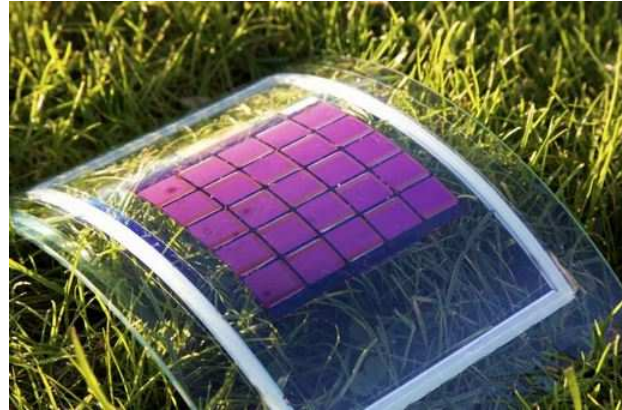


ORGANIC SOLAR CELLS

Marc Ibáñez Albalate
José Cifre Usó

WHAT ARE ORGANIC SOLAR CELLS?

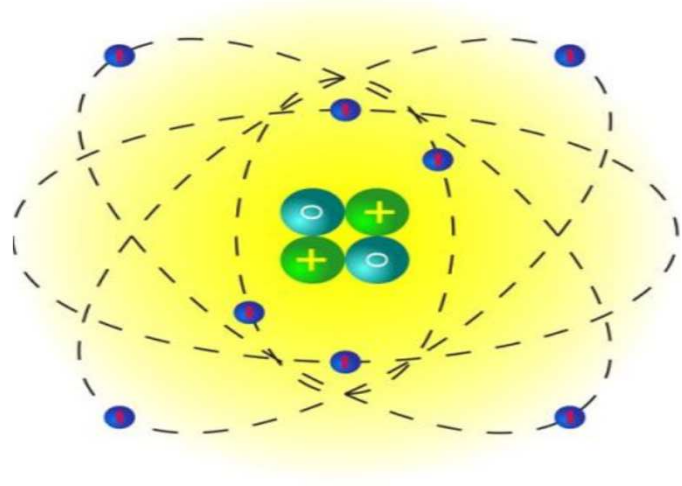
- Discovery
- Silicon Cells
- Organic semiconductor
- Low efficiency



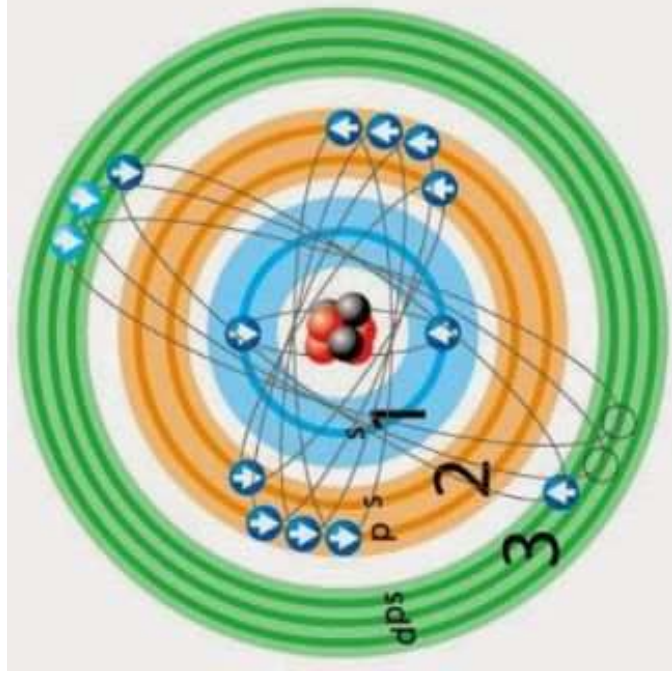
SI vs C



BANDS THEORY

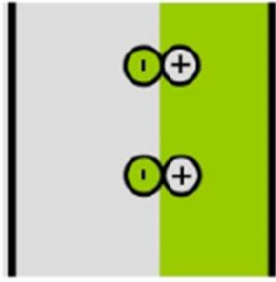


- Proton
- Neutron
- Electron

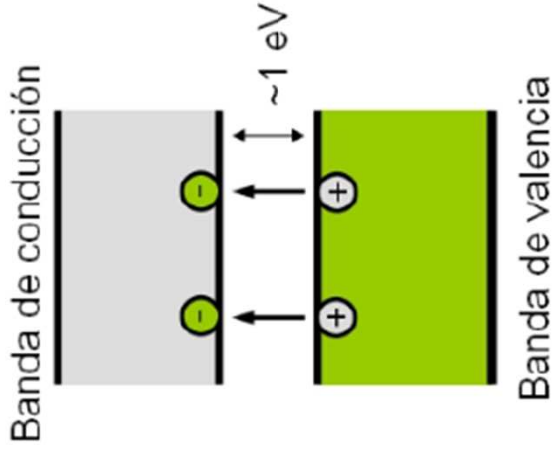


ELECTRON EXCITATION

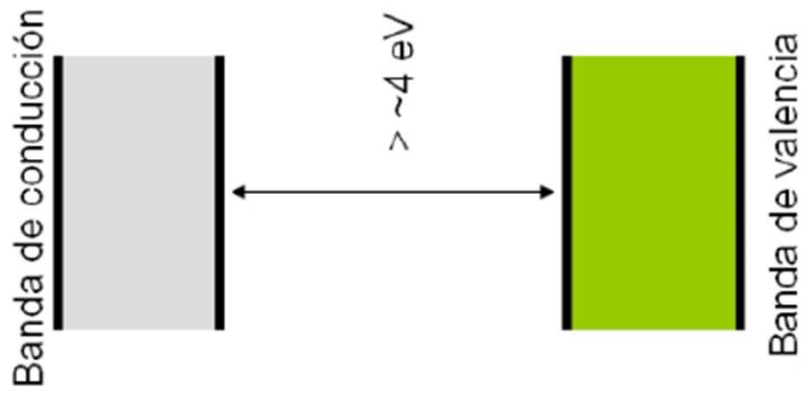
Conductor



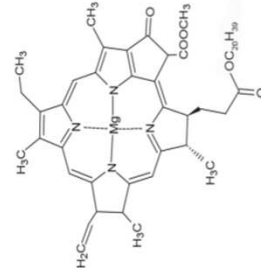
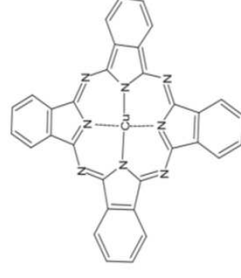
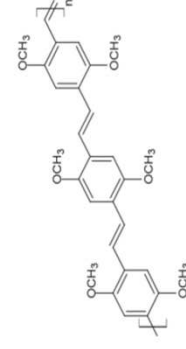
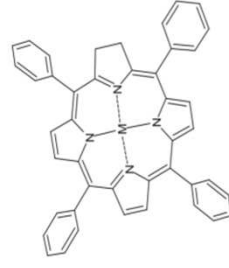
