Maciej (Matthew) Masiarek
Vladislav (Владислав) Lag...
Anastasia Remneva
Johannes Groos

Top 40 participants represent 25 universities from 9 countries. They are also citizens of 19 countries

Countries of study



Countries of citizenship



CASE STUDY
AUGUST – OCTOBER 2021

Developed by:

SAINT-PETERSBURG STATE UNIVERSITY OF ECONOMICS
HIGHER ECONOMIC SCHOOL

ESMT BERLIN

Case study includes:

1. 06.08 – 03.09

Team work: 6 teams of 7 people work on a company analysis

- Additional webinar on Data analytics by ESMT (August 10)
- An open-hour session

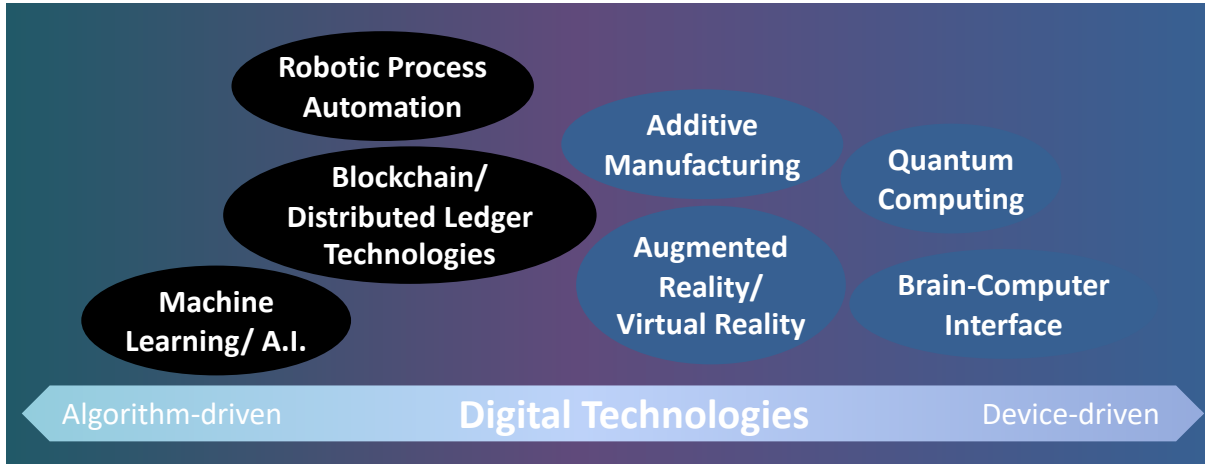
2. 04.09 – 01.10

Individual work: preparation of a small project

- An open-hour session

3. SPIGF:

- Presentation of the individual work during the forum in a form of “investor pitch session”. 2 minute for each pitch
- Voting/Interview
- 5 best ideas will be selected by voting for team work during the day. Winners become leaders of the teams.



Best practices → **Data Analytics** → **Digital Technologies**

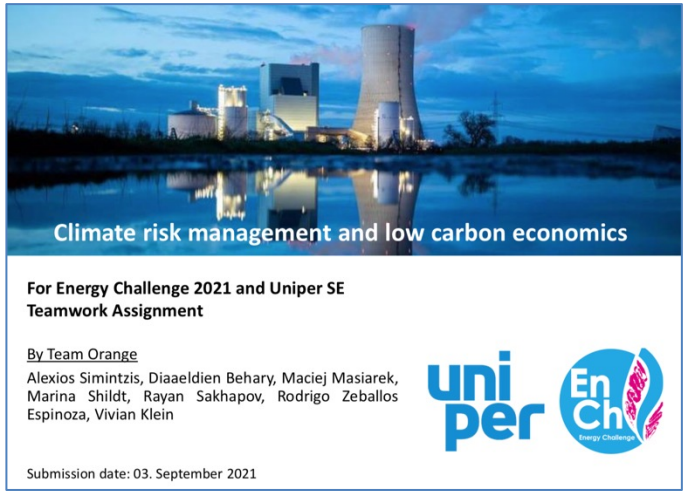
Groupwork "Climate risk management" (August 6 – September 3). 40 participants – 6 teams

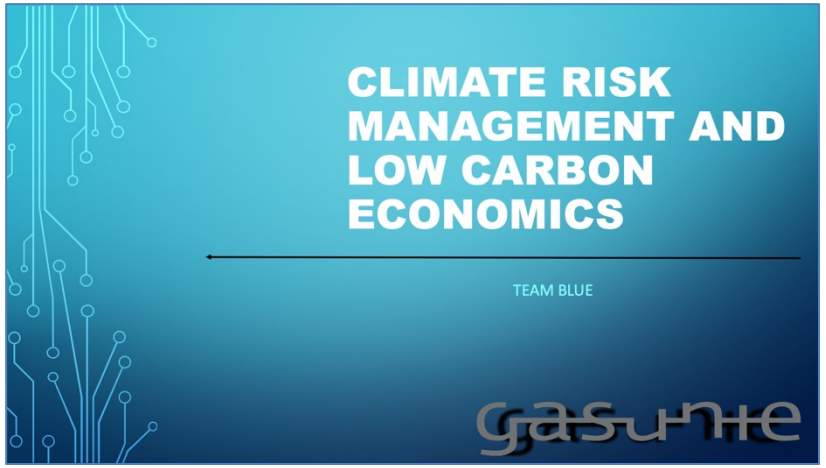
- Choose an energy company that you think can be a role model in climate risk mitigation (it could be an energy company (oil and gas company, electricity supply company etc.. or a company that has energy business in its portfolio). Please justify your choice.
- Identify climate risks for the company based on data analysis of the other majors.
- Make a climate risk matrix for the selected company, taking into account the current trends and perspectives of the energy industry.
- Suggest corporate approaches to climate risk mitigation, and develop particular recommendations for the company.
- Develop recommendations how energy companies can integrate climate factors into corporate investment decisions.

