SESSION 2004

BREVET DE TECHNICIEN SUPERIEUR
- GROUPE 17 -

Assistant en création industrielle
Conception de produits industriels
Conception et réalisation de carrosseries
Constructions navales
Etude et réalisation d'outillages de mise en forme des matériaux
Industries céramiques
Industries des matériaux souples
Industries papetières
Maintenance et après vente automobile
Maintenance et après-vente des engins de travaux publics et de manutention
Maintenance industrielle
Mécanique et automatismes industriels
Mise en forme des alliages moulés
Mise en forme des matériaux par forgeage
Microtechniques
Moteurs à combustion interne
Plasturgie
Productique bois et ameublement
Productique mécanique
Réalisation d'ouvrages chaudronnés
Traitements des matériaux

LANGUE VIVANTE ETRANGERE
EPREUVE D'ANGLAIS

DUREE : 2 HEURES
COEFFICIENT : 2

L'usage du dictionnaire bilingue est autorisé
Calculatrices et traducteurs électroniques sont interdits

Dès que le sujet vous est remis, assurez-vous qu'il soit complet.
Le sujet comporte 3 pages, numérotées de 1 à 3.

Code Sujet : LVE8 ANG

Tower of the Sun

It's huge, it's green—and it may even happen.

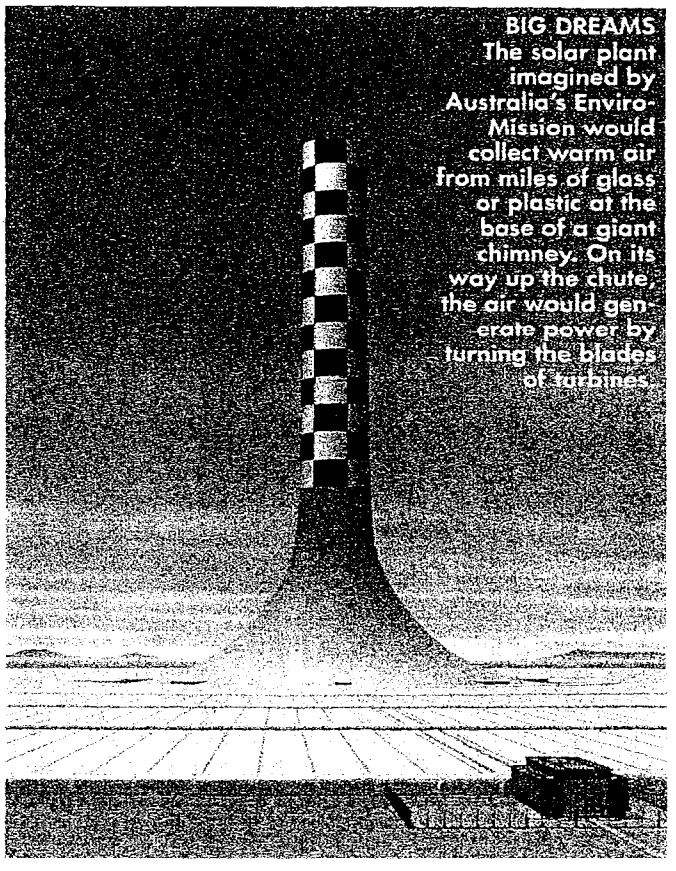
AN AUSTRALIAN COMPANY WANTS TO PIONEER A NEW WAY OF getting energy from the sun. All it needs to do is build the tallest man-made structure in history—a 3,000-foot concrete chimney—in the outback.

Solar panels typically convert solar energy directly into electricity. But the facility planned by Melbourne-based EnviroMission would use heated air to power turbines that supply the electricity. The hot air would come from 7.5 square miles of glass or plastic around the chimney's base—a giant greenhouse. As the air warmed, it would rise toward the chimney. The result: a continuous flow that, on its way up, would spin the turbines' propellers.

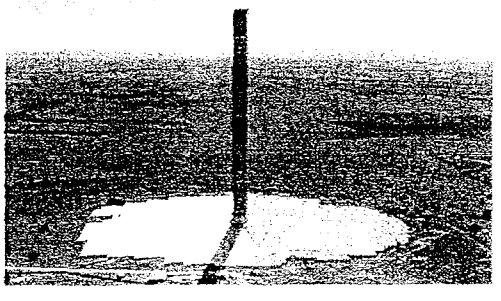
The company estimates that the suction would create a 35-mph updraft that could power 32 turbines, generating up to 200 megawatts of electricity, or enough to supply 200,000 homes. The plant would keep working at night by a system of tubes filled with warm water. These tubes, heated by sunlight during the day, would continue to heat the air under the glass after dark and keep the power plant working.

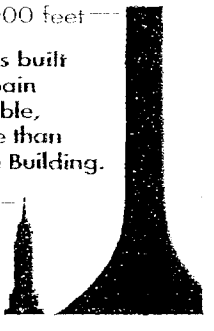
The concept was tried over seven years in a much smaller prototype in Spain. But to be truly efficient, its designers say, scale is of the essence. A 3,000-foot tower wouldn't come cheap: The giant structure will cost an estimated $670 million. The company argues that an expected life span of 100 years, combined with low maintenance costs and the absence of pollution, will make the endeavor worthwhile. The Australian government is expected to OK the construction, but so far has offered no money.—BOB SILLERY

scale is of the essence : scale is essential



BIG DREAMS The solar plant imagined by Australia's EnviroMission would collect warm air from miles of glass or plastic at the base of a giant chimney. On its way up the chute, the air would generate power by turning the blades of turbines.





A PROTOTYPE of the system was built in the 1980s in Manzanares, Spain (left). But to be economically viable, the chimney will have to be more than twice the size of the Empire State Building.

(281 words)

Popular Science, December 02

TRAVAIL A EFFECTUER PAR LE CANDIDAT

I. COMPREHENSION (10 points)

Rédigez un compte-rendu du texte ci-joint. Vous veillerez à restituer tous les éléments importants dans un **français** de qualité, et indiquerez le nombre de mots utilisés.

(170 mots environ à plus ou moins 10%)

II. EXPRESSION (10 points)

Répondre **en anglais** aux deux questions suivantes :

1. What are the advantages and the limitations of such a project? Use elements from the text as well as your own judgment.

   (about 100 words)

   (5 points)

2. What is being done - and what else do you think could be done - to prevent an energy crisis?

   (about 100 words)

   (5 points)