SASOL ENERGY INNOVATION CHALLENGE

Unleash your imagination


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HYPOTHESIS
MATERIALS
QUESTIONS

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SASOL AT A GLANCE

Sasol is headquarted in Johannesburg, South Africa.

Sasol is a global chemicals and energy company. We harness our knowledge and expertise to integrate sophisticated technologies and processes into world-scale operating facilities.

We strive to safely and sustainably source, produce and market a range of high-quality products globally, creating value for all our stakeholders.

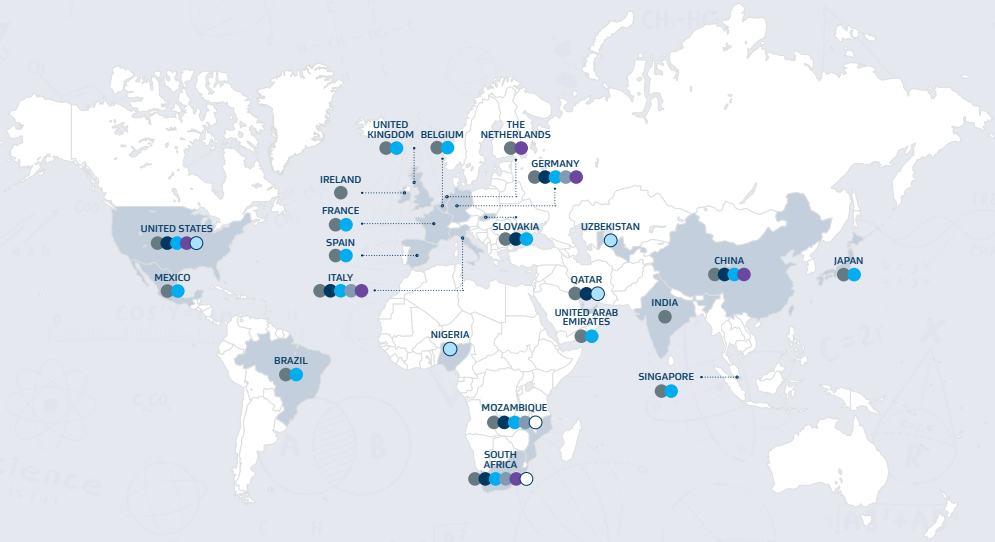
During our 75-year milestone celebration, we reflected with pride and humility on the legacy we are building and the people who shape it – our employees, customers and partners. Their contributions define who we are today.

As we honour those who paved the way, we also look to the future - focused on strengthening our foundation while continuing to grow and transform the business. Our commitment remains steadfast: to play a vital role in every economy in which we operate and to deliver shared value for all our stakeholders.

OUR GLOBAL PRESENCE

A global business with our roots strongly grounded in Southern Africa.

Located in 22 countries.



LEGEND

Office · Operations · Sales · Projects at the prefeasibility, feasibility or implementation phase · Research activities · Exploration · Technology licensing services

SASOL OUR PURPOSE:

Our Purpose guides everything we do and enables the delivery of shared value. It drives us to achieve outcomes across People, Planet, and Profit - with the intent to be a force for good.

SASOL WHAT WE DO:

We combine innovation and sophisticated technologies and processes into very large plants. The products we produce include chemicals used in industrial and consumer products and liquid fuels.

We are investing in renewable energy and changing our operations so as to reduce greenhouse gas emissions.

SASOL OF THE FUTURE:

We are strengthening our foundation and growing and transforming the business to unlock its full potential. Building a stronger, sustainable and more resilient organisation to deliver our strategy.

SASOL ENERGY INNOVATION CHALLENGE

The Sasol Foundation proudly presents the Sasol Energy Innovation Challenge aimed at learners in grades 4 to 11.

The competition seeks to raise awareness about renewable and alternative energy, stimulating innovation and developing science research skills.

The goal is to make science education engaging and fun, aligning with the Natural Sciences, Technology, Physical Science and Life Science curriculum.

