

Raphaël Domjan, explorateur

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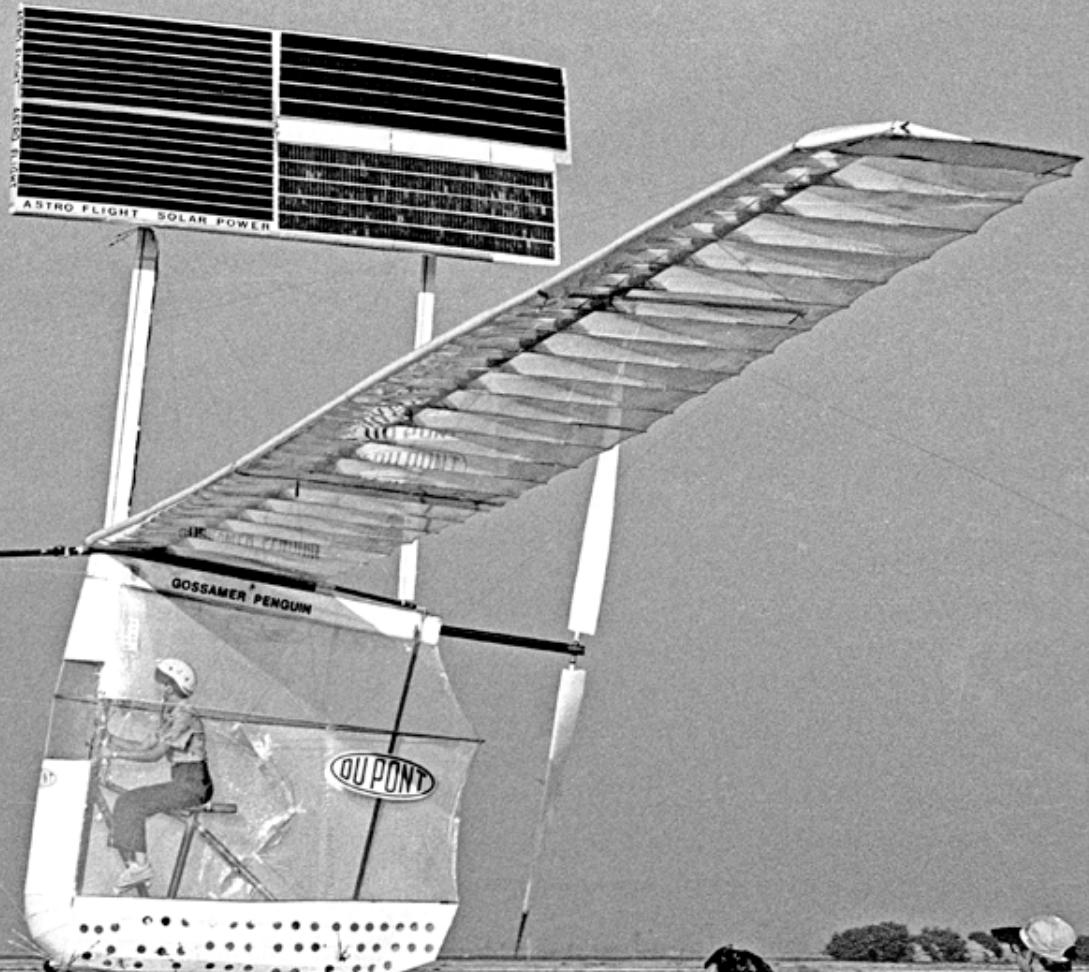








