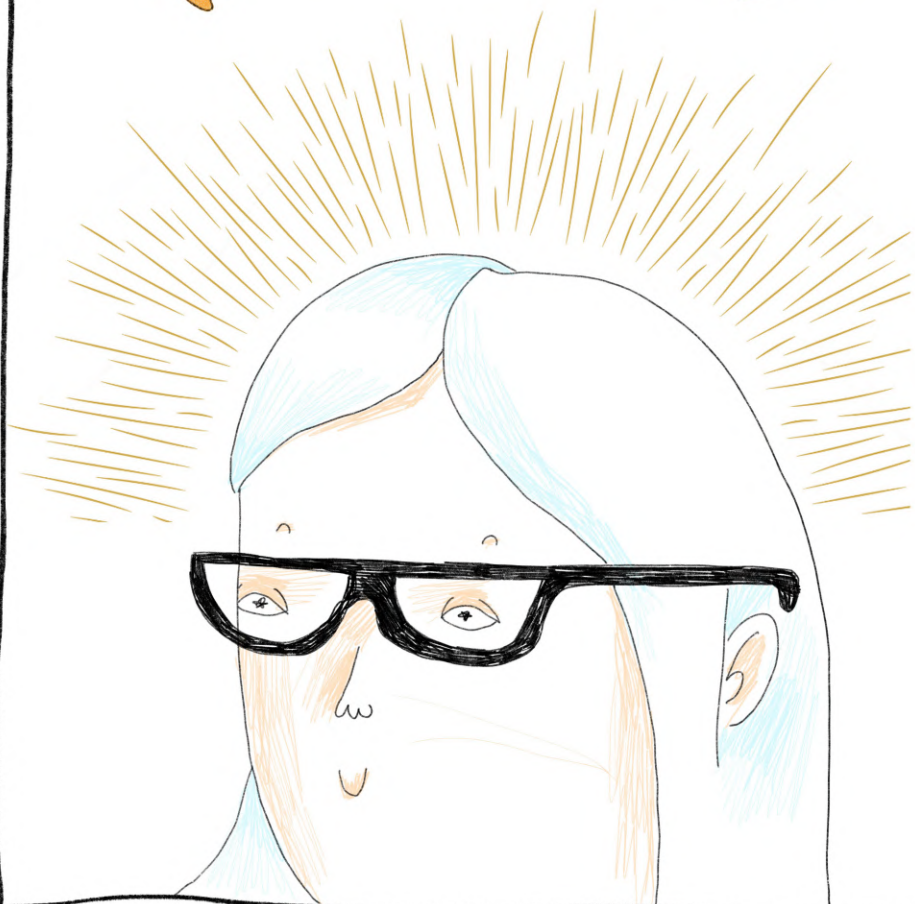


HOW TONYA
FELL IN LOVE
WITH ENERGY



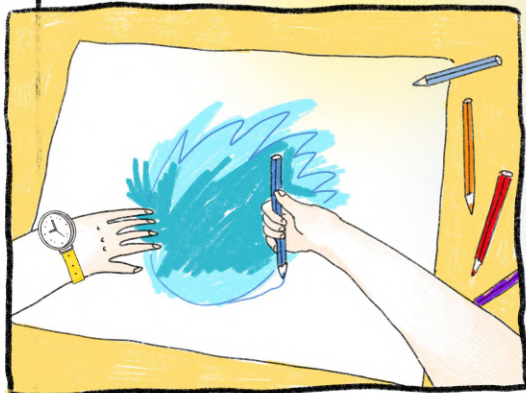
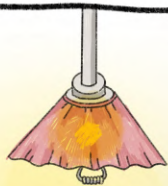
The comics will be helpful for young people thinking about choosing energy as their future profession.

Our answer is obvious: energy is the basis for the development of all sectors of the economy.

Are you still hesitant, since you are not very familiar with the energy sector?

We invite you to an exciting "energy" journey through the pages of comics!





WHAT ARE YOU DRAWING?

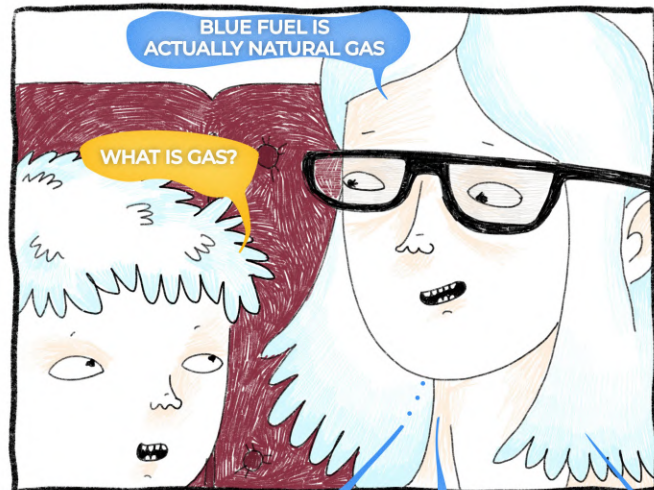
BLUE FUEL

DAYDREAMER. DO YOU KNOW
WHAT THE BLUE FUEL ACTUALLY IS?

WELL... HEARD SOMETHING ON TV.
BLUE FUEL, BLAH-BLAH-BLAH

DO YOU WANT TO
KNOW MORE ABOUT IT?



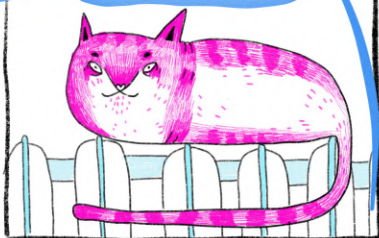
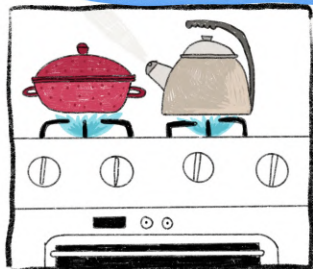


BLUE FUEL IS
ACTUALLY NATURAL GAS

WHAT IS GAS?

THANKS TO NATURAL GAS
PEOPLE COOK THEIR FOOD

AND HEAT
THEIR FLATS.



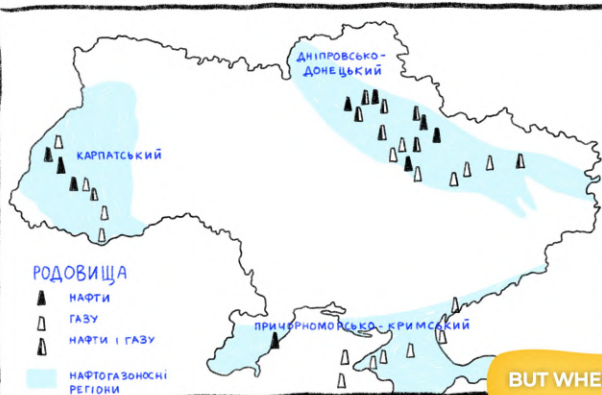
PEOPLE ALSO PRODUCE
PLASTIC AND METAL
GOODS OUT OF IT.
JUST LIKE YOUR WATCH!

AS WELL AS MINERAL FERTILIZERS
SO THAT OUR GRANNY AND GRANDDAD
COULD GROW GOOD CROPS.

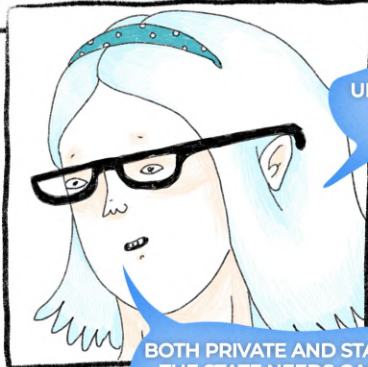


AND ALSO THE ELECTRICITY TO MAKE YOUR MOM'S TV
WORK AND TONYA CAN DO HOMEWORK ON HER LAPTOP





BUT WHERE THIS GAS COMES FROM?



UKRAINE EXTRACTS GAS OUT OF ITS OWN FIELDS OR BUYS IT FROM EUROPE

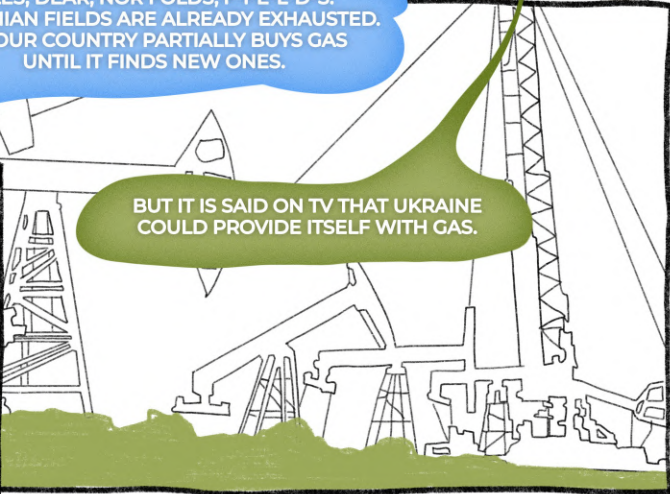
OUT OF THE GROUND

BOTH PRIVATE AND STATE COMPANIES DO THAT. THE STATE NEEDS GAS FIELDS AND MODERN EQUIPMENT IN ORDER TO EXTRACT GAS.

DO WE HAVE FOLDS?