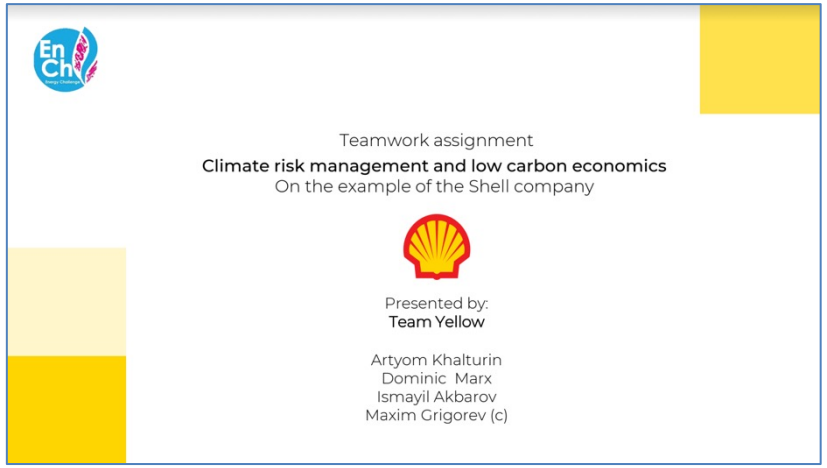
Individual assignment "Digital technologies and climate risk mitigation" (September 4 – October 1)

Participants need to answer the following question: "How digital technologies can help climate change mitigation?"

- Participants find an innovation for the energy industry that can help climate risk mitigation. The innovation should be based on digital technologies, such as Machine Learning, Blockchain/Distributed Ledger Technologies, AR/VR, Additive Manufacturing (3D Printing), Quantum Computing, etc.).
- It can relate to internal process optimization, new business model generation, or a combination of both.
- They sketch and describe the project: their innovation and its possible use case on 2 ppt slides, which they present at the Youth Day. Participants also prepare a 1 page description of their project.
- Grading is based on the votes of their peers for the best idea.


Climate risk management and low carbon economics
For Energy Challenge 2021 and Uniper SE
Teamwork Assignment
By Team Orange
Alexios Simintzis, Diaaeldien Behary, Maciej Masiarek, Marina Shildt, Rayan Sakhapov, Rodrigo Zeballos Espinoza, Vivian Klein
Submission date: 03. September 2021


CLIMATE RISK MANAGEMENT AND LOW CARBON ECONOMICS
TEAM BLUE


Teamwork assignment
Climate risk management and low carbon economics
On the example of the Shell company
Presented by:
Team Yellow
Artyom Khalturin
Dominic Marx
Ismayil Akbarov
Maxim Grigorev (c)


VIRTUAL ACADEMY
Climate Risk Management Strategy of Gazprom
EnCH2021 – Challenge 4: Team RED
Adrian, Airat, Anil, Eugene, Johannes, Tom, Valery
GAZPROM


Wintershall Dea & the Energy Transition
Prepared by Team Violet


Climate risks for OMV's business
This presentation was prepared by EnCh Green group:
Edita Kala
Evgeniy Chernousov
Marcella Janka Molnar
Mehdi Irani
Pedro Domínguez

ENERGY CHALLENGE
YOUTH DAY
SPIGF

YOUTH DAY SPIGF 2021
5 – 7 October

5 OCT

Online

- **OPENING CEREMONY**
- **TEAM-BUILDING**

6 OCT

Hybrid

BUSINESS CASE

09:00 – 17.00

- Marketplace of ideas and voting
- Interviews with case owners by randomly assigned teams
- Brainstorming and ideation
- Prototyping and testing
- Pitch preparation and presentations
- Vote by the jury
- Awards ceremony

7 OCT

Hybrid

MEETING WITH EXECUTIVES

14:00 – 15.30

By:

- Gazprom
- Uniper
- Wintershall DEA
- Gasunie
- OMV
- Shell

The 10th St. Petersburg International Gas Forum

Meeting with EXECUTIVES of energy companies

October 7, 2021

Topic: "ENERGY INDUSTRY 2021 AT A GLANCE"

Format: HYBRID, *CEOs are on Gas Forum (room D2) + some online, 40 participants online, moderators, and viewers are in the room*

7 OCTOBER

14:00-15:45 MSK

- Open plenary discussion with executives and moderators on the stage (+ online)
- 40 best VA participants online
- Different viewers in the room (around 100 - 200 viewers: companies' representatives, experts)
- Timing: 90–100 min