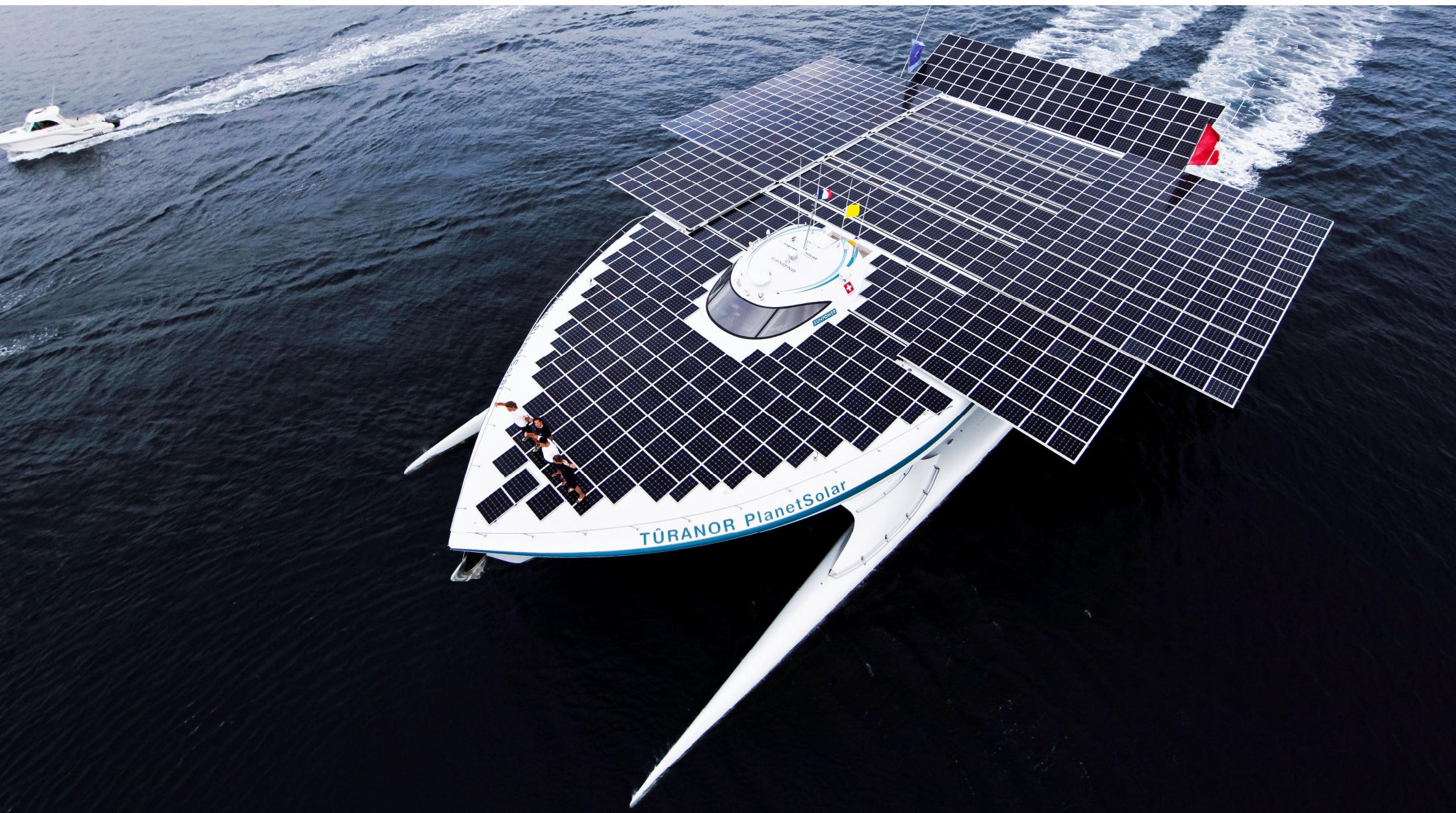




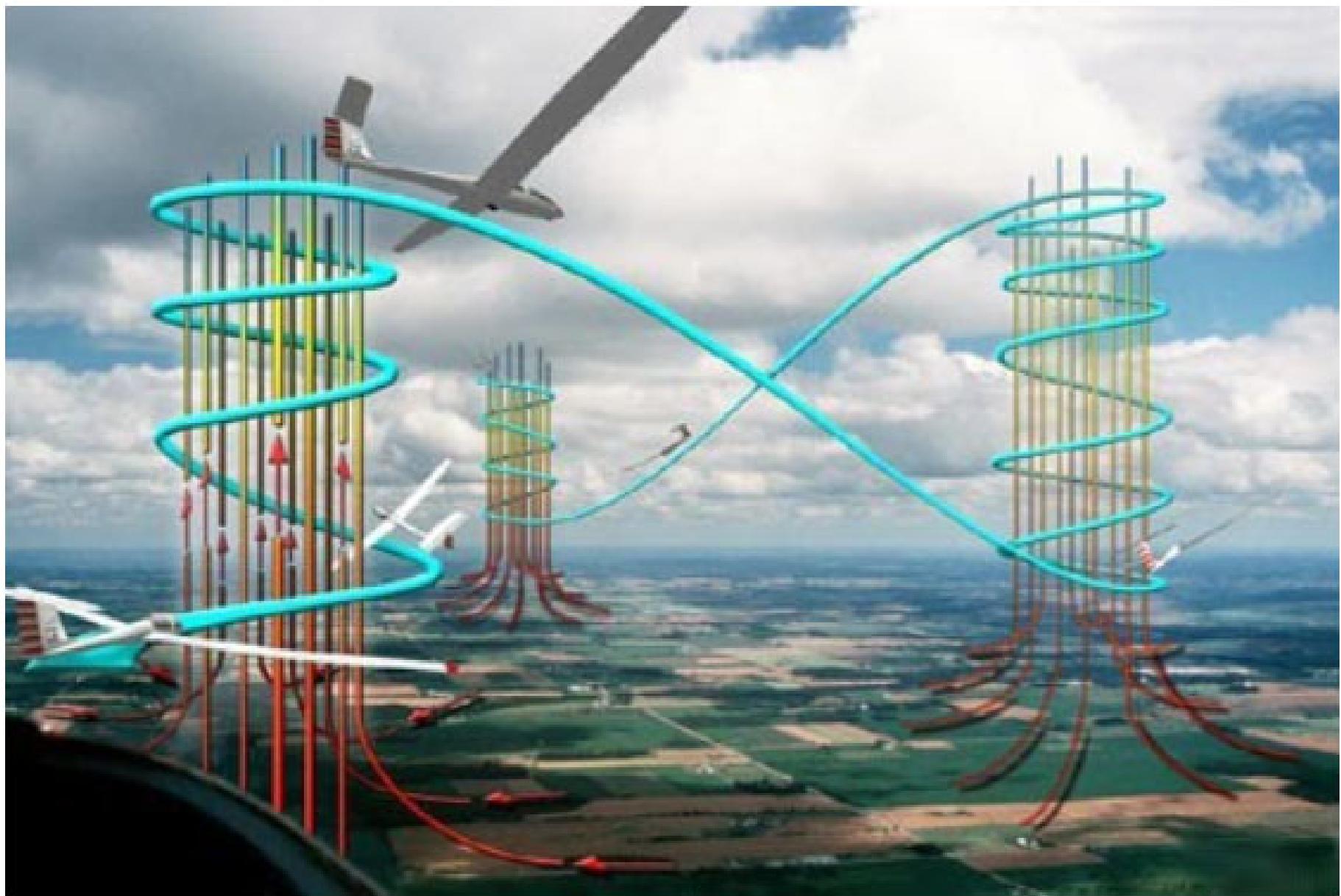






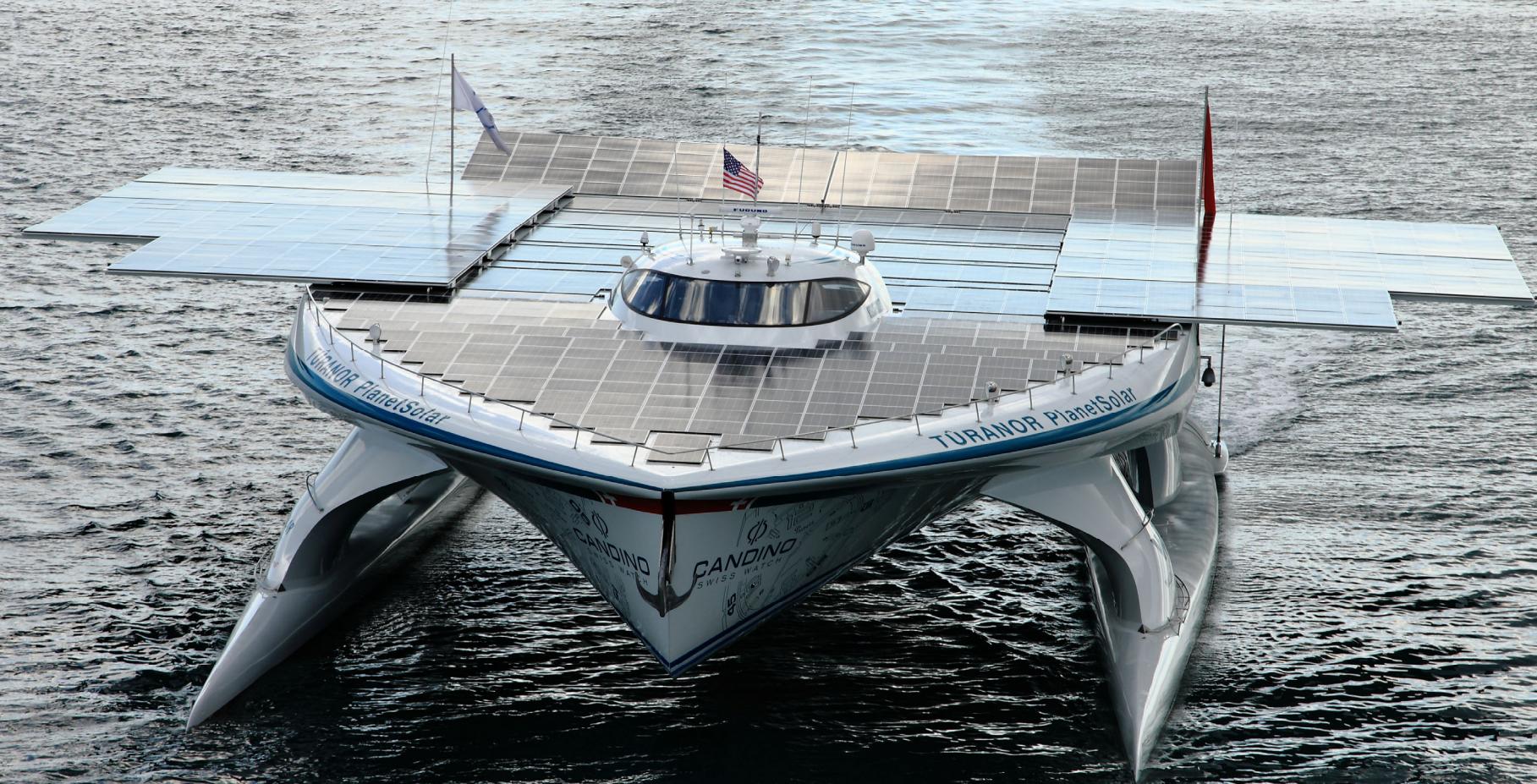




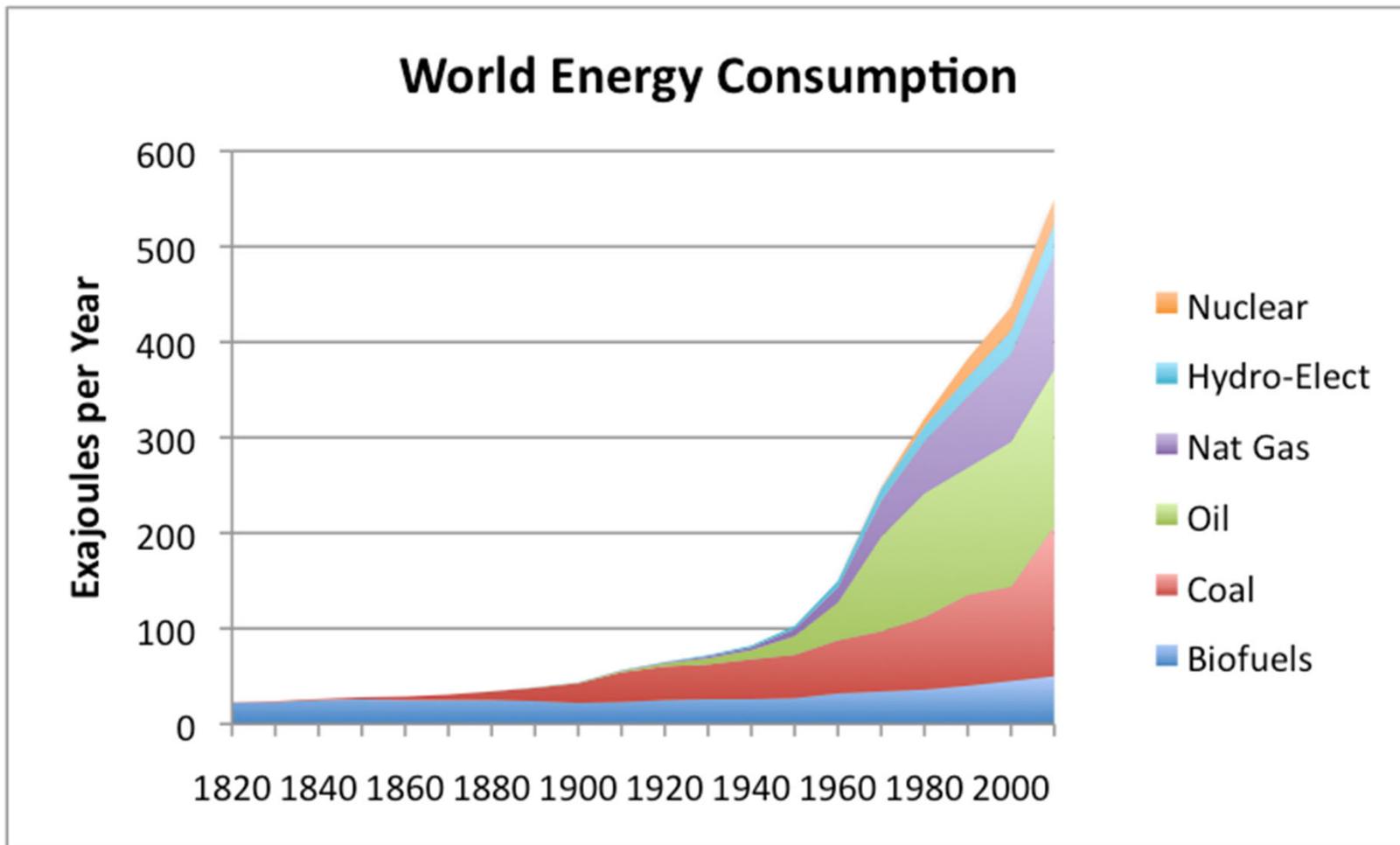