OLES, DEAR, NOR FOLDS, F-I-E-L-D-S. UKRAINIAN FIELDS ARE ALREADY EXHAUSTED. SO OUR COUNTRY PARTIALLY BUYS GAS UNTIL IT FINDS NEW ONES.

BUT IT IS SAID ON TV THAT UKRAINE COULD PROVIDE ITSELF WITH GAS.





UNFORTUNATELY, IT IS NOT TRUE. THE AMOUNT OF GAS IN UKRAINE IS LIMITED. THAT'S WHY IT OFTEN BECOMES AN INSTRUMENT FOR POLITICAL INFLUENCE. HAVING ACCESS TO GAS EXTRACTION, TRANSPORTING AND SUPPLYING, ONE CAN INFLUENCE THE WORK OF PLENTY OF ENTERPRISES.

WHERE WE BUY IT FROM?

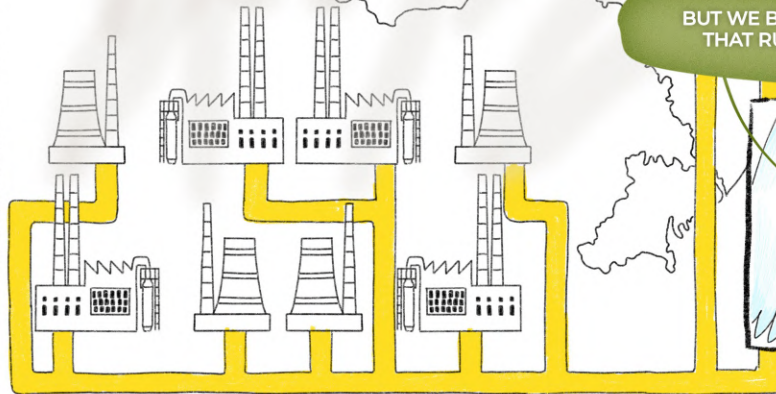
UKRAINE USED TO BUY GAS STRAIGHT FROM RUSSIA. BUT RUSSIA OFTEN SEIZED GAS SUPPLY OR PRESSURED UKRAINE TO EXCHANGE NATURAL GAS FOR SOMETHING ELSE. THAT'S WHY UKRAINE STARTED BUYING GAS FROM EU COUNTRIES IN ORDER TO SAVE OUR ENERGY INDEPENDENCE.

IS IT BETTER NOW?

UKRAINIAN ENTERPRISES ARE ABLE TO BUY GAS FROM DIFFERENT SUPPLIERS WITH CLEAR PRICES AND CONDITIONS

BUT WE BUY RUSSIAN GAS ANYWAY. THAT RUSSIA SELLS TO EUROPE.

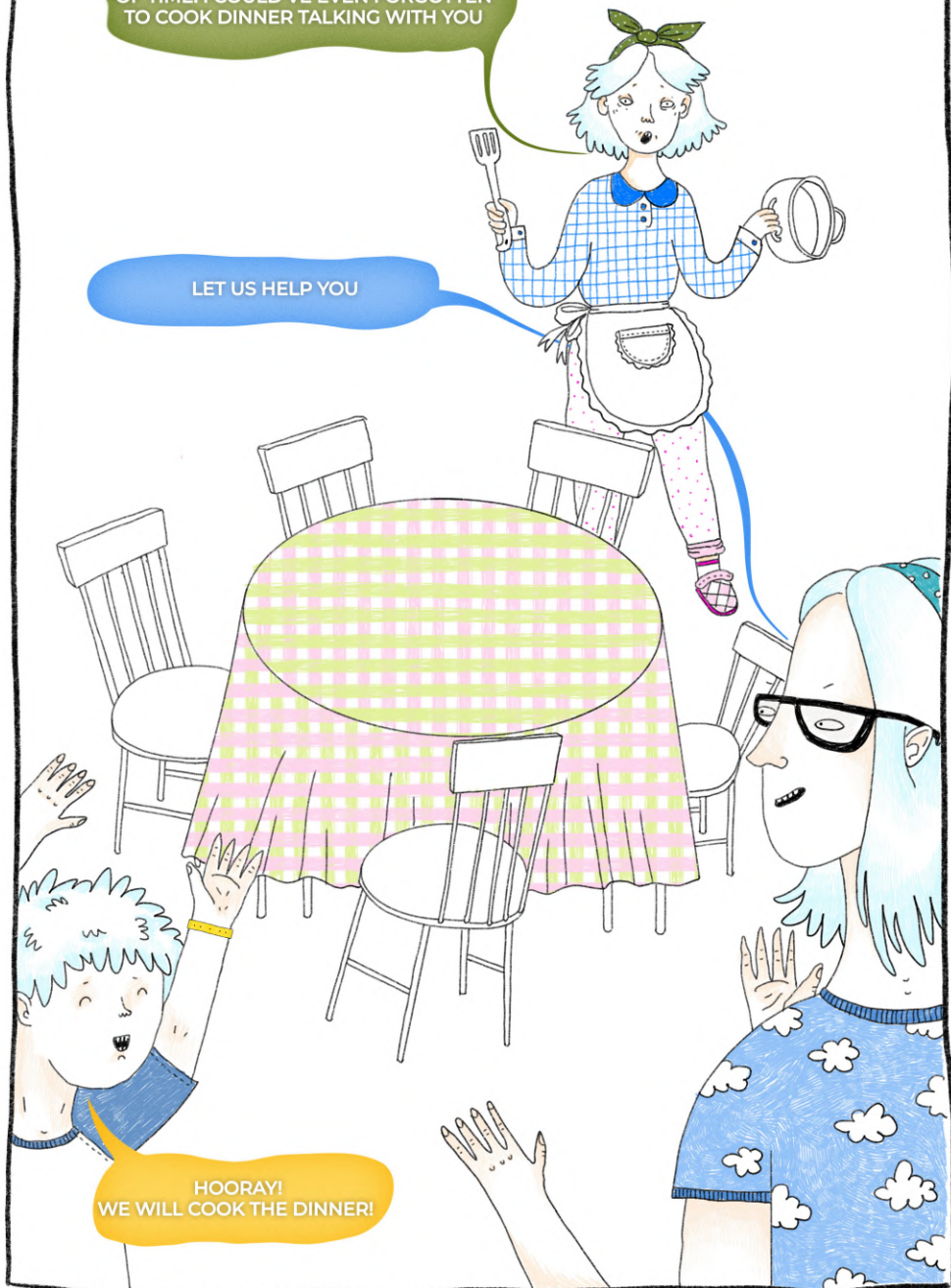
PARTIALLY TRUE. EUROPE BUYS GAS FROM EXTRACTING COMPANIES OF AFRICAN COUNTRIES, USA, RUSSIA AND OTHERS



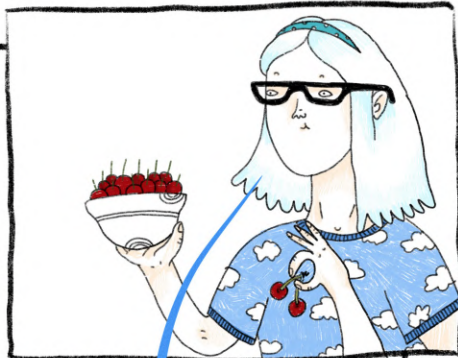
KIDS, I'VE COMPLETELY LOST THE TRACK
OF TIME. I COULD'VE EVEN FORGOTTEN
TO COOK DINNER TALKING WITH YOU

LET US HELP YOU

HOORAY!
WE WILL COOK THE DINNER!



OK, PLEASE, WASH THE DISHES.
TONYA, YOU MAKE THE STUFFING WHILE
I AM MAKING THE PIE'S DOUGH.



TONYA, I STILL DON'T UNDERSTAND.
IT IS RUSSIAN GAS THAT GOES TO
EUROPE THROUGH UKRAINIAN PIPES,
ISN'T IT?

IT IS. AND UKRAINE
GETS MONEY FOR IT.
BIG MONEY.

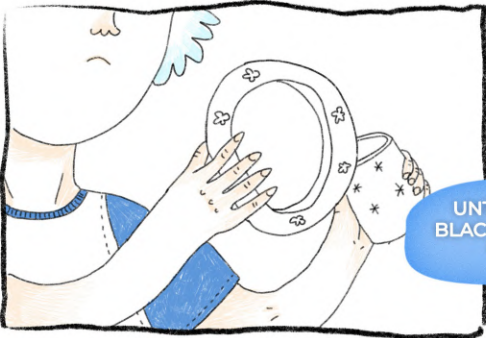


RUSSIA DOES NOT LIKE IT, SO IT TRIES TO
FINISH BUILDING OLD PIPELINES AND BUILD NEW
ONES TO EU COUNTRIES BYPASSING UKRAINE.

DO YOU THINK THEY'LL FINISH IT?



THE USA IMPOSES SANCTIONS ON THE RUSSIAN FEDERATION SO THAT RUSSIA COULDN'T FINISH PIPELINES AND WOULDN'T PLAN BUILDING NEW ONES. SUCH MEASURES OF UKRAINE'S FRIENDS ARE AN IMPORTANT SUPPORT INSTRUMENT.



UNTIL RUSSIA FINISHES BYPASSING PIPELINES IT CANNOT BLACKMAIL UKRAINE WITH GAS CUTOFF. OTHERWISE RUSSIA WOULDN'T BE ABLE TO SUPPLY THE EU WITH GAS.



AND WHAT SHOULD ONE DO IN SUCH A SITUATION?