THROWBACK TO 2024: WHEN CURIOSITY SPARKED INNOVATION

In 2024, the Sasol Energy Innovation Challenge ignited curiosity and creativity among more than 4 000 learners from 60 schools across the Free State, Mpumalanga and Gauteng North.

The competition empowered young minds to showcase exceptional learner-led projects, demonstrating strong critical thinking, creativity and collaborative problem-solving skills.

Excellence was celebrated across all categories, with Laerskool Die Poort (Primary School), Barnard Molokoane (High School) and Ekangala SOS (Technical High School) emerging as the 2024 winners. Winning schools received prizes valued between R50 000 and R100 000.

Teachers from Laerskool Die Poort and a learner from Barnard Molokoane

"We are excited to win this competition and are grateful to Sasol for giving us this opportunity to showcase our skills and talents."

– Ms E Saaiman

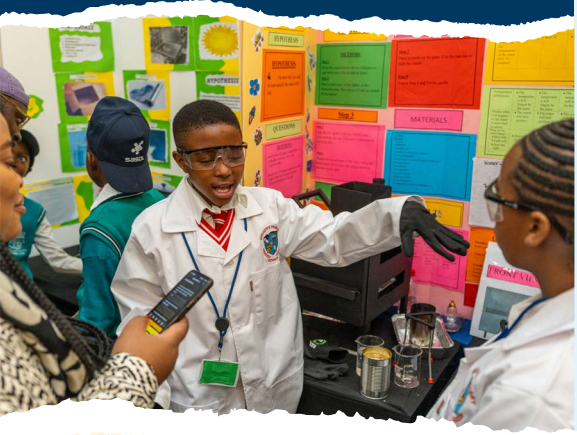
"We extend our heartfelt thanks to Sasol for this opportunity, which allowed us to demonstrate our capabilities."

– Katleho Malubela

SHAPING THE FUTURE WITH OUR 2024 ENERGY INNOVATORS

The Sasol Foundation invited learners to share their innovative ideas on how the current energy energy crises can be solved through alternative sources of renewable energy.

Learners from Fezile Dabi in the Free State, Gert Sibande in Mpumalanga, and Gauteng North participated in the competition, demonstrating their ability to think critically and solve problems through collaborative projects.