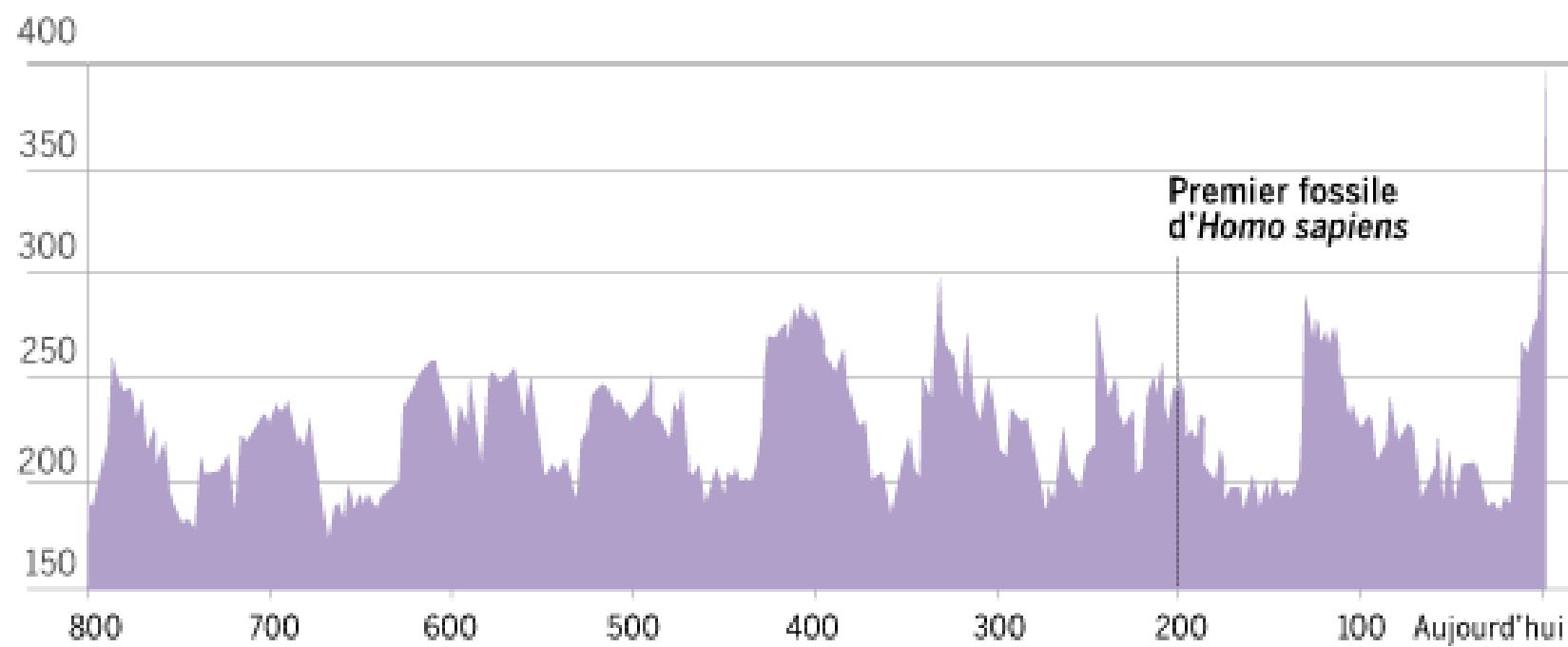




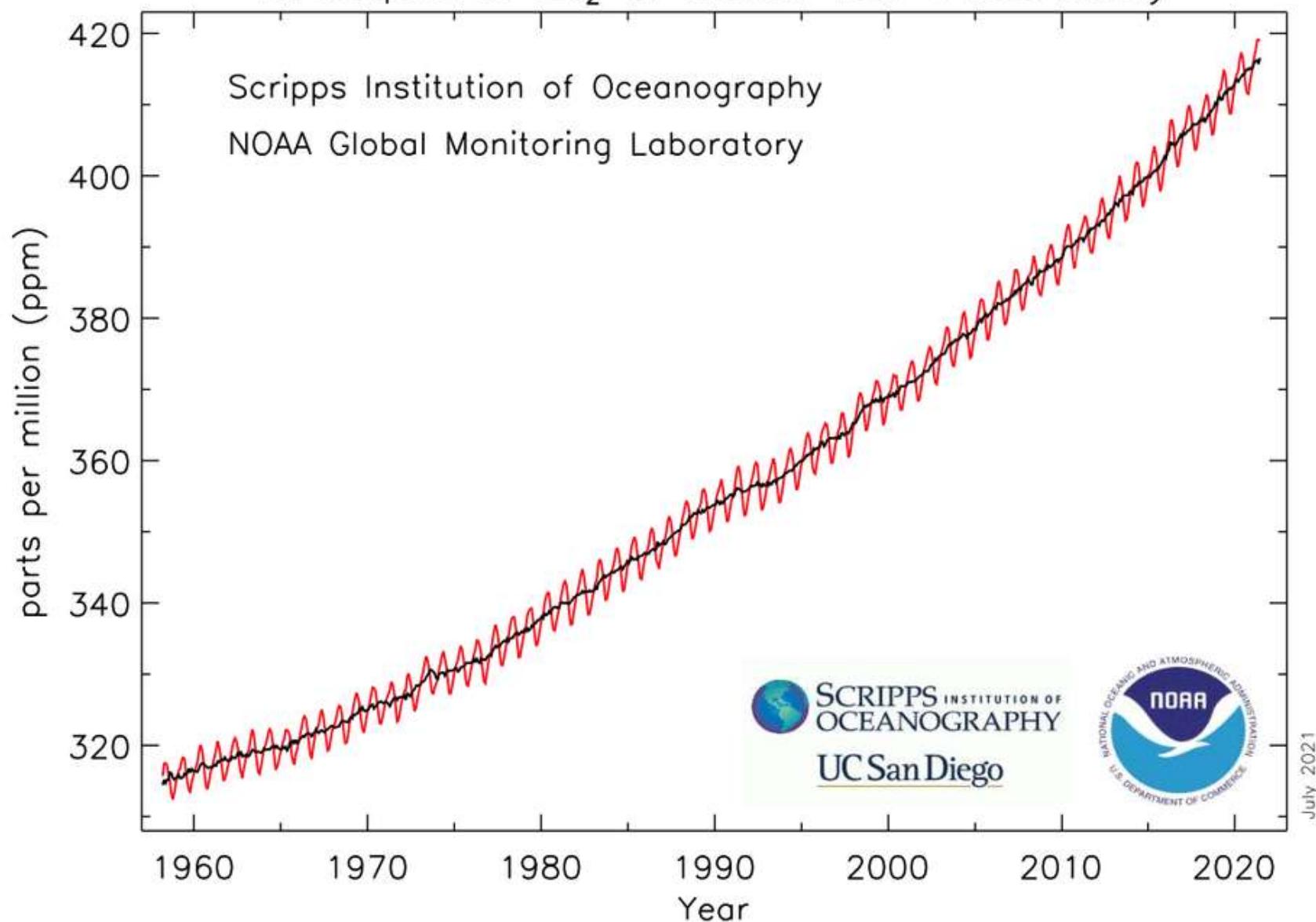








## Atmospheric CO<sub>2</sub> at Mauna Loa Observatory



# SUSTAINABLE ENERGY SOURCES

## Solar