NATURAL GAS FROM RUSSIA IS LESS THAN HALF OF ALL EU GAS SUPPLIES, THAT'S WHY THE EU IS ALWAYS ABLE TO BUY GAS FROM ANYONE ELSE.



SO, DESPITE THE FACT THAT GAS WHICH UKRAINE IS BUYING FROM THE EU IS PARTIALLY RUSSIAN, WE CAN FEEL SAFE?

YES. UKRAINE BUYS GAS FROM EUROPEAN COMPANIES THAT SELL GAS ON THE EUROPEAN MARKET ON THE BASIS OF FAIR COMPETITION.

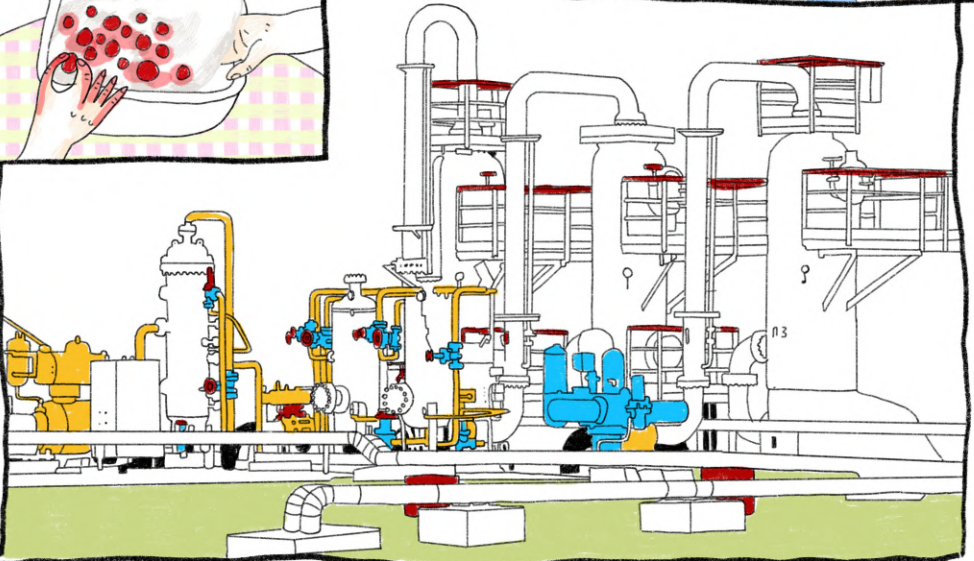
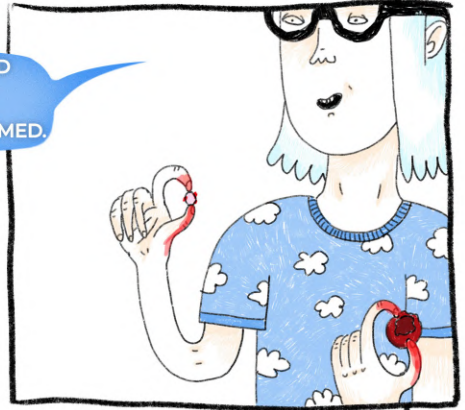
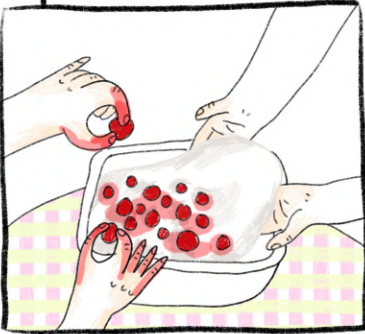


AND WHAT DOES THE PRICE OF GAS DEPEND ON?

THE HIGHEST PRICE FOR GAS IS DURING THE HEATING SEASON. THE LOWEST - IN SUMMER. NATURAL GAS NEEDS TO BE STORED IN SPECIAL GAS STORAGE. UKRAINE HAS GOT THEM. SO, COMPANIES BUY DIFFERENT GAS AMOUNTS AT DIFFERENT SEASONS TO PROPOSE PROFITABLE TERMS FOR CONSUMERS. THE COLDER THE WINTER, THE MORE GAS IS NEEDED. THE MORE ENERGY EFFICIENT THE BUILDINGS ARE - THE LESS GAS IS NEEDED.

AND WHAT IF I WANTED TO HEAT WITH UKRAINIAN GAS ONLY? SAY, I DON'T WANT IMPORTED GAS?

IT IS LIKE GETTING THE EGG OUT OF THE KNEADED DOUGH. BOTH IMPORTED AND LOCAL GAS ARE MIXED IN PIPELINES. THAT'S WHY WE ARE NOT ABLE TO CHOOSE THE COMPOSITION OF GAS CONSUMED.





HOW DO PEOPLE BUY GAS?

ONE NEEDS TO ENTER INTO A CONTRACT
WITH A GAS-SUPPLYING COMPANY.

ON THE GAS MARKET SUPPLIERS HAVE EQUAL
CONDITIONS AND COMPETE FOR CONSUMERS.
CONSUMERS ARE ABLE TO CHOOSE THE SUPPLIER ON
THE MOST PROFITABLE TERMS. IF A SUPPLIER DOES
NOT SATISFY THE CONSUMER, THE CONSUMER CAN
CHANGE. MARKETS WORK BECAUSE ONE CAN BUY
THE AMOUNT OF GAS NEEDED FROM THE COMPANY
WHICH OFFERS THE MOST PROFITABLE TERMS.





AND WHERE DO YOU KNOW THIS FROM?

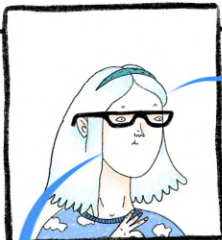
READING, WATCHING VIDEOS. PARTICIPATING IN ONLINE-MARATHON "YOUNG ENERGY" FOR THE LAST FEW WEEKS. AT THIS MARATHON DIFFERENT SPECIALISTS TELL ABOUT ENERGETICS TO YOUNG PEOPLE.

ARE YOU INTERESTED IN SUCH THINGS? YOUR CLASSMATES ARE MAYBE WATCHING TV OR DATING IN THEIR FREE TIME.



I AM VERY INTERESTED! YOU KNOW ME. BY THE WAY, I CAN MEET INTERESTING PEERS AT THE MARATHON. I ALREADY HAVE FRIENDS FROM SEVEN TOWNS.



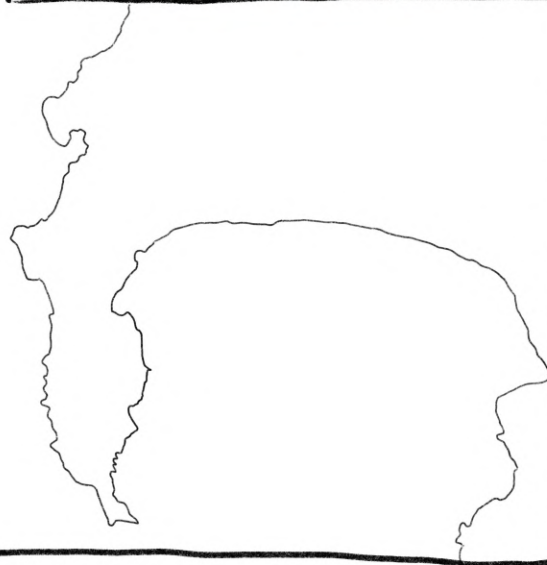
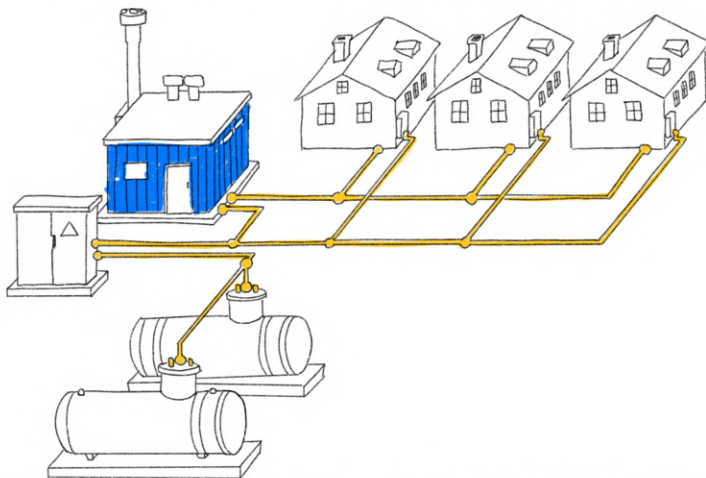


WELL-WELL, SOUNDS GOOD.
AND CAN YOU EXPLAIN WHY TWO BILLS
COME FOR GAS?

ONE OF THE GAS MARKET CONDITIONS IS DIVISION
OF COMPANIES TO THOSE WHO SELL GAS AND THOSE
WHO DISTRIBUTE IT. FOR GAS TO REACH THE CONSUMER,
ONE MUST FIRST BUY GAS AND THEN DELIVER IT
(DISTRIBUTE). TWO SERVICES – TWO BILLS.

AND WHO IS THE “LAST HOPE PROVIDER”?

SUCH A COMPANY IS NEEDED SO THAT PEOPLE WHO HAVE LOST
THE PREVIOUS PROVIDER AND STILL DON'T HAVE A NEW ONE AREN'T
LEFT WITHOUT GAS. BUT ITS SERVICES ARE LIMITED TO 60 DAYS.



GOOD, AND HOW CAN ONE REDUCE GAS CONSUMPTION?