CELEBRATING EXCELLENCE

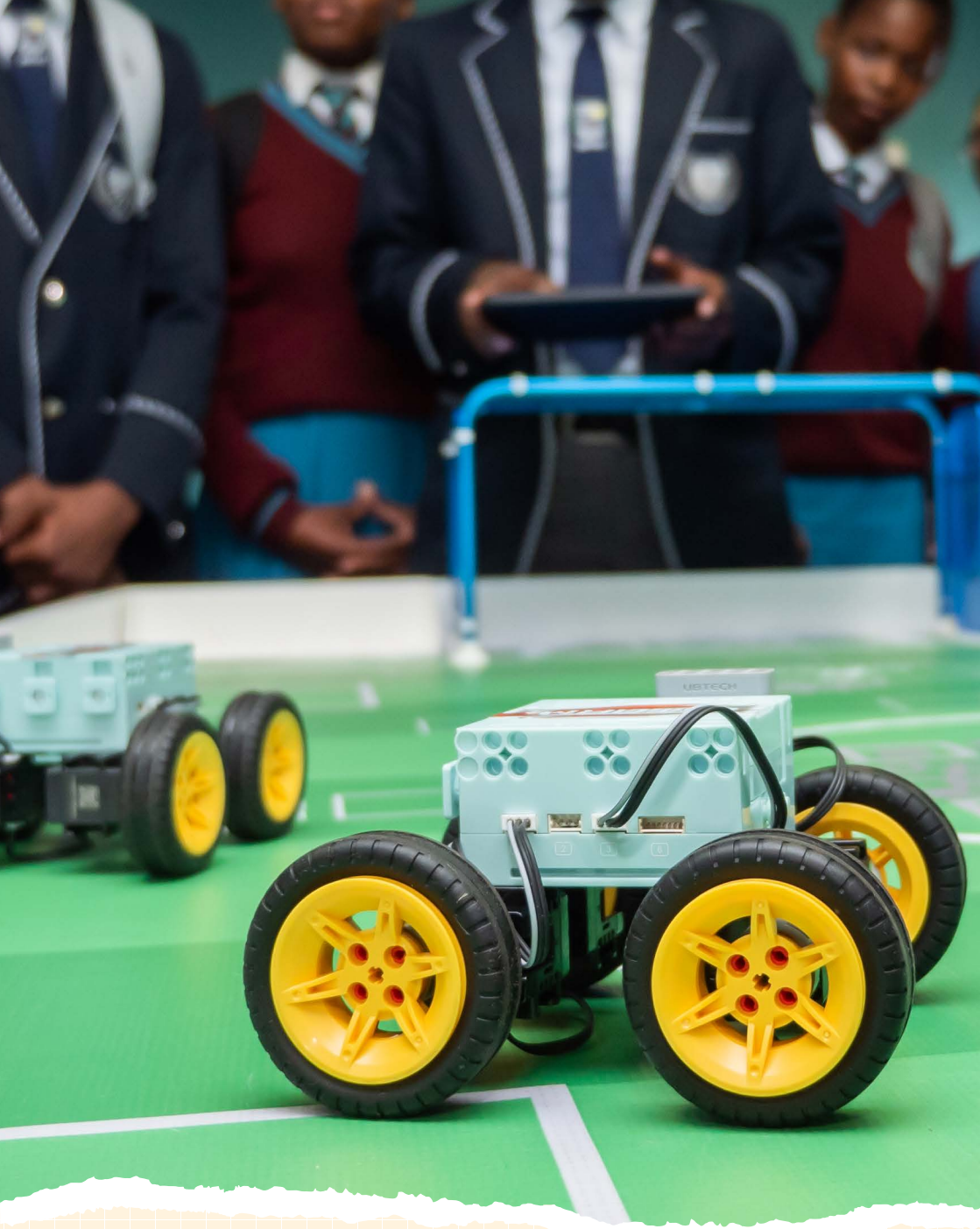
The competition yielded remarkable projects, highlighting learners' ability to innovate and create.

These were the 2024 overall winners per category:

- Primary:
  Laerskool Die Poort, Gauteng North - R50 000

- Secondary:
  Barnard Molokoane,
  Fezile Dabi - R100 000

- Technical:
  Ekangala SOS, Gauteng North - R100 000



THE 2026 SASOL ENERGY INNOVATION CHALLENGE

The Sasol Foundation proudly presents the Sasol Energy Innovation Challenge empowering learners in grade 4 to 11 to imagine, innovate and shape a sustainable future.

Make science fun. Spark innovation. Be the next winner.

Registration:

- Schools must **register** by **20 April 2026** to participate in the challenge.
- **Registration forms** are available by scanning the QR code on this document and on the Sasol Foundation website.

Scan the QR code to register now or visit **www.sasolfoundation.com** or **www.osizweni.org.za** and **www.brcsa.org**

COMPETITION CATEGORIES

PRIMARY SCHOOL CATEGORY

- One poster entry per learner or team (maximum of two learners per team) on renewable and alternative energy.
- Learners are expected to apply scientific enquiry/research methods.
- Each project must include a half-to one-page abstract (project description).
- Learners will be required to do an oral presentation ,limited to a maximum of 10 minutes.

HIGH SCHOOL CATEGORY

- For group teams a maximum of two learners per team.
- Learners are required to use a technological process to create a working model or prototype on renewable and alternative energy and test it.
- The model/prototype can focus on renewable energy sources, cleaner technologies, alternative energy sources (electric cars/ bicycles) or any other forms of energy.
- The model/prototype size must not exceed the size of a learner-table.
- Learners are expected to apply scientific enquiry/research methods.
- All projects must include a 1-2 page project description.
- Learners must deliver an oral presentation with a demonstration, limited to a maximum of 15 minutes.
- Schools may submit more than one entry, provided that models or prototypes differ in both design and concept.