$1.2 \times 10^5$  TW at Earth surface  
600 TW practical

energy gap  
~ 14 TW by 2050  
~ 33 TW by 2100

## Wind

2-4 TW extractable

Tide/Ocean  
Currents  
2 TW gross

## Geothermal

12 TW gross over land  
small fraction recoverable



## Biomass

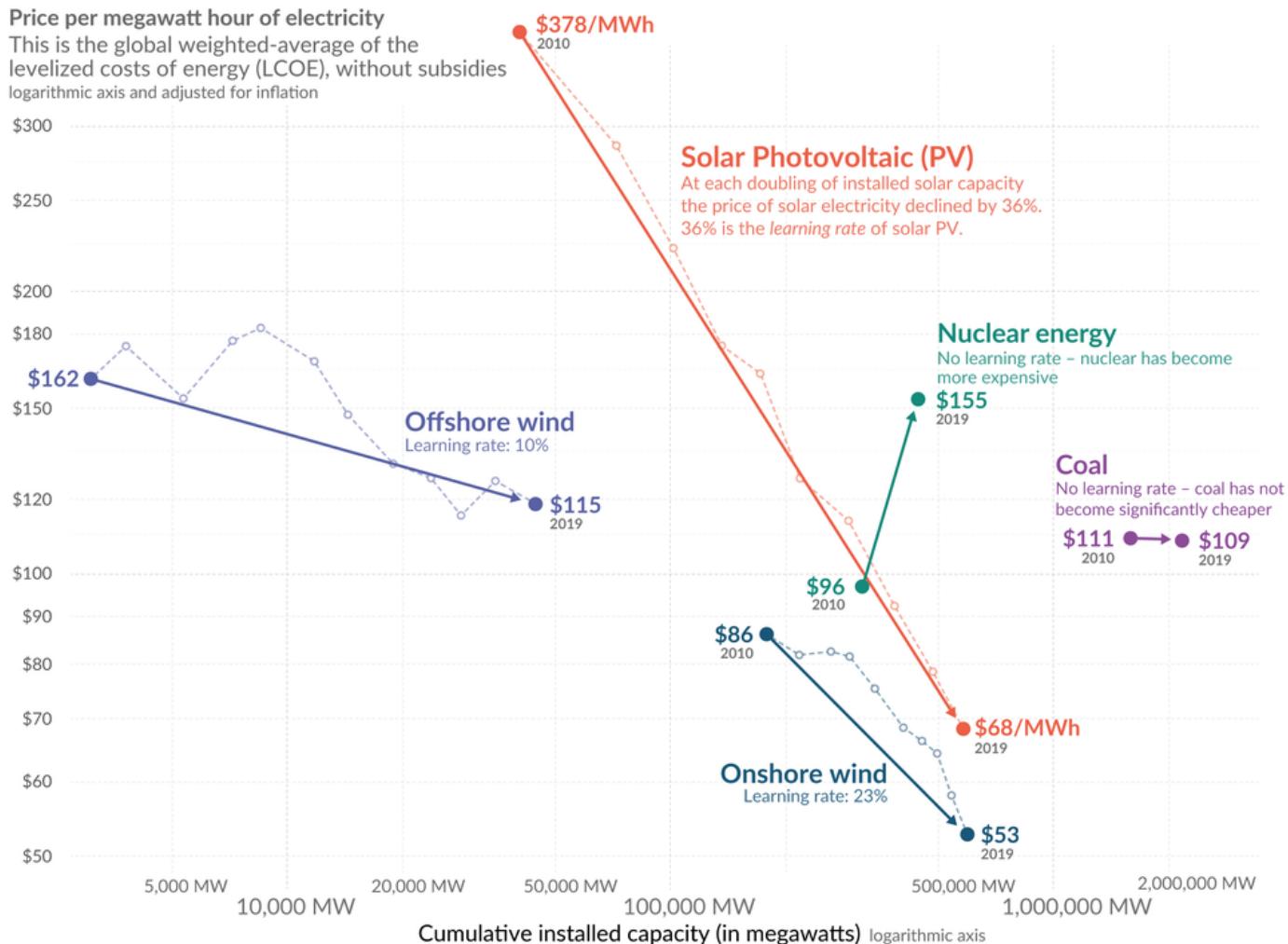
5-7 TW gross  
using all cultivable  
land that is not used  
for growing food

