

An engraving depicting a busy 18th-century classroom or library. In the foreground, a large celestial globe is mounted on a stand. To the right, a person is kneeling, possibly in prayer or study. In the background, a group of people, including a woman in a long dress and a man in a coat, are engaged in conversation. A table holds various books and a small instrument. The scene is filled with books, scrolls, and other educational materials, suggesting a center of learning and knowledge.

**If there is something you know, communicate it
If there is something you do not know, search for it**

“Encyclopédie” – Diderot 1772



How are we, energy scientists, informing society about the energy transition today?

Are we showing the scale of the energy challenge? DAIRIEL

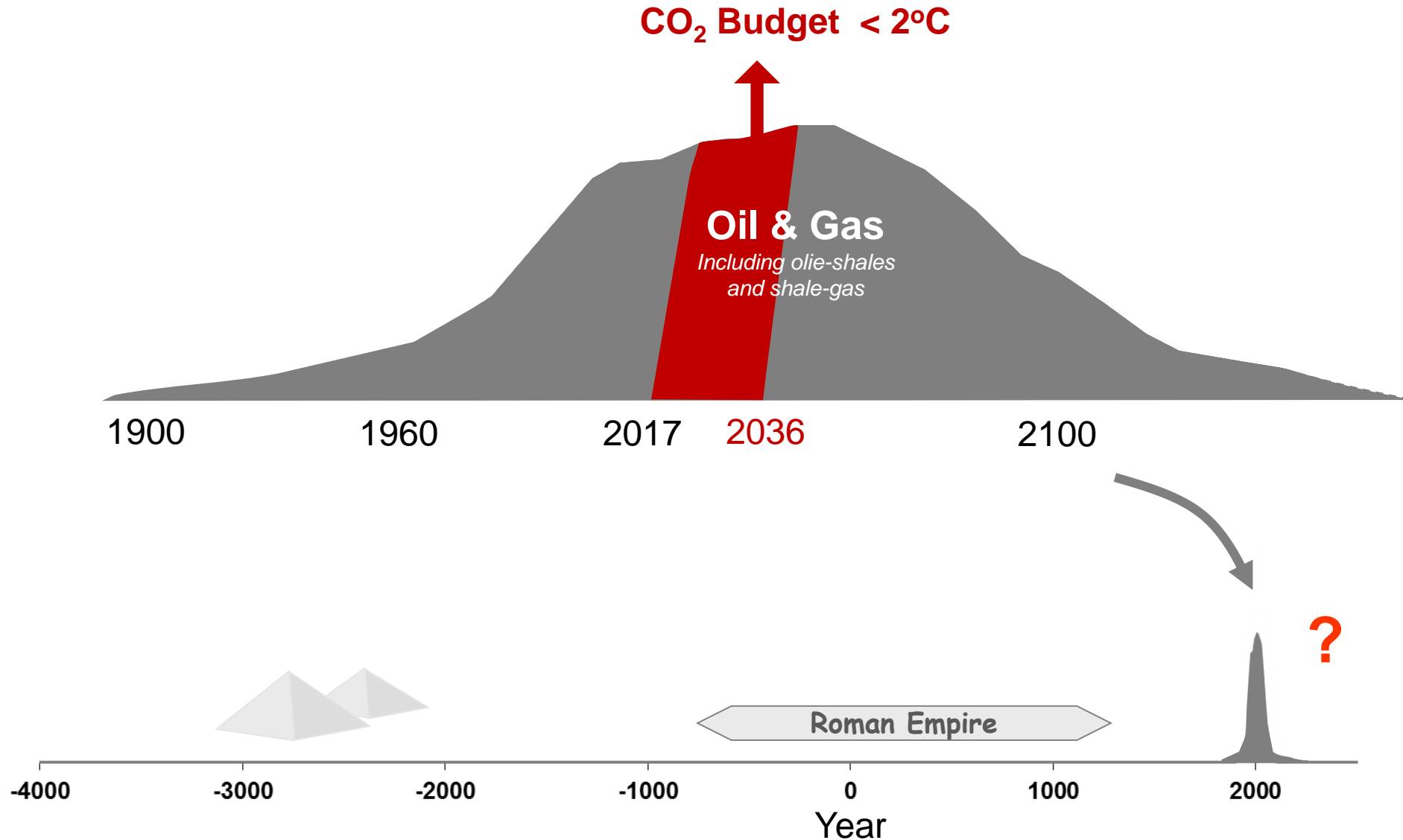
The Brent Field...