COMPETITION DETAILS
PRIMARY SCHOOL CATEGORY

1. School competition:

- Grade 4 to 7.
- One best project per grade, per school will qualify to compete in the regional competitions.
- Schools are responsible for managing and administering the competition at school level.

2. Regional competition:

- Each school may submit up to four best projects to the competition.
- One overall winner per grade will be selected at regional level (Grades 4, 5, 6 and 7).
- Regional winners will qualify for the final competition.
- All winners will receive prizes.

3. Final competition:

- Four best projects per grade per region will qualify to enter the competition (12 projects in total).
- The four best projects per grade (Grades 4, 5, 6 and 7) will be awarded prizes.
- The overall best project will receive the grand prize for the school.
- Prizes will be awarded to the winning school, learners, and teachers.
- Only teachers who directly coached the participating learners will be eligible for prizes, limited to a maximum of three teachers per school and one teacher per team.

COMPETITION DETAILS
HIGH SCHOOL CATEGORY

1. School competition:

- The competition is open to Grades 8 to 11.
- School teams may compete across grades, with the selection of teams determined at the discretion of each school.
- A maximum of four top projects per school may advance to compete at regional level.
- Schools are responsible for managing and administering the competition at school level.

2. Regional competition:

- Four best projects per school entered.
- The top three projects per region will advance to the final competition (1st, 2nd and 3rd place).
- All winners will be awarded prizes.

3. Final competition:

- Three best projects per region will be entered into the competition for high schools (nine projects in total).
- The top three projects will be awarded prizes (1st, 2nd and 3rd place)
- First-place winners will receive a grand prize for the school in each category.
- Winning schools, learners and teachers will receive prizes and only teachers directly involved in coaching learners will be eligible (maximum of three teachers per school may receive prizes).

COMPETITION TIMELINE

Registration

by 20 April 2026

1 April – 15 June 2026

School competitions

Regional

11 July 2026 projects regional

SASOL SUPPORT

Coordinate the circuit **adjudication**

Regional competition – venues, **catering** and **transport** for learners and teachers for the regional events

Prizes for learners, teachers and winning schools

Branding for the regional competition

Invite Sasol employees to **volunteer** as project mentors to prepare for regional and final competitions

Appoint judges

Manage registration and keep record of all participating schools and teams

Schedule briefing sessions with registered schools

Support teachers to implement the project at school level in each region

Monitor the **progress** in the participating schools

competition

submission of for the competition

19 July - 9 August 2026

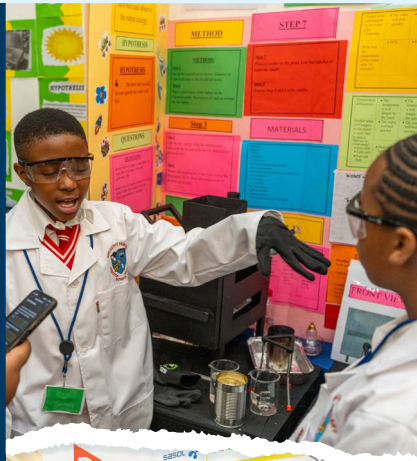
Regional competition

Final competition and Awards ceremony

9 September 2026

RESPONSIBILITIES OF PARTICIPATING SCHOOLS

- Identify a school champion/liaison to coordinate the activities of the competition within the school.
- Teachers must attend a briefing session.
- Organise learners into teams and coach them.
- Provide a list of participating learners.
- Set up a panel of judges for the school competitions.
- Finalise school competitions.
- Submit learner projects for the regional and final competitions.



SCIENCE/ENGINEERING PROJECT GUIDELINES

Safety

Basic safety precautions should be taken into account and all experiments involving hazardous chemicals, potentially dangerous tools and techniques should be avoided or carried out under the supervision of the teacher or mentor. Dispose of waste properly. Projects that involve animals, drugs, firearms, or explosives are NOT permitted.