WITH THE HELP OF ENERGY PLANTS, FOR EXAMPLE. THESE ARE PLANTS THAT ARE USED TO MAKE BIOFUEL IN THE FORM OF PELLETS OR BRIQUETTES. THIS BIOFUEL IS THEN USED TO PRODUCE THERMAL OR ELECTRICAL ENERGY.

WHAT ARE THOSE PLANTS?

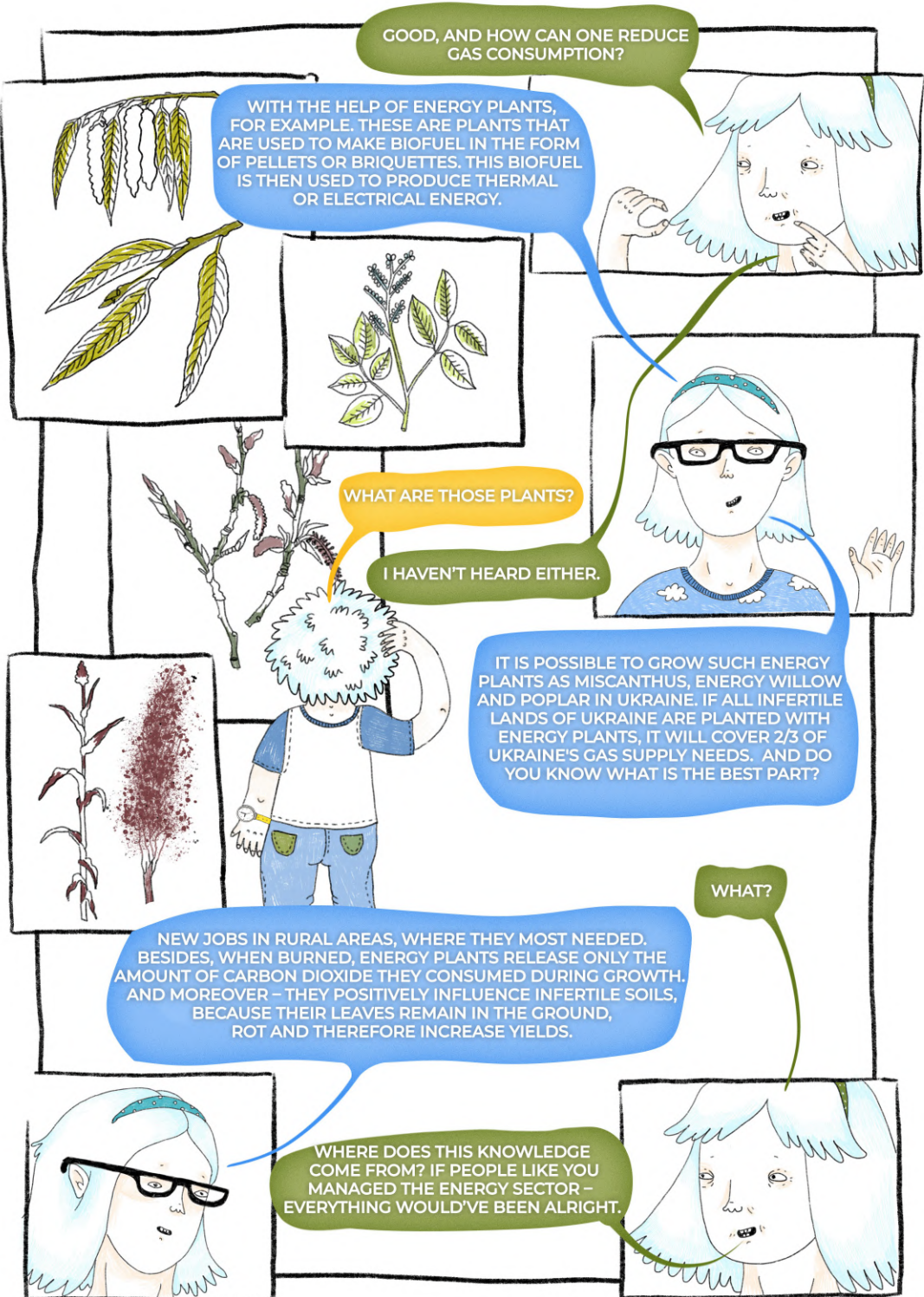
I HAVEN'T HEARD EITHER.

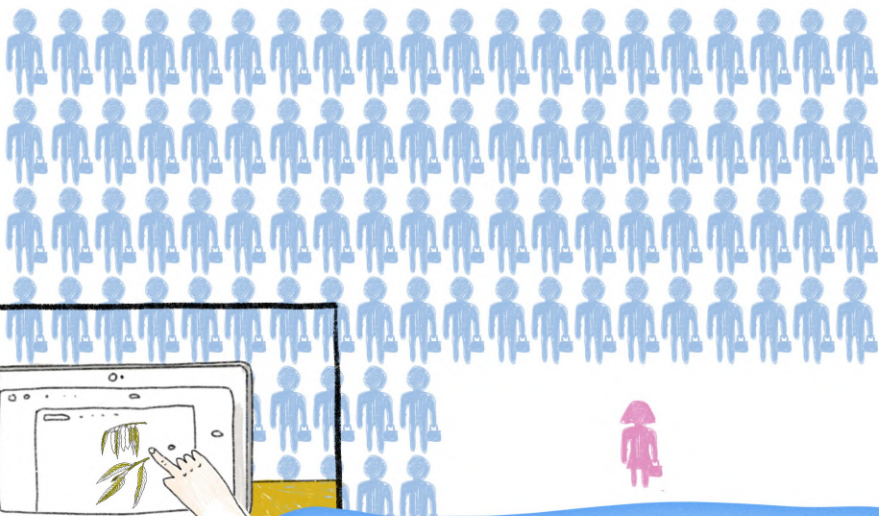
IT IS POSSIBLE TO GROW SUCH ENERGY PLANTS AS MISCANTHUS, ENERGY WILLOW AND POPLAR IN UKRAINE. IF ALL INFERTILE LANDS OF UKRAINE ARE PLANTED WITH ENERGY PLANTS, IT WILL COVER 2/3 OF UKRAINE'S GAS SUPPLY NEEDS. AND DO YOU KNOW WHAT IS THE BEST PART?

WHAT?

NEW JOBS IN RURAL AREAS, WHERE THEY MOST NEEDED. BESIDES, WHEN BURNED, ENERGY PLANTS RELEASE ONLY THE AMOUNT OF CARBON DIOXIDE THEY CONSUMED DURING GROWTH. AND MOREOVER – THEY POSITIVELY INFLUENCE INFERTILE SOILS, BECAUSE THEIR LEAVES REMAIN IN THE GROUND, ROT AND THEREFORE INCREASE YIELDS.

WHERE DOES THIS KNOWLEDGE COME FROM? IF PEOPLE LIKE YOU MANAGED THE ENERGY SECTOR – EVERYTHING WOULD'VE BEEN ALRIGHT.





MUM, IT DEPENDS NOT ONLY ON WHO AND WHERE MANAGES, BUT ALSO ON HOW INSTITUTIONS WORK AND IF PEOPLE SAVE ENERGY.

MOREOVER, WHO WILL ALLOW YOUNG PEOPLE, GIRLS ESPECIALLY, TO BREAK THROUGH. THEY WRITE THAT IN THE OIL AND GAS SECTOR ONLY 1% OF CEO POSITIONS ARE OCCUPIED BY WOMEN.

THIS IS MY FUTURE ENERGY GARDEN. I WILL PLANT IT IN THE COUNTRY, WHERE THE LAND IS BAD, AS GRANNY AND GRANDPA SAY.



THIS IS ENERGY WILLOW

I THOUGHT IT HAS LIGHTNINGS INSTEAD OF LEAVES.

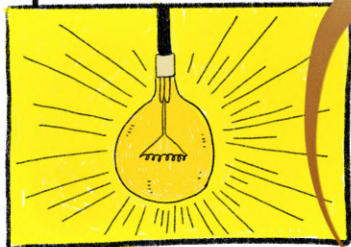


THERE YOU GO! THE RECEPTIONIST SAID NO CLASSES WERE HELD HERE SINCE YESTERDAY. THE LIGHT WAS TURNED ON THE WHOLE DAY. AS IF THEY HAVE NOWHERE TO SPEND MONEY!

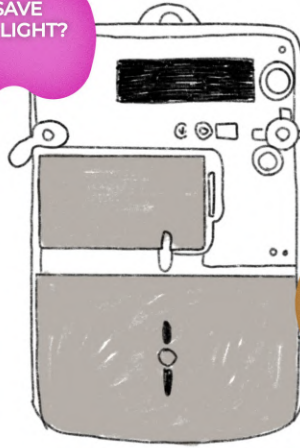
КАБІНЕТ ФІЗИКИ

YESTERDAY WE STUDIED ELECTRICITY AS A PHYSICAL PHENOMENON. TODAY WE SHOULD'VE STARTED THE NEW TOPIC, BUT INSTEAD I WOULD LIKE YOU TO TALK ABOUT ELECTRIC ENERGY AS A RESOURCE. AGREE?

SO, THIS POINTLESS WASTING BRINGS AT LEAST SOME BENEFIT.



TELL US PLEASE, HOW CAN ONE SAVE ENERGY, EXCEPT TURNING OFF THE LIGHT?