*North Sea Giant
40 years in production
37 billion US\$ invested
~4 billion BOE produced*



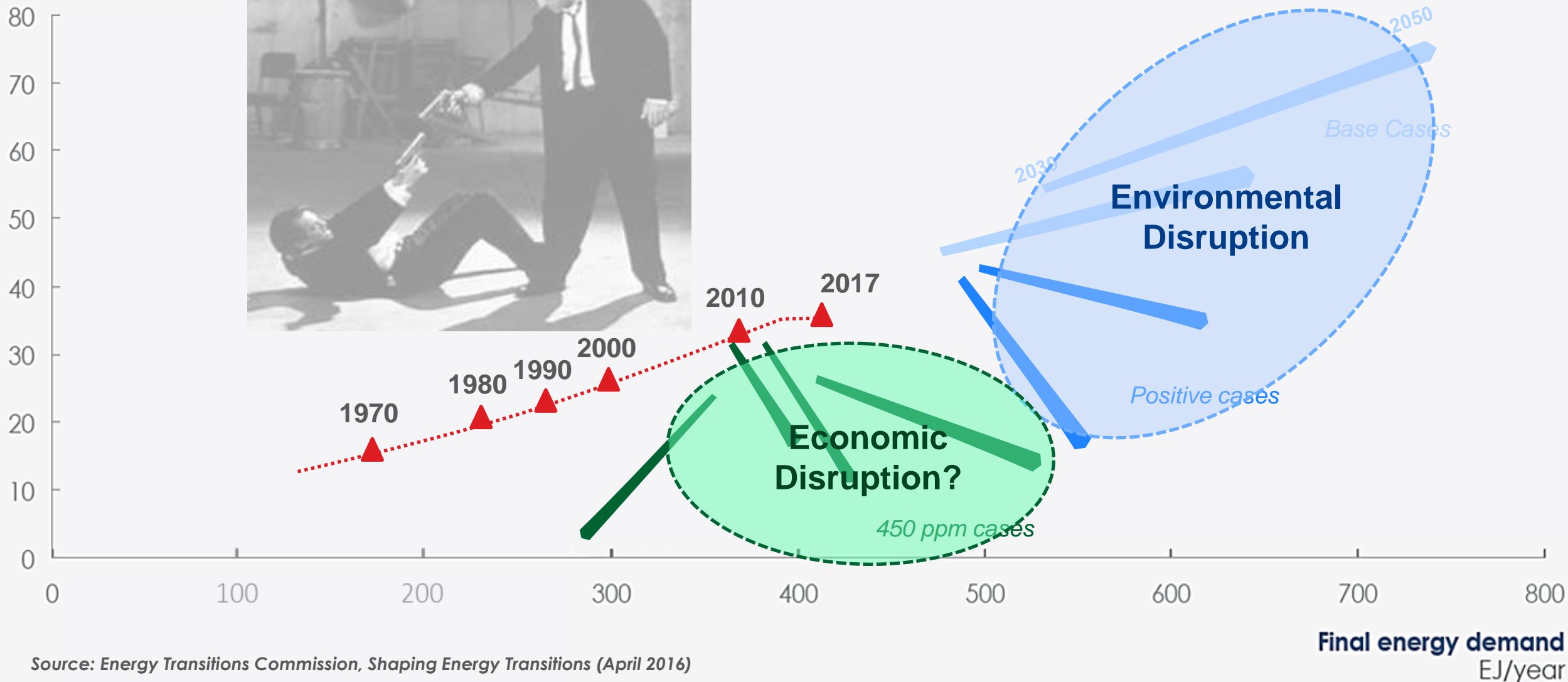
... is the equivalent of only 14 days global energy consumption

Are we giving sufficient context about oil & gas?