Practicality of the project

Ensure that the projects selected can be executed in terms of time, equipment, materials and data/information required; measurement of change and/or testing.

What is a scientific project?

A scientific project is an investigation in which the learner identifies a problem to solve or a question to answer. During the investigation, a scientific method must be followed to solve the problem or test the idea and arrive at a conclusion.

A scientific project must include the following:

Problem: a problem/issue that needs solving or question that requires answering.
Hypothesis or research question: define the purpose of the research, think of possible solutions or make an educated guess.
Investigation: test or experimentation – collect information and test the hypothesis or possible solution using scientific methods.
Results: carefully record the results of all the experiments and make notes on observations.
Conclusion: draw conclusions from the results.

An engineering project must include the following

Purpose: explain why you are doing the project.
Problem: define the problem that you want to solve.
Design requirements: list of what your project requires for it to be successful.

Ten steps to a good scientific project

1. Choose the topic and identify the problem.
2. Draft the hypothesis or research question.
3. Collect information.
4. Process and evaluate the collected data.
5. Create a model or acquire apparatus and perform the experiment.
6. Record and analyse results.
7. Draw a conclusion.
8. Evaluate (review, revise, redo).
9. Write a report.
10. Exhibit your project on a 1m x 1m stand (include: backing board, models, apparatus, important findings, reports and work sheets).

The steps to the engineering process:

1. Define a need; express as a goal
2. Establish design criteria and constraints
3. Evaluate alternative designs
4. Build a prototype of best design
5. Test and evaluate the prototype using the design criteria
6. Analyze test results, make design changes, and retest
7. Communicate the design.

Interviews

- When you are interviewed, remember to be enthusiastic.
- Speak clearly and with confidence; make sure you listen to the judges' questions.
- When you answer questions, don't read off notes or recite a prepared speech.

Criteria

- Focus of project evaluation
- Problem solving and innovation
- Thoroughness of speech
- Skills in presentation of data and material
- Depth of knowledge
- Visual appeal of the poster
- Personal interview

YOUR CHECKLIST

How to do a scientific project:

- [ ] Choose a topic and problem.
- [ ] Guess what might happen (hypothesis).
- [ ] Conduct experiments or research.
- [ ] Write down what happens (results).
- [ ] Decide what it all means (conclusion).

Tips for interviews:

- [ ] Be excited!
- [ ] Speak clearly and confidently.
- [ ] Listen to the judges' questions.
- [ ] Don't just read from notes.

What the judges look for:

- [ ] How well you solve problems.
- [ ] How much you know.
- [ ] How good your project looks.
- [ ] How innovative your project is.

JUDGING CRITERIA FOR THE PRIMARY SCHOOLS POSTER

Name of school:	Grade:	Date:
Learner(s):	Total mark: /40	Position:

Visual presentation of poster

10 | 9 | 8	7 | 6 | 5	4 | 3 | 2	1
■ Outstanding visual appeal ■ Excellent use of colour and font ■ Graphics engaging and enhance text ■ Clear and orderly arrangement	■ Effective visual appeal ■ Adequate use of colour, and font ■ Graphics enhance text ■ Somewhat orderly arrangement	■ Adequate visual appeal ■ Colour and font inconsistent ■ Excessive text, few supporting graphics ■ Arrangement not well organised	■ Appearance lacks professionalism ■ Colour and font detract from understanding ■ Graphics missing or do not enhance text ■ Arrangement detracts from understanding

Communication of objective and significance

10 | 9 | 8	7 | 6 | 5	4 | 3 | 2	1
■ Clear and concise ■ Technical terms explained well ■ Understandable by an educated non-expert	■ Clear ■ Technical terms explained ■ Understandable by an expert but not an educated non-expert	■ Somewhat unclear ■ Not all technical terms explained ■ Somewhat unclear to experts and non-experts	■ Poor ■ Technical terms not explained ■ Confusing to all