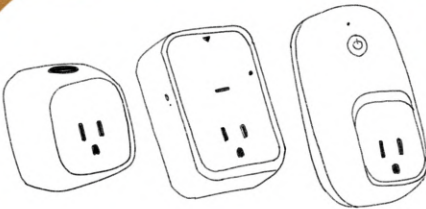


ONE CAN INSTALL DUAL-ZONED METERS SO THAT ENERGY AT NIGHT IS HALF THE PRICE.

DUAL-ZONED?
HOW DOES IT WORK?



DUAL-ZONED METER SEPARATES DAY AND NIGHT ENERGY CONSUMPTION. A CONSUMER PAYS A COMMON PRICE FROM 7 A.M. TO 11 P.M., BUT AT NIGHT PAYS TWICE LESS.

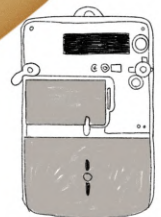
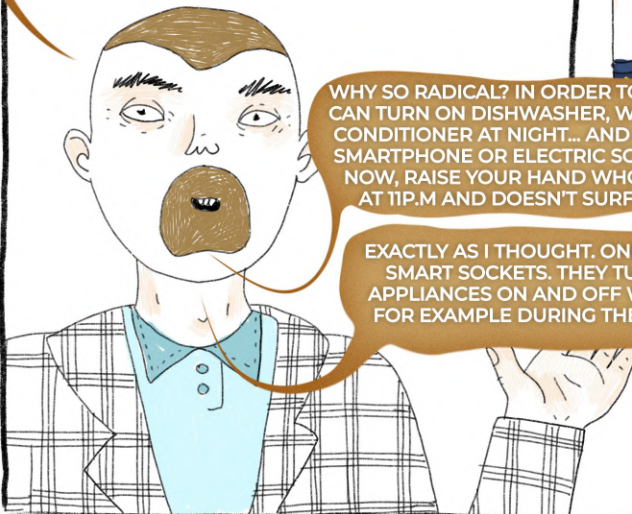


SO, WE HAVE NOW TO LIVE AT NIGHT LIKE NOCTURNAL ANIMALS AND CONSUME ENERGY AT NIGHT ONLY?



WHY SO RADICAL? IN ORDER TO SAVE MORE ONE CAN TURN ON DISHWASHER, WASHING MACHINE, CONDITIONER AT NIGHT... AND ALSO CHARGE SMARTPHONE OR ELECTRIC SCOOTER AFTER 23 P.M. NOW, RAISE YOUR HAND WHO IS ALREADY ASLEEP AT 11 P.M AND DOESN'T SURF SOCIAL NETWORKS?

EXACTLY AS I THOUGHT. ONE CAN ALSO USE SMART SOCKETS. THEY TURN ELECTRIC APPLIANCES ON AND OFF WHEN NEEDED, FOR EXAMPLE DURING THE NIGHT TARIFF.





HOW ELECTRIC ENERGY IS BOUGHT?
THE SAME WAY AS GAS?

SOME THINGS ARE SIMILAR, SOME ARE NOT.
ALL ELECTRICITY PRODUCED BY POWER
PLANTS WAS PREVIOUSLY BOUGHT BY STATE
ENTERPRISE "ENERGORYNOK" [ENERGY MARKET].
OF COURSE, AT A FIXED PRICE.

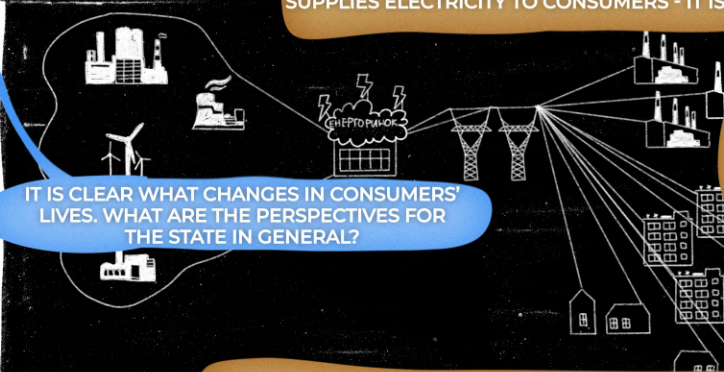
AND THEN?

OBLENERGO [REGION ENERGY COMPANY]
BOUGHT ELECTRICITY FROM "ENERGORYNOK"
AND SOLD IT TO CONSUMERS.
PEOPLE GOT ELECTRICITY AT LOWER
PRICES, INDUSTRY – AT HIGHER.



AND HOW IS THE
SITUATION NOW?

ELECTRICITY IS NOW TRADED AS A REGULAR GOOD. THE PRICE
IS SET NOT BY THE STATE, BUT BY THE MARKET. EACH REGIONAL
POWER COMPANY IS NOW DIVIDED INTO TWO COMPANIES. ONE IS
RESPONSIBLE FOR NETWORKS AND TRANSFORMERS AND IS
CALLED THE OPERATOR OF DISTRIBUTION SYSTEM. THE SECOND
SUPPLIES ELECTRICITY TO CONSUMERS - IT IS CALLED THE SUPPLIER



IT IS CLEAR WHAT CHANGES IN CONSUMERS'
LIVES. WHAT ARE THE PERSPECTIVES FOR
THE STATE IN GENERAL?



AND THERE ARE EVEN MORE CHANGES. COMPANIES CREATED
ON THE BASIS OF FORMER OBLENERGOS ARE THOSE WHO WORK
WITH PEOPLE NOW. BUT IN THE NEAR FUTURE EVERYONE WILL
BE ABLE TO ENTER INTO AN AGREEMENT WITH SUPPLIERS THAT
ARE ON THE MARKET. AND SUPPLIERS IN TURN WILL COMPETE
FOR CONSUMERS: THEY WILL SET REASONABLE PRICES
AND IMPROVE THE QUALITY OF SERVICES.

CHANGES THAT I'VE MENTIONED EARLIER MAKE IT POSSIBLE TO
UNITE THE UKRAINIAN ENERGY SYSTEM WITH THE EUROPEAN ONE.
UKRAINE WILL JOIN THE EUROPEAN POWER GRID ENTSO-E - THE
EUROPEAN NETWORK OF TRANSMISSION SYSTEM OPERATORS
FOR ELECTRICITY. OUR COUNTRY WILL WORK ACCORDING TO
THE RULES OF THE EUROPEAN MARKETS.

AT THE MOMENT THE UKRAINIAN ENERGY SYSTEM IS SYNCHRONIZED WITH THE EUROPEAN ONE ONLY PARTIALLY,
THROUGH BURSHTYN ENERGY ISLAND. THE REST OF THE SYSTEM IS SYNCHRONIZED WITH RUSSIA AND BELARUS.

HI! WHAT'S UP?

Email Забравлення Увійти

Google

HI! GOT BACK HOME FROM SCHOOL,
GOOGLING BURSHTYN ISLAND.

Вушливський енергетичний острів

Пошук Google

Меню пошуку

Мова Google: українська English

IT IS SOMEWHERE IN LVIV AND ZAKARPATTIA
REGIONS, IF I REMEMBER IT RIGHT

IVANO-FRANKIVSK REGION
AS WELL

RIGHT

INTERESTING. THERE IS BURSTYN POWER PLANT WITH
POWER GRID CONNECTED TO IT AND WITH ITS OWN
CONSUMERS. IT SUPPLIES ONLY 3 UKRAINIAN REGIONS
OUT OF 24. AND AT THE SAME TIME IT IS CONNECTED TO
THE ELECTRICITY GRIDS OF THE EU COUNTRIES AND CAN
EXPORT ELECTRICITY ABROAD.

I WONDER WHY ONLY THIS ENERGY ISLAND IS
CONNECTED TO ENTSO-E AND NOT THE WHOLE COUNTRY?

YEAH. AND WHY POWER PLANTS OF ONE AND THE SAME
COUNTRY ARE CONNECTED TO DIFFERENT SYSTEMS?

TO CUT A LONG STORY SHORT, THE COUNTRY CANNOT
JOIN A MODERN SYSTEM WITH OBSOLETE EQUIPMENT.
IF UKRAINE RENOVATES ITS BASIC EQUIPMENT ALL
OVER THE COUNTRY, IT WILL INCREASE THE
RELIABILITY OF ITS ENERGY SYSTEM ON THE WHOLE.
AND IT WILL BE POSSIBLE TO ENTER THE EUROPEAN
ENERGY MARKET, WHICH MEANS BUYING AND SELLING
ELECTRICITY IN THE EU.

COOL

BUT HOLD ON A SEC! I'VE JUST GOOGLED THAT "THE TOTAL COST OF UKRAINE'S INTEGRATION WITH ENTSO-E WAS ESTIMATED AT 357 MILLION EUROS". IS IT AFFORDABLE FOR THE COUNTRY AT THE MOMENT?

TRUE, IT IS BIG MONEY. EVEN SPEAKING ABOUT THE COUNTRY. BUT THE COSTS ARE WORTH IT. UKRAINE WILL BE ABLE INCREASE ELECTRICITY SALES IN THE EU. MOREOVER, ONE THIRD OF ALL COSTS ARE COVERED BY INTERNATIONAL ORGANIZATIONS.

OKAY! LET'S ASSUME WE RENOVATED ALL THE EQUIPMENT. WHAT'S NEXT?

AS FAR AS I HAVE READ, UKRAINE MUST DISCONNECT FROM THE RUSSIAN NETWORK AND WORK BY ITSELF FOR SOME TIME, IN ORDER TO PROVE THE ABILITY TO FUNCTION LIKE THIS. NEXT STEP IS CONNECTING TO ENTSO-E

AND IT ALL IS IN THE NEAREST FUTURE?

