

**International AS and A Level in English Language [2061]**

**READING**

**EXAM PAPER-December 23**

**SOURCE BOOKLET**

**Source A**

*This is a slightly edited version of a TED talk given by educator Shannon Odell in June 2023.*

In the spring of 1954, the press excitedly gathered around the latest invention— a silicon-based solar cell that could efficiently convert the sun's energy into electricity. The creation was celebrated as the dawn of a new era, as reporters touted that civilisation would soon run on the sun’s limitless energy. But the dream had a catch: it would cost well over a million dollars to buy a unit large enough to power one home.

But today in many countries solar is the cheapest form of energy to produce, surpassing fossil fuel alternatives. Millions of homes are equipped with rooftop solar, with most units paying for themselves in their first 7 to 12 years and then generating further savings.

So how did solar become so affordable? A turning point occurred in Germany, where legislation laid out a vision for the country’s energy future in solar. It incentivised citizens to personally invest in rooftop solar panels by guaranteeing payment to homeowners for the renewable energy they generated. The pay rate for this electricity was highly subsidised, at times reaching four times the market price. Several other countries soon followed Germany’s example.

This created unprecedented demand for solar panels worldwide. Manufacturers were able to scale up production and innovate in ways that cut costs. As a result, solar panel prices dropped, while efficiency grew. Today, a rooftop solar unit is often efficient enough to fully power a home, and this residential unit no longer costs millions— in the US in 2022, the average unit ranged from around $17,000 to $23,000. These prices dropped by over 60% between 2010 and 2020 alone.

So how much money can you save by switching to solar? US homeowners can save around $1,500 per year on their energy bills, equating to a net savings of $10,000 to $30,000 during the unit’s lifetime. Savings vary based on the amount of direct sunlight your panel receives, weather conditions, and the local price of electricity.

Not everyone can get solar. Adopting solar can be difficult for renters, and more than 25% of adults don’t own their own homes. Even if you do, your roof must meet certain requirements to make solar worthwhile. And although units often pay for themselves through offset energy costs, the initial purchase and installation price for solar can be expensive.

Several companies have adopted leasing, where they finance the costs and upkeep of the rooftop systems. Homeowners can then buy the panel’s generated electricity at a fixed rate that’s generally lower than the local price.

There are also community-based solutions, enabling entire neighbourhoods to profit from solar use. Europe has over 7,000 associations, where local members collectively invest in solar panels to power their local grid. In 2005, Wolfhagen in Germany created an 800 member citizens co-op. Today, its panels generate enough energy to meet the town’s needs and then some surplus energy is sold to neighbouring towns, and profits are reinvested back into the community.

For many, the appeal of solar goes beyond just savings. Homes equipped with it are more climate resilient because they can be protected from utility grid outages and brownouts. Not to mention solar’s key role in decarbonising the energy grid. By working together with larger-scale solar farms, rooftop solar units help reduce our reliance on fossil fuels, paving the way for a cleaner and more reliable energy future.

**Source B**

*This is an edited version of the text from the website of UK energy company e-on.*

**Save £1,000 on Solar panels**

From £83.25 per month, with our interest-free finance option over 60 months. Save £1,000 on solar panels when taking out a 2 year fixed tariff with E.ON Next (T&Cs apply).

**Solar panels - reduce your annual energy bills\***

Solar energy is the fastest growing renewable energy solution, with 1.2 million homes in the UK going solar. And it's not surprising, as typically a 12-panel solar system and a 5.2kWh (4.2 kWh usable) battery can save you up to £904 a year,\* and with the Smart Export Guarantee (SEG)5 you can earn money back for exporting excess solar energy into the grid.

**Book a video call today**

**Why go solar?**

**Costs less than you think**

Did you know you can get UK solar panels for your home from just £4,995? We've a choice of finance options available too.

**A greener tomorrow**

Generating your own solar power reduces your carbon footprint and the amount of fossil fuels used to power your home.

**Greater independence**

Generating your own energy gives you more independence. You can also get paid for any excess you export back to the Grid.

**Add battery storage**

Starting from £4,099 when bought with solar panels, batteries allow you to store excess energy generated in the day to use at night.

**How do solar panels work?**

Solar panels are an increasingly popular and 'clean' technology that harness the power of the sun to generate electricity. A solar PV panel is made up of many cells that are constructed from semi-conducting material, usually silicon. When sunlight hits these cells, it creates an electrical current that can be used to power your home or business.

Solar PV systems are typically made up of several panels, with each panel generating around 355W of energy in strong sunlight. To convert the DC electricity to AC, an inverter is installed along with the system. Our solar team are ready to advise you on getting the perfect solar panel package to match your home and budget, and we're now able to offer appointments by video-calls.

**The legal stuff**

\* Solar panels and savings are subject to eligibility requirement, geographical restrictions and terms and conditions.