Explanation of project design and methodology

10 | 9 | 8	7 | 6 | 5	4 | 3 | 2	1
■ Well explained ■ Addresses research objective ■ Understandable by an educated non-expert	■ Adequately explained ■ Addresses research objective ■ Understandable by an expert but not an educated non-expert	■ Somewhat unclear ■ Partially addresses research objective ■ Somewhat unclear to experts and non-experts	■ Poorly explained ■ Poorly aligned with research objective ■ Confusing to all

Explanation of results and conclusions

10 | 9 | 8	7 | 6 | 5	4 | 3 | 2	1
■ Results well organised, clearly and precisely presented ■ Conclusions well-articulated and based on results ■ Understandable by an educated non-expert	■ Results well organized and clearly presented ■ Conclusions presented and based on results ■ Understandable to an expert but not an educated non-expert	■ Results somewhat unclear ■ Conclusions not completely clear or directly based on results ■ Somewhat unclear to expert and non-expert	■ Missing or unclear ■ Conclusions do not relate to results ■ Confusing to all

Overall presentation:	
Adjudicator:	Signature:

JUDGING CRITERIA FOR THE HIGH SCHOOLS PROJECT

Name of school:	Grade:	Date:
Learner(s):	Total mark: /40	Position:

Introduction

The Category judging criteria are the same for all projects and independent of the project category or field of study. The only difference is to apply criteria for scientific thought to scientific projects and engineering goals for engineering projects. A team judging projects from several related fields of study should score each project objectively and rank all the projects assigned to the team for awards based on their scoring

Judging criteria and points

Scientific thought or engineering goals	10
Creativity	10
Independent work/skill	10
Thoroughness	5
Clarity	5
Maximum total points	**40**

Scientific thought (10 points) OR Engineering goal (10 points)

- Was the problem scientifically significant and the hypothesis clearly stated?
- Did the student(s) look at different aspects of the problem, and chose a sufficiently limited project – was it well planned?
- Did the student use appropriate control of variables?
- Was sufficient literature research performed and applied?
- Was the conclusion justified and properly drawn from experimental data?
- Does the student understand what further research is warranted?

- Was the purpose and engineering design criteria/specifications significant and clearly stated?
- Was the software or hardware prototype to be invented/engineered relevant, workable and feasible?
- Could the solution be used in design or construction of some end product or program?
- Did the student consider inventions, products, software and applications by others?
- Was there evidence of testing, redesign and retest under conditions of use?
- Does the student understand next steps or possible future improvements?

Creativity (10 points)

- Is the project topic unique or the approach original?
- Has the student used a novel approach for checking the hypothesis or testing an engineering design or software? Projects from the internet or other sources are acceptable if clearly acknowledged but should be scored lower.
- Evidence of student's contributions: What level of assistance was received for the idea and execution?

Independent work/skill (10 points)

- Did the student(s) do the work and acknowledge mentoring?
- What was the student(s)'s role in building equipment, designing experiments, or programming software? How much mentoring or other help did the student(s) receive to carry out experiments or testing?
- Was the student's understanding appropriate for the project and grade level?
- Did the student(s) use good laboratory, technical, data gathering, analytical or programming skills?

Thoroughness (5 points)

- Was the problem scope addressed? Are there adequate data, drawings, flowcharts, schematics presented to address the scope?
- Are there appropriate replications or repeated testing?
- Is the interpretation or performance claims supported with data?
- Was the project notebook kept during the project (required for grades 9-12)? Has all the work been completed in the past 12 months?
- Are procedures and materials thoroughly documented?
- Were prototypes or photos of hardware prototypes or a software demo provided?

Clarity (5 points)

- Were the judge's questions answered clearly and accurately?
- Are the data and test results clear, accurate and understandable on the project board and abstract?
- Are phases of the project presented in an orderly manner?

Overall presentation:

Adjudicator:	Signature:

SASOL ENERGY INNOVATION CHALLENGE

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Scan the QR code to **register now** or visit **www.sasolfoundation.com** to access the registration form **by 20 April 2026**. Forms are also available at **osizweni.org.za** and **brcsa.org**