## Hydroelectric

4.6 TW gross  
1.6 TW technically feasible  
0.9 TW economically feasible  
0.6 TW installed capacity

# Electricity from renewables became cheaper as we increased capacity – electricity from nuclear and coal did not

Our World  
in Data



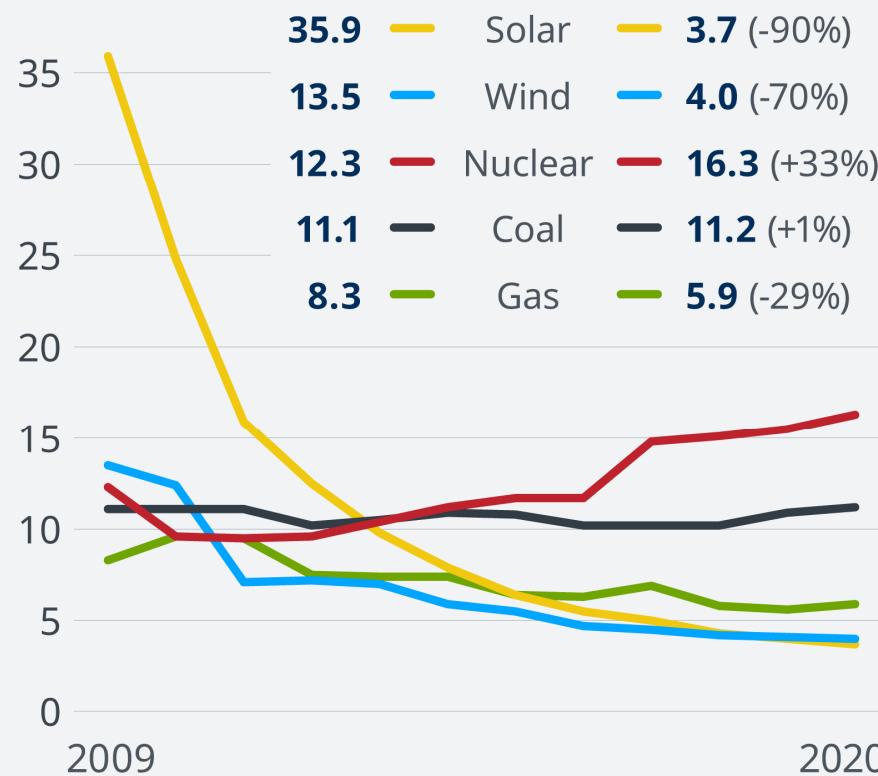
Source: IRENA 2020 for all data on renewable sources; Lazard for the price of electricity from nuclear and coal – IAEA for nuclear capacity and Global Energy Monitor for coal capacity. Gas is not shown because the price between gas peaker and combined cycles differs significantly, and global data on the capacity of each of these sources is not available. The price of electricity from gas has fallen over this decade, but over the longer run it is not following a learning curve.

[OurWorldInData.org](http://OurWorldInData.org) – Research and data to make progress against the world's largest problems.

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## Worldwide energy prices over the last decade

Generation costs in cents (US\$)



Source: WNISR, Lazard

## ECONOMIE

## ENERGIE SOLAIRE : LE PORTUGAL OFFRE L'ELECTRICITE LA MOINS CHERE DU MONDE

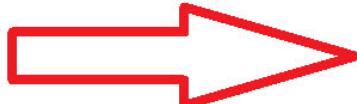
Par CNEWS - Mis à jour le 28/08/2020 à 19:01  
Publié le 28/08/2020 à 19:01

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Le Portugal pourrait atteindre d'ici à 2030 80 % de son énergie consommée provenant de sources renouvelables. [MARTIN BERNETTI / AFP]

Un nouveau record du monde. La dernière vente aux enchères d'énergie solaire au Portugal a vu une offre à 11,14 euros le mégawattheure (MWh) l'emporter. Un tarif qui va profiter aux consommateurs.