THE BEGINNING OF SYNCHRONIZED WORK WITH ENTSO-E IS PLANNED FOR THE YEAR 2023.

WOW! PRETTY SOON.

YOU WILL ALREADY BE STUDYING AT UNIVERSITY. BY THE WAY, HAVE YOU ALREADY DECIDED WHAT TO STUDY?

FIRST I NEED TO PASS THE ZNO TESTS [INDEPENDENT EXTERNAL EVALUATION] ON MATH AND PHYSICS, AND THEN I'LL SEE WHAT UNIVERSITY I WILL BE ABLE TO ENTER.

WELL, I THOUGHT ...

WHAT?

THAT YOU ARE INTO BURSTYN ISLAND THEME NOT FOR NOTHING

DON'T YOU START. MOM YESTERDAY BROUGHT UP AS WELL: "IF PEOPLE LIKE YOU MANAGED THE ENERGY SECTOR..."

BUT IT IS OBVIOUS YOU LIKE IT.

YOU DON'T UNDERSTAND. I DON'T THINK I'LL BE ABLE TO DO WHAT I'M REALLY INTERESTED IN FOR A LIVING. NO MATTER IF IT IS CIVIL SERVICE OR BUSINESS. I DON'T KNOW IF I CAN INFLUENCE ANYTHING GLOBALLY.

ARE YOU COMING TO THE MARATHON TOMORROW?

WAS GOING TO

THERE WILL BE A SPEAKER. SHE'S ONLY 24, AND SHE'S AN EXPERT ON HEAT SUPPLY.

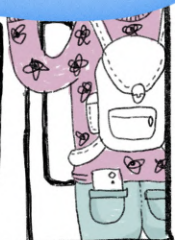
SOUNDS GOOD

MAYBE SHE'LL CHANGE YOUR MIND.

СЛОВАЧЧИНА

«Острів Бурштин»

РУМУНІЯ

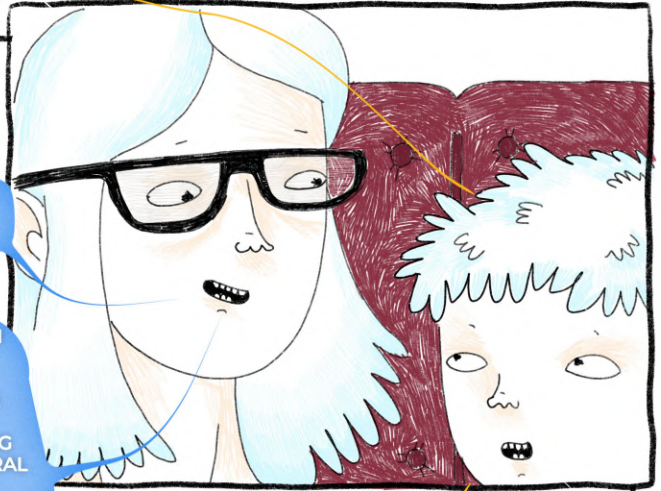




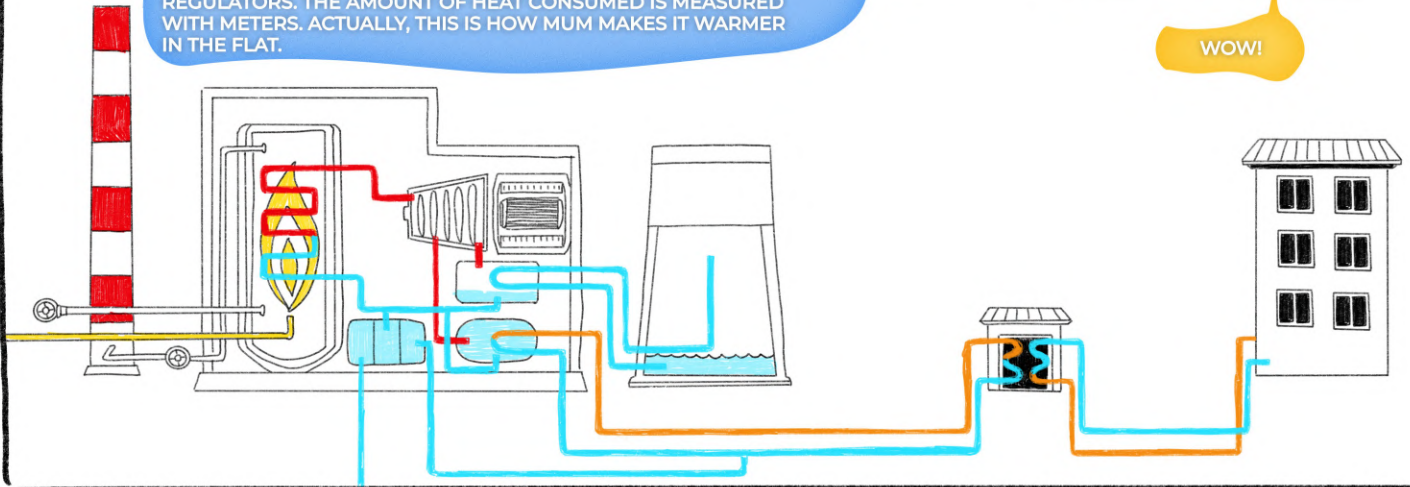
WHERE IT COMES FROM? WHERE,
FOR EXAMPLE, HOT WATER IN A TAP
COMES FROM?

WATER HEATS AT COMBINED HEAT AND POWER PLANT – CHP.
HOW SHOULD I EXPLAIN... LET ME DRAW IT.

WATER IS DELIVERED FROM CHP TO THE THERMAL POINT OF EACH
BUILDING. OUR HOUSE HAS ONE. IN THE BASEMENT. BUT IT CAN
ALSO OCCUPY A SEPARATE BUILDING. WATER IS DELIVERED TO
FLATS OR OFFICES FROM A THERMAL POINT. ONE CHP SERVES THE
BUILDINGS OF ONE OR SEVERAL DISTRICTS.
IN NEW BUILDINGS, LIKE OUR HOUSE, ONE CAN REGULATE HEATING
SUPPLY IN EACH FLAT, IF THE HOUSE IS CONNECTED TO THE CENTRAL
HEATING SYSTEM. IT IS MADE WITH THE HELP OF RADIATOR
REGULATORS. THE AMOUNT OF HEAT CONSUMED IS MEASURED
WITH METERS. ACTUALLY, THIS IS HOW MUM MAKES IT WARMER
IN THE FLAT.



WOW!



GRANNY AND GRANDDAD LIVE IN AN OLD BUILDING, BUT STILL CAN HEAT THEIR FLAT.



THE SAME SYSTEM MAY BE INSTALLED IN OLDER HOUSES. BUT THE BUILDING MUST BE MODERNIZED BEFOREHAND. AFTER MODERNIZATION ONE CAN REGULATE HEATING SUPPLY: MAKE IT WARMER WHEN NEEDED AND TURN THE HEATING OFF AT OTHER TIMES IN ORDER TO SAVE MONEY ON UTILITY BILLS.

WOW, THAT'S COOL! AND WHY DID YOU DRAW SMOKE OVER THE CHP?

HOW ATTENTIVE OF YOU! BECAUSE CHPs PRODUCE HARMFUL EMISSIONS IN THE ATMOSPHERE, POLLUTE THE AIR.

HOW TO MAKE THEM NOT POLLUTE THE AIR?

ONE SHOULD INSTALL SPECIAL FILTERS ON CHP. OR TO MAKE HEAT SUPPLY STATIONS - THIS IS HOW CHPs ARE ALSO CALLED - USE RENEWABLE AND ALTERNATIVE ENERGY SOURCES.

CLEAR.

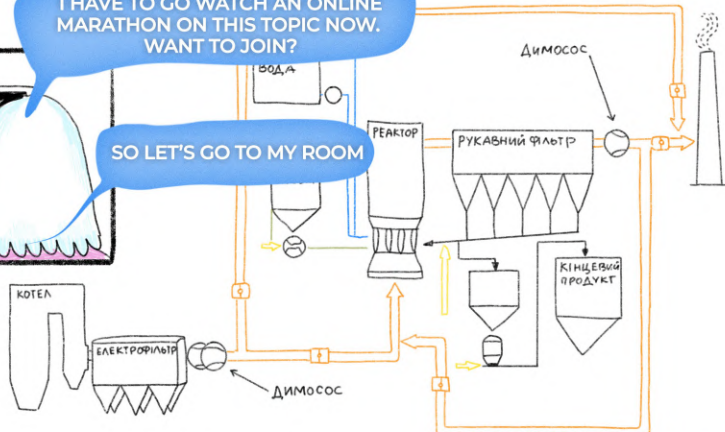
ARE YOU ACTUALLY INTERESTED IN WHAT I AM TALKING ABOUT? TELL THE TRUTH, I WON'T BE OFFENDED.

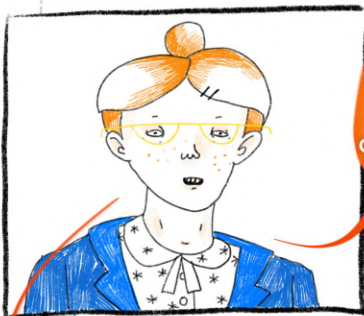
I AM VERY INTERESTED!

