

## Épreuve de DNL Anglais Physique-Chimie

## Sujet n°3 – Série S

Durée de l'épreuve : 40 minutes

- 20 minutes de préparation
- 10 minutes de présentation et 10 minutes d'échange avec le jury

## COULD SOLAR ROADWAYS BE A SUCCESS ?

Watch the video « *Solar Roadways* » (duration 2.00 ) and read the following document.

**The world's first solar road**

Uses existing infrastructure to generate power. No need for new land

2,800m<sup>2</sup> of solar panels, generating sufficient energy to power street lighting in a town of 5,000 inhabitants

Can provide power for shops, street lighting, isolated areas

Inaugurated on Dec 22

1 km of solar road

1 km

Construction cost: 5 million euros. State-financed

Solar panels embedded into road

Only a few millimetres thick

Photovoltaic cells covered in resins and polymers

Surface treated to provide grip similar to that of a conventional road

Roads on average are occupied by cars only 20 percent of the time

**Disadvantages:**  
Generates slightly less energy than a standard, angled solar panel, eg on a roof  
Costs more: 17€ per kilowatt-peak generated, compared to 1.3€ for a major rooftop installation

Source: Wattway

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## World's First Solar Road Opens in Normandy

Tasks :

- Present the documents.
- Explain what solar roadways are and how they work.
- Describe the advantages and drawbacks of such a technology.
- Discuss to what extent such technologies could be a success in terms of environmental issues.