REGARDER LE DIRECT



**SANTE** Voici les aliments les plus toxiques pour la santé



**CORONAVIRUS** Test PCR : les conseils pour limiter la douleur



**HOMMAGE NATIONAL** Vidéo : les internautes émus par l'entrée du cercueil de Samuel Paty au son de «One» de U2

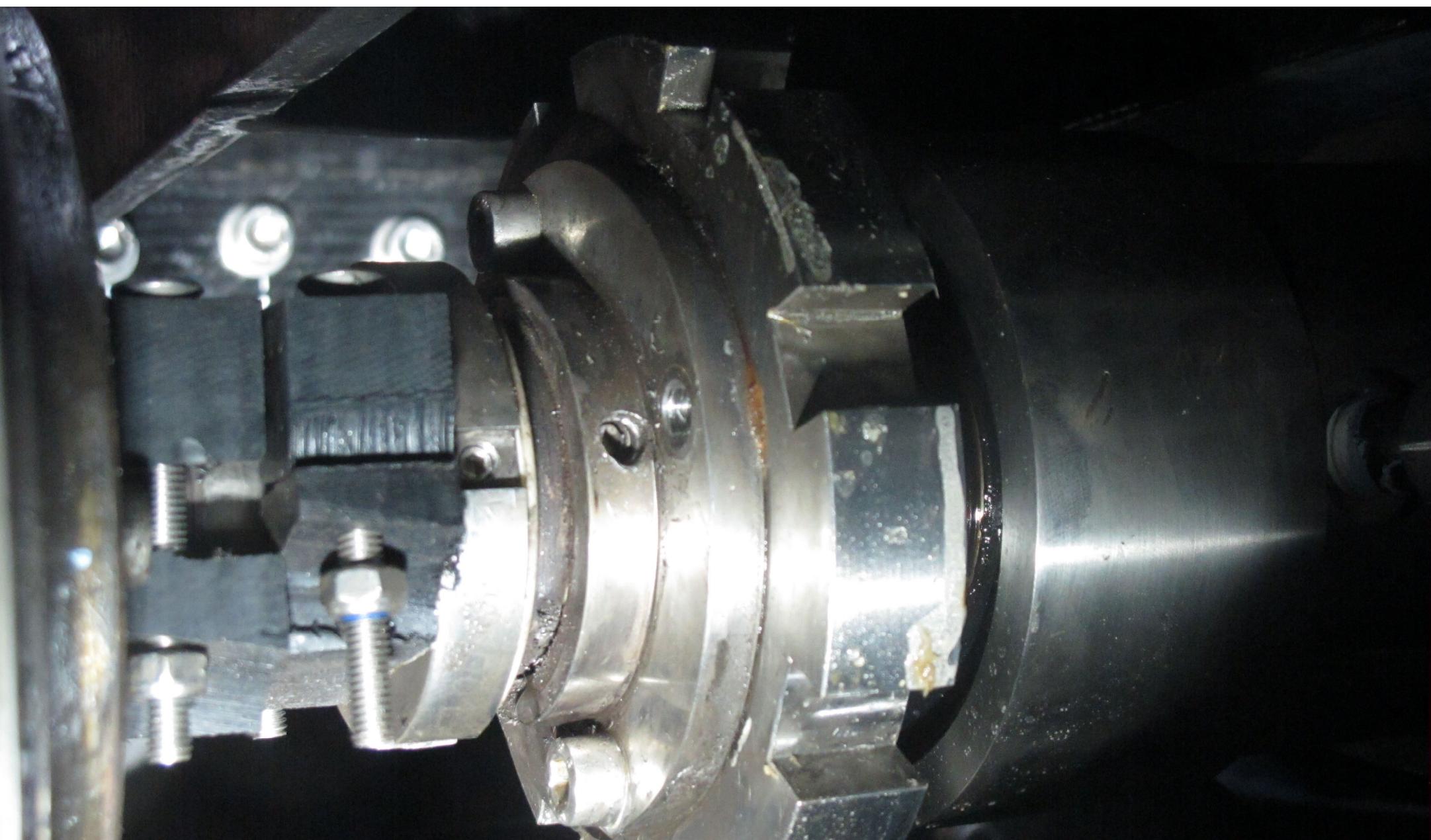


**FAITS DIVERS** Le maire de Bron, en banlieue lyonnaise, menacé de décapitation