I HAVE TO GO WATCH AN ONLINE MARATHON ON THIS TOPIC NOW. WANT TO JOIN?

OF COURSE!

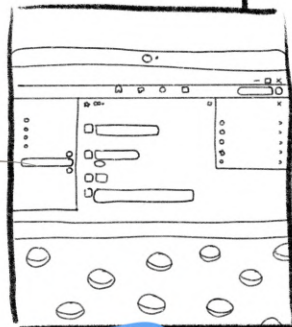
SO LET'S GO TO MY ROOM



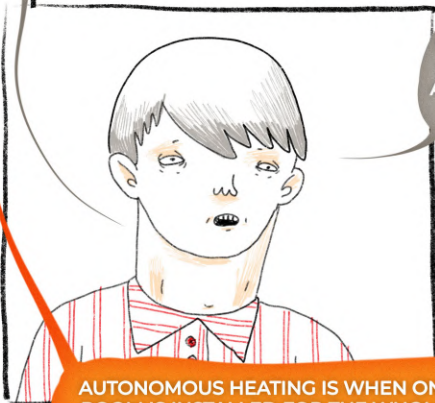


...CENTRALIZED HEATING SYSTEMS ARE OFTEN CRITICIZED FOR COMPARATIVELY HIGH COST AND LOSS OF HEAT ON THE WAY TO CONSUMERS. THEY ARE OFTEN OPPOSED TO AUTONOMOUS OR INDIVIDUAL HEATING. THIS HEATING SYSTEMS DO NOT DEPEND ON A SINGLE HEAT SUPPLY CENTER.

I REMIND THAT YOU CAN ASK ANY QUESTION TO OUR SPEAKER BY WRITING IN THE CHATBOX. FOR THOSE WHO ARE NEW HERE – YULIYA HOMENKO IS A PUBLIC ACTIVIST, SPECIALIZING IN ENERGY EFFICIENT CITIES. I SEE THE QUESTION ALREADY.



WHAT IS THE DIFFERENCE BETWEEN AUTONOMOUS AND INDIVIDUAL HEATING?



OH, THEY HAVE ALREADY STARTED. LET'S CONNECT FASTER!

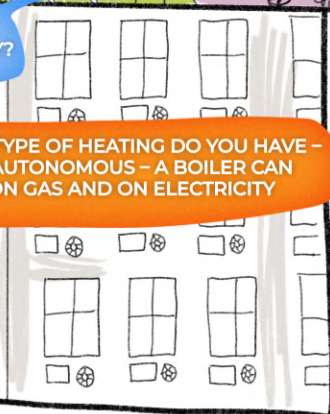
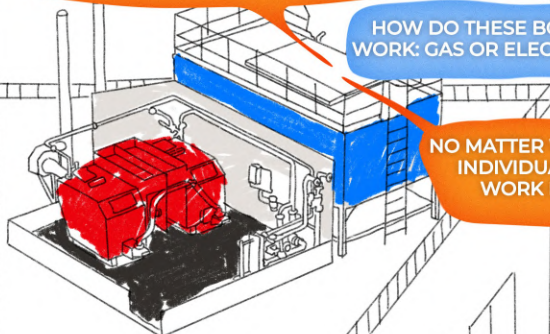
I AM READY!

AUTONOMOUS HEATING IS WHEN ONE BOILER ROOM IS INSTALLED FOR THE WHOLE HOUSE. IT CAN BE ON THE ROOF OR ANY OTHER PLACE. THIS BOILER ROOM GENERATES HEAT FOR ALL RESIDENTS OF THE BUILDING. IF WE SPEAK ABOUT INDIVIDUAL HEATING, A BOILER IS INSTALLED IN EACH APARTMENT.



HOW DO THESE BOILERS WORK: GAS OR ELECTRICITY?

NO MATTER WHAT TYPE OF HEATING DO YOU HAVE – INDIVIDUAL OR AUTONOMOUS – A BOILER CAN WORK BOTH ON GAS AND ON ELECTRICITY



SO THE FUTURE IS WITH INDIVIDUAL/AUTONOMOUS HEATING? "DECENTRALIZATION"?

A HEATING SYSTEM THAT IS SEPARATE FROM COMMON CENTER LOOKS MORE CONVENIENT AND MORE MONEY-SAVING FOR THE CUSTOMER. BUT EXPERTS SAY THAT A CENTRAL HEATING SYSTEM IS MORE PROFITABLE AND ENVIRONMENTALLY FRIENDLY, GIVEN THE ENVIRONMENTAL IMPACT.

COME ON, ASK HER!

ANY QUESTIONS?

ASK WHAT?

I DON'T KNOW

HOW DID SHE MANAGE IT? IS IT DIFFICULT TO BE A WOMAN POWER ENGINEER? SOMETHING THAT WOULD MOTIVATE YOU.

AND I REMIND YOU THAT THE TOPIC OF TOMORROW'S EVENT...

HOW DID YOU MANAGE TO BECOME AN EXPERT IN ENERGY?

COME ON!

THAT'S INTERESTING, ACTUALLY. I GUESS I SAW POSITIVE EXAMPLES. UNFORTUNATELY, MORE MEN'S STORIES THAN WOMEN'S. BUT THE LATTER EXIST, AND THAT MEANT A LOT TO ME. YOUNG PEOPLE THAT ARE ONLY A FEW YEARS OLDER THAN ME DID WHAT THEY ARE INTERESTED IN. THEY HAVE FOUND OPPORTUNITIES SOMEHOW. THIS IS HOW I STARTED LOOKING FOR MY OPPORTUNITIES. ENTERED THE FACULTY OF POWER ENGINEERING AND WAS THE ONLY GIRL. BUT I DIDN'T LIMIT MYSELF WITH UNIVERSITY STUDIES ONLY. I WAS LOOKING FOR PROJECTS, EXCHANGES, OPPORTUNITIES FOR INTERNSHIPS AND VOLUNTEERING. MORE AND MORE PEOPLE WHO HAVE SUPPORTED ME STARTED APPEARING IN MY LIFE. LESS AND LESS PEOPLE SAID: "IT'S DIFFICULT", "UNPROMISING", "NOT FEMININE." AND WHAT IS MORE, NOW I HAVE MY ORGANIZATION - MY SECOND FAMILY. TOGETHER WE HELP UKRAINIAN CITIES IN BECOMING MORE ENERGY EFFICIENT. AND I FEEL EFFICIENT AS WELL. I FEEL I AM WHERE I'M SUPPOSED TO BE.

WOOO-O-OW!

WELL, I ASSUME IT'S A GOOD FINISH OF OUR CONVERSATION. ALL THAT'S LEFT TO SAY IS THAT TOMORROW WE WILL TALK ABOUT...

MOTHER SAYS I MUST GO TO THE LAW FACULTY: IT IS PRESTIGIOUS AND PROMISING. BUT I HAVE TO PASS THE ZNO TEST ON HISTORY TO ENTER THERE. I'M NOT SURE IF I'LL GET HIGH SCORES.

YESTERDAY I WAS SEARCHING FOR THE WHOLE 2 HOURS WHERE I CAN ENTER WITH HISTORY AND ENGLISH. I HAVE NO IDEA WHERE TO STUDY, WHO TO BE AT ALL.

I'M NOT SURE IF I SHOULD TELL. BUT I GUESS I'VE MADE UP MY MIND.

COOL! CONGRATS!

AND WHERE?

TO "OIL AND GAS" [IVANO-FRANKIVSK NATIONAL TECHNICAL UNIVERSITY OF OIL AND GAS]. I'D LIKE TO DO ENERGETICS.

ENERGETICS? BUT THAT'S BORING. AND NOT FOR WOMEN.

AND IT IS NOT WELL-PAID. MY GRANDDAD WAS WORKING AT A REFINERY FOR HIS WHOLE LIFE.

PAYMENT DEPENDS ON WHAT AND WHERE YOU DO. NOW FOR "NOT FOR WOMEN" – TRUE, THERE ARE FEW WOMEN IN ENERGETICS, BUT EVERY YEAR THE NUMBER GETS BIGGER.



POSSIBLY, BUT I WILL NEVER WORK THERE. LIKE NEVER EVER. YES, ON THE ONE HAND WE HAVE GADGETS AND WARM HOUSES. BUT ON THE OTHER HAND, THE BURNING OF FOSSIL FUELS AND THE DEPLETION OF NATURAL RESOURCES LEADS TO CLIMATE CHANGE, AIR AND WATER POLLUTION, POVERTY, FOOD SHORTAGES. SHOULD I CONTINUE? AND BEING PART OF ALL THIS PROBLEMS... I SIMPLY WOULDN'T BE ABLE TO DO THAT FOR A LIVING.

INNA, COME ON! PERHAPS IT IS WORTH GOING INTO THIS SPHERE IN ORDER TO REDUCE THE NEGATIVE IMPACT OF THE TRADITIONAL ENERGY SYSTEM? FOR EXAMPLE, WE WENT TO THE CLIMATE MARCH. ARE YOU INTERESTED IN THE RES TOPIC?

NOT REALLY.

RENEWABLE ENERGY SOURCES.

IT IS NOT EXACTLY MY CUP OF TEA. I HEARD SOMEWHERE ABOUT SOLAR PANELS, WINDMILLS, HYDROELECTRIC POWER PLANTS.