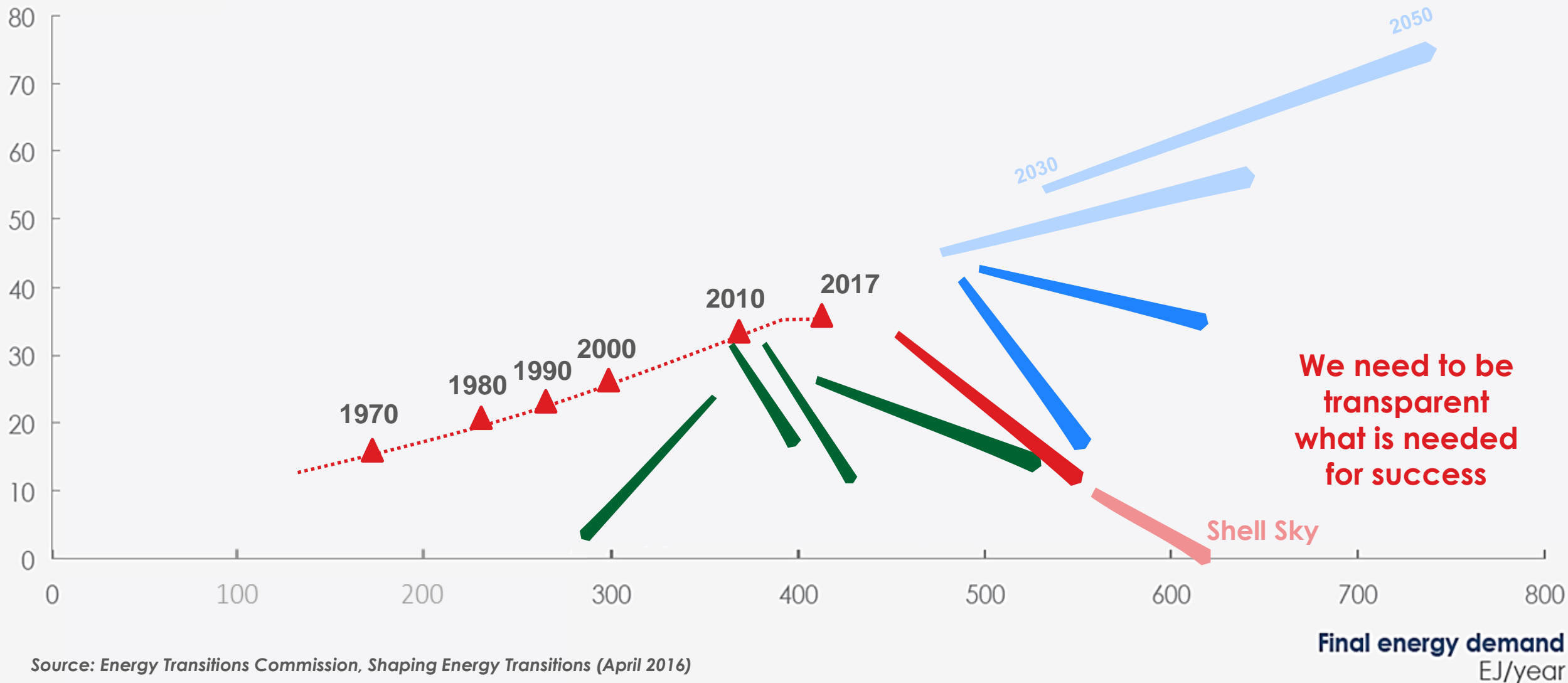
Are we clearly communicating what is happening?