**EPIDEMIE** Coronavirus : les nouvelles mesures envisagées par le gouvernement



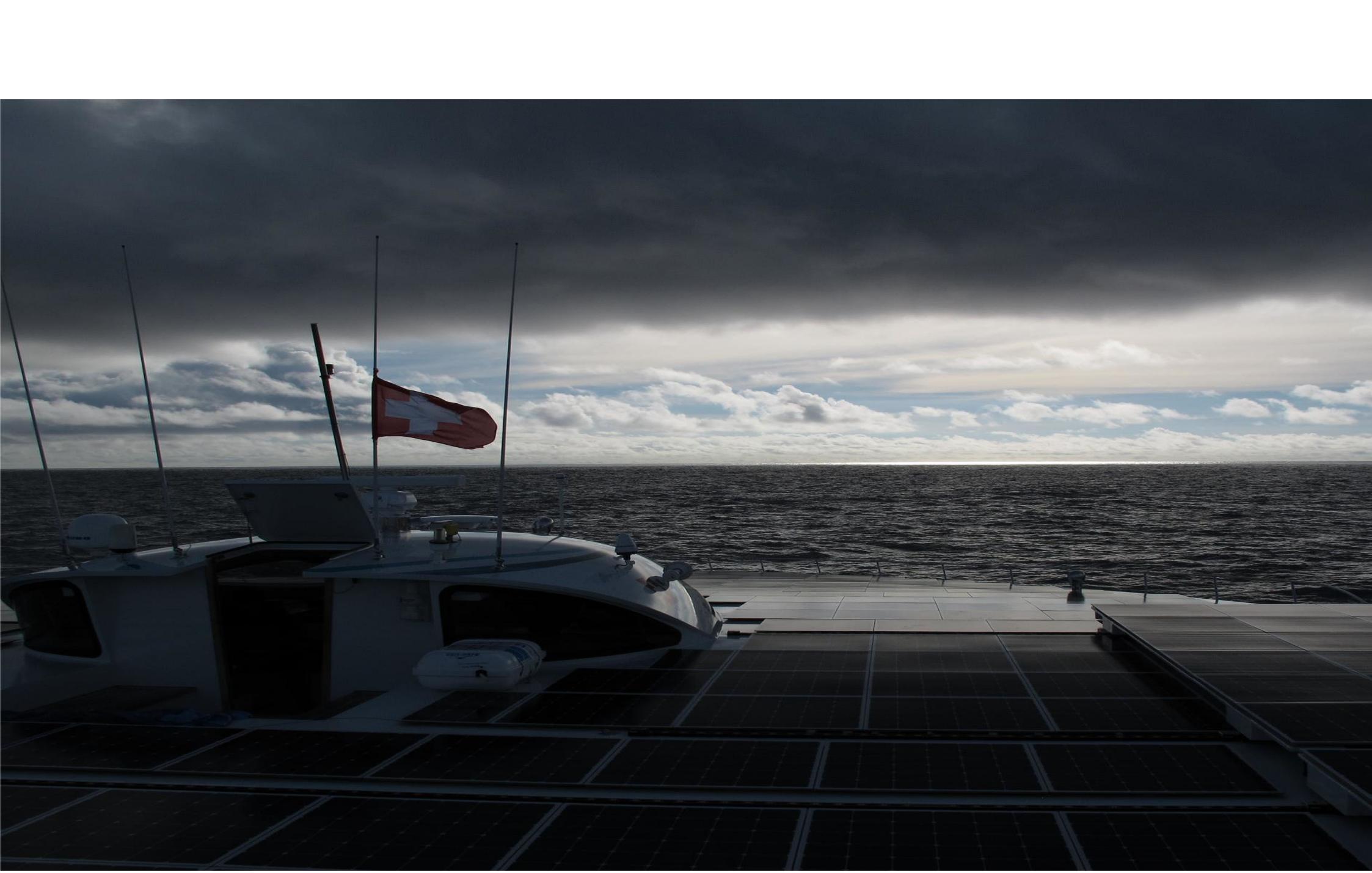






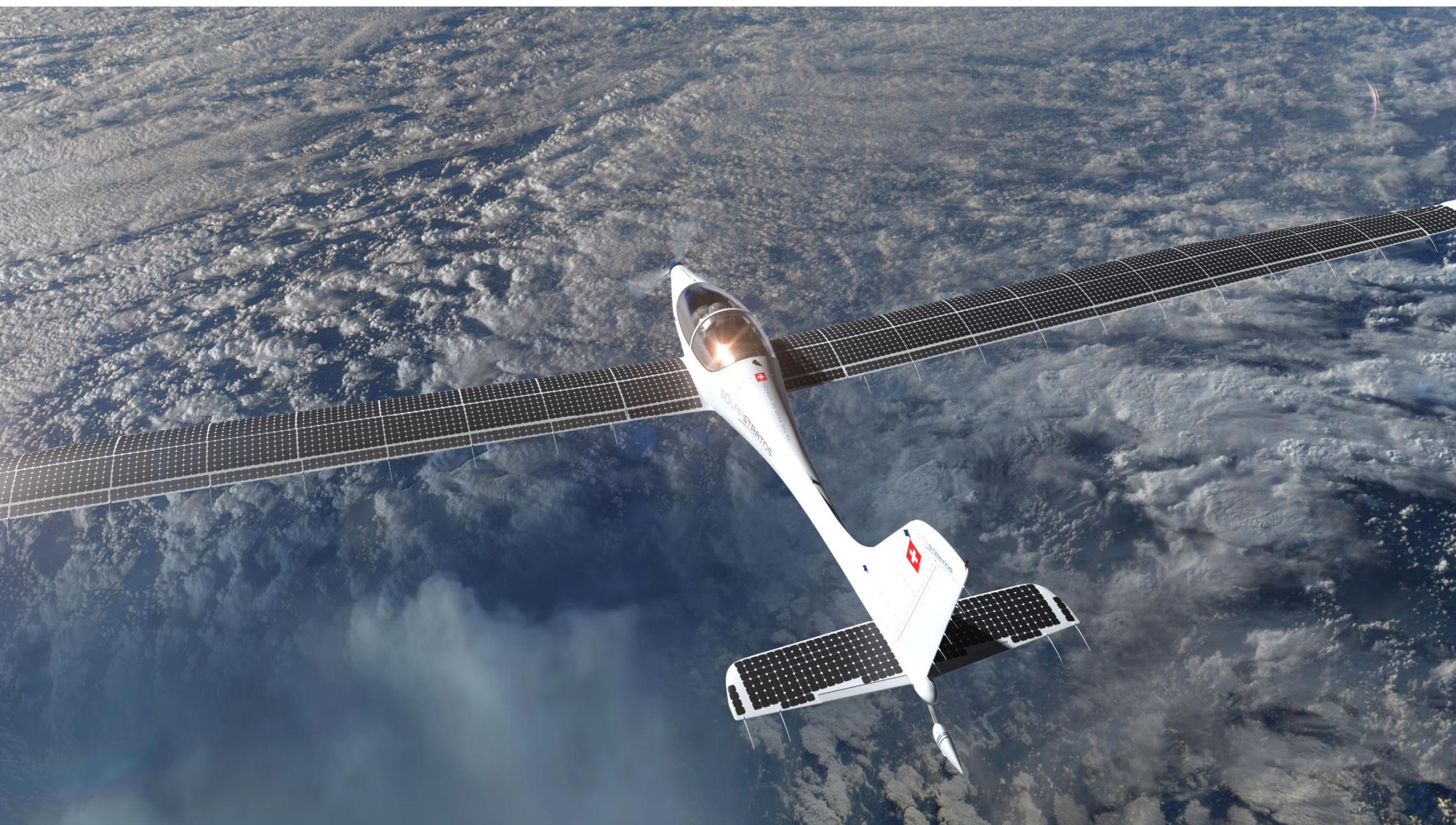




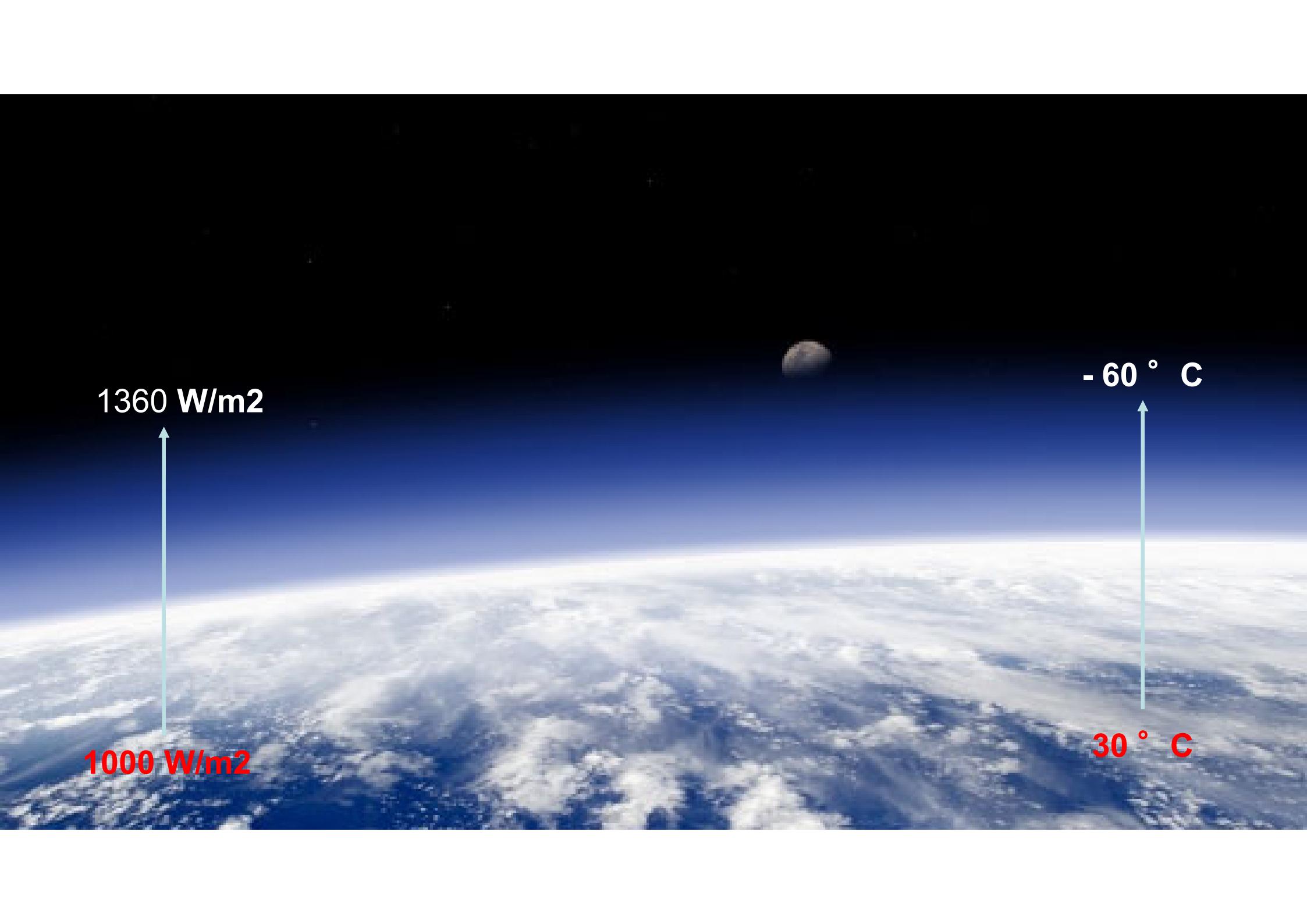












$1360 \text{ W/m}^2$

$1000 \text{ W/m}^2$

$-60^\circ \text{ C}$

$30^\circ \text{ C}$









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