AND THERE IS ALSO ENERGY FROM BIOMASS AND GEOTHERMAL STATIONS. THESE ENERGY SOURCES ARE OFTEN OPPOSED TO POWER PLANTS. POWER PLANTS GENERATE ENERGY FROM FOSSIL FUELS (WHICH RESERVES ARE LIMITED) OR NUCLEAR ENERGY. OF COURSE, RES ARE NOT LIMITLESS EITHER. BUT THEY REALLY HAVE THEIR ADVANTAGES.

WHICH ONES, FOR EXAMPLE?

RES (FOR EXAMPLE, SOLAR PANELS) IS AN OPPORTUNITY FOR LOTS OF UKRAINIANS TO MEET THEIR NEEDS AND EARN EXTRA MONEY. IT IS BECAUSE THEY SELL SURPLUS ELECTRICITY TO THE GENERAL GRID, WHERE IT IS BOUGHT BY OTHER CONSUMERS.

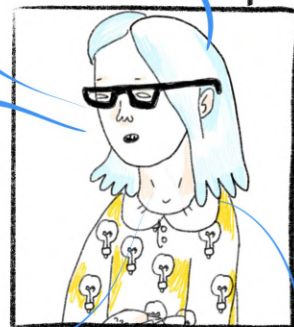
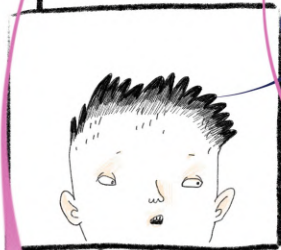
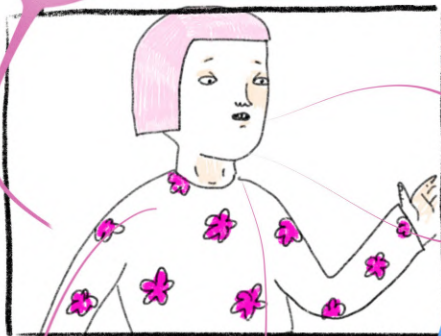
IT IS CLEAR IF ONE HAS A COTTAGE. BUT IS IT POSSIBLE TO INSTALL SOLAR PANELS ON MULTI-STOREY BUILDING?

NOW I WANT A PANEL ON THE ROOF. SO, WHAT EXAMS DO YOU HAVE TO PASS IN ORDER TO ENTER ENERGETICS?!

ROOFS OF SUCH BUILDINGS ARE OFTEN NOT USED. BUT IT IS COMPLETELY POSSIBLE TO INSTALL SOLAR PANELS ON THEM. ONE CAN INSTALL A SOLAR POWER PLANT ON THE ROOF OF A HIGH-RISE BUILDING, CONNECT TO THE GRID, PROVIDE THE ENERGY FOR ONESELF AND SELL ONE'S OWN ELECTRICITY TO OTHER CONSUMERS.

WOW, INNA!

WHY? AND THERE WILL BE TWO GIRLS ON THE FACULTY INSTEAD OF ONE.



TODAY WE ARE HAVING AN UNUSUAL LESSON. SOME OF YOU MAY REMEMBER TONYA. SHE WAS TWO GRADES OLDER THAN YOU. TONYA IS NOW STUDYING AT THE UNIVERSITY OF OIL AND GAS. INSTITUTE OF...

INSTITUTE OF ARCHITECTURE, CONSTRUCTION AND POWER ENGINEERING.
SPECIALIZATION – HEAT ENERGETICS.

I ASKED TONYA TO COME AND TELL ABOUT HER STUDIES AND FUTURE CAREER. I REMEMBER YOU WERE THE ONLY GIRL AT MY ADDITIONAL CLASS? IS IT THE SAME ON THE FACULTY?

SURPRISINGLY, BUT NO. THERE ARE 3 GIRLS WHO STUDY WITH ME – FROM KHMELNYTSKYI, NOVOIAVORIVSK AND VINNYTSIA. BUT... THERE WAS ONE FUNNY STORY. BEFORE THE BEGINNING OF THE FIRST SEMESTER, LINA AND I RECEIVED A CALL FROM THE UNIVERSITY ADMINISTRATION. THEY ASKED IF I REALLY WANT TO STUDY. I DON'T KNOW ABOUT OTHERS, MAYBE THEY HAVE RECEIVED SUCH CALLS TOO.

WHY HAVE YOU DECIDED TO ENTER HEAT ENERGETICS?

BECAUSE I AM INTERESTED IN THIS. WHILE AT SCHOOL, I READ A LOT ABOUT THIS BRANCH OF STUDIES, TRIED TO ANALYSE WHERE THE PROBLEMS EXIST AND WHAT CAN BE CHANGED OR IMPROVED.

AND DO YOU FEEL YOU ARE ABLE TO CHANGE SOMETHING?

I DO. THERE ARE MORE AND MORE OPPORTUNITIES FOR YOUNG PEOPLE IN THE SPHERE OF ENERGY.

IS IT DIFFICULT FOR A WOMAN TO BE IN A MALE SPHERE?

I WOULDN'T SAY THAT ENERGY IS A "MALE AREA". BECAUSE IT SOUNDS LIKE IT IS CLOSED FOR WOMEN. BUT IT IS NOT. IT'S TRUE THAT THERE ARE FEW GIRLS IN THIS SPHERE, BUT THERE IS MORE AND MORE EACH YEAR. MAYBE I'LL MOTIVATE SOME GIRLS FROM YOUR CLASS TO ENTER ENERGETICS. AND THERE WILL BE EVEN MORE.

WHEN YOU WERE DECIDING WHERE TO ENTER, HADN'T YOU THOUGHTS LIKE "ACCESS IS CLOSED", "YOUNG PEOPLE CAN'T BREAK THROUGH, ESPECIALLY GIRLS"?

WHAT CHANGED YOUR MIND?

OF COURSE, YOU CAN'T GET AWAY FROM THEM. MOST PEOPLE AROUND ME SAID THAT ENERGETICS WAS BORING, DIRTY, LOW-PAID, AND MOREOVER, UNFEMININE. THERE WAS A TIME WHEN I FELT SO INSECURE THAT I RESPONDED SHARPLY EVEN TO SUPPORTING WORDS SUCH AS "JOIN ENERGETICS IF YOU LOVE IT."

WHAT DO YOU SEE YOURSELF DOING IN THE FUTURE?

IN 2020 I TOOK PART IN "YOUNG ENERGY" ONLINE-MARATHON. ENERGY EXPERTS SHARED THEIR EXPERIENCE WITH YOUNG PEOPLE THERE. I SAW THE EXAMPLES OF YOUNG POWER ENGINEERS – BOTH MEN AND WOMEN. I SAW GIRLS OF MY AGE WHO DOUBTED, AS I DID, BUT DESIRED TO DIVE INTO THIS SPHERE. I ALSO MADE FRIENDS WHO PUSHED ME TO DO WHAT I LIKE THE MOST.

IT IS DIFFICULT TO SAY. BUT NOT BECAUSE THERE ARE NO OPPORTUNITIES, BUT BECAUSE THERE IS PLENTY OF THEM. MAYBE I'LL BE AN ENTREPRENEUR. BY THE TIME I GET MY DEGREE, IT WILL BE EASIER THAN IT IS NOW. BECAUSE EVEN THOSE ACTIVITIES THAT WERE PREVIOUSLY REGULATED BY THE STATE ARE NOW MOVING TO MARKET CONDITIONS. POSSIBLY I WILL BECOME A PUBLIC ACTIVIST AND WILL ADVOCATE FOR USEFUL INITIATIVES. OR MAYBE I'LL WORK IN THE PUBLIC SECTOR. ONLY TIME WILL TELL.

Team

Dmytro Kuznietsov
project coordinator

Valeriia Vashkevych
project coordinator

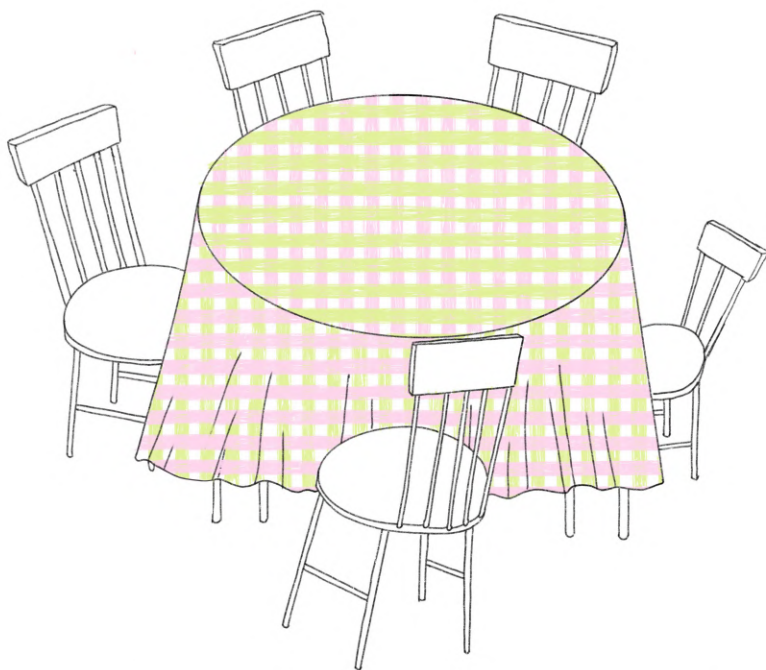
Denys Kozlov
assistant coordinator

Alevtyna Kakhidze
meanings visualizer

Kseniia Yanko
comic book author

Mariia Vyshedska
artist

Volodymyr Yazlovetskyi
designer





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