Carbon emissions
Gt CO₂/year



Are we clearly explaining what is required?

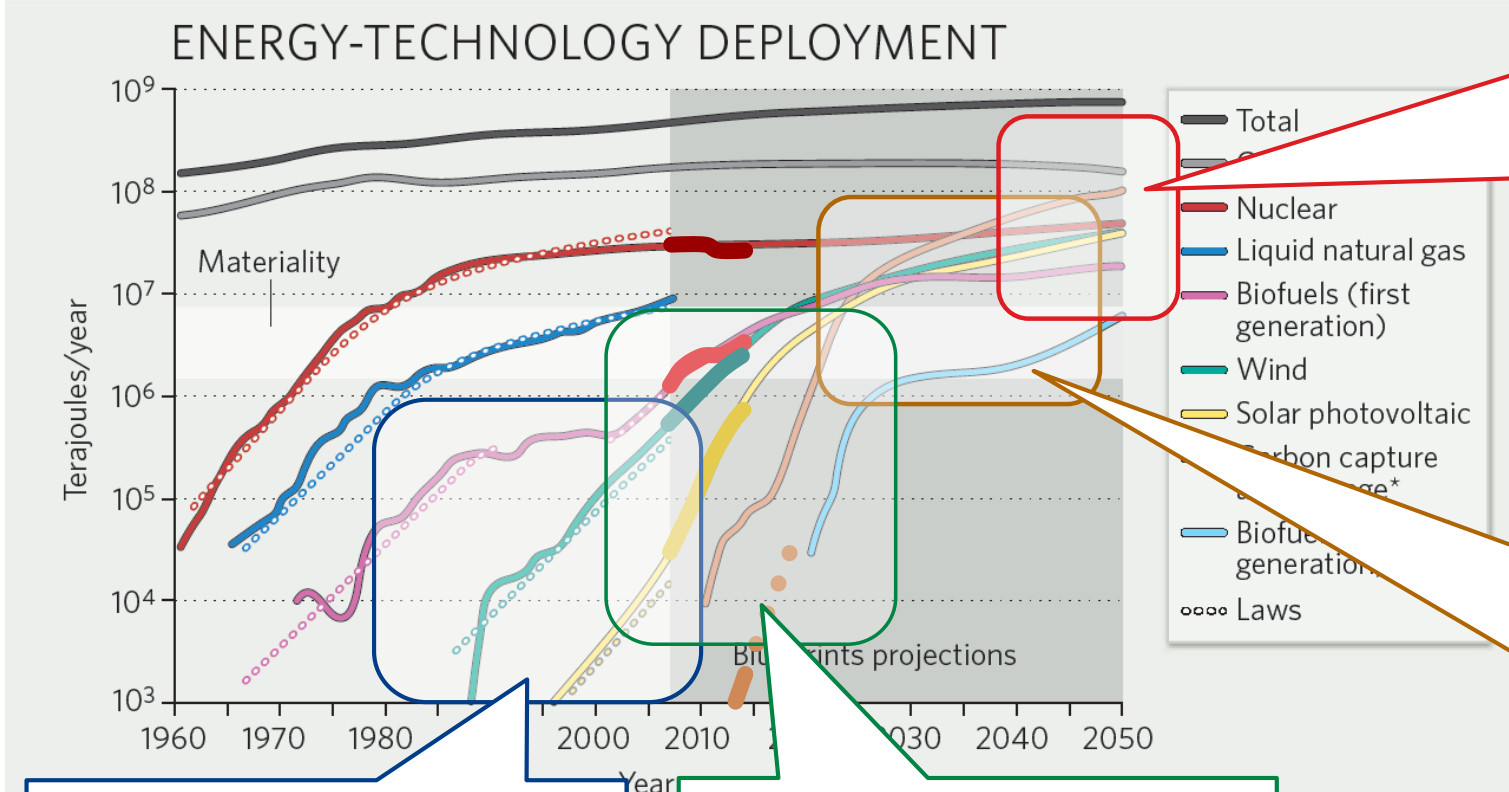
Carbon emissions
Gt CO₂/year



Source: Energy Transitions Commission, Shaping Energy Transitions (April 2016)

So... **A:** let's deploy the technical solutions...

HISTORIC DATA: OECD/IEA/PREDICTIONS: SHELL INTERNATIONAL



Dealing with Fuels and irreplaceable HC

Post 2025 - Making the system work

1970s - 2000 - Creating the technologies

Ca. 2000 - 2030 - Technologies to Scale

Source: G.J.Kramer en M.Haigh, Nature (2009)

An engraving of an 18th-century classroom. A teacher stands at a desk on the left, holding a book. Students are seated at desks, some reading, some writing. A large globe is on the right. The scene is filled with books and papers, representing a traditional educational setting.

and **B**: *learn from the past*

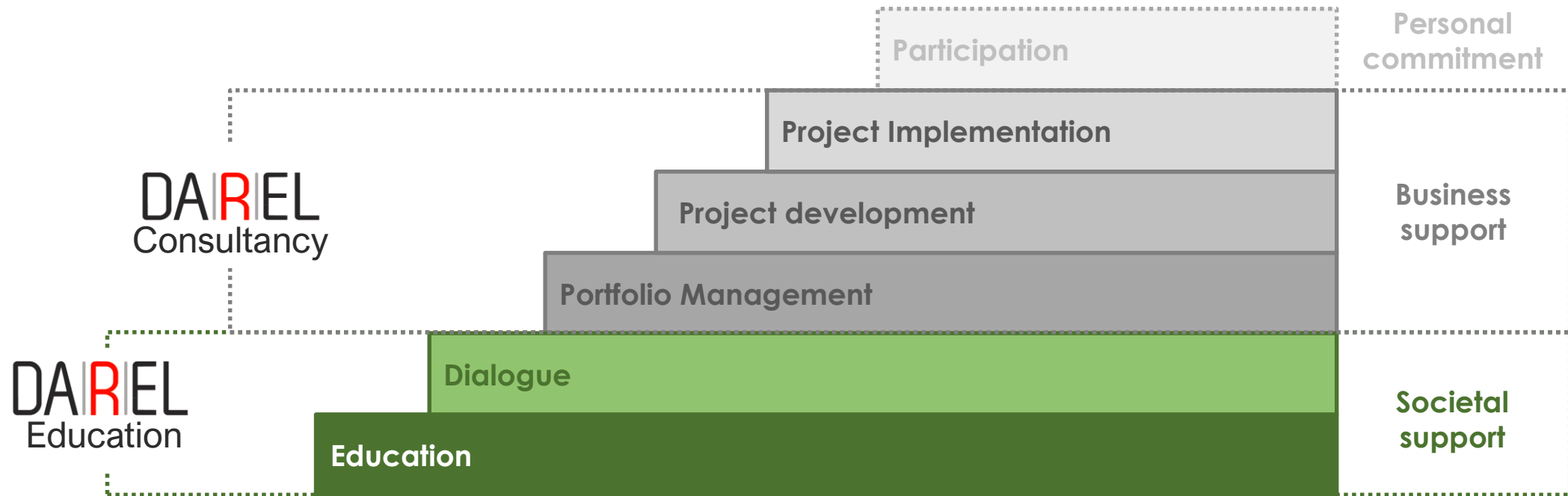
**This transition will only succeed when we ‘enlighten’
society simultaneously**

and C...



educate yourselves that it will be good business too!

At DA|R|EL, we try to follow up on these lessons!
Thanks for your attention



Building societal support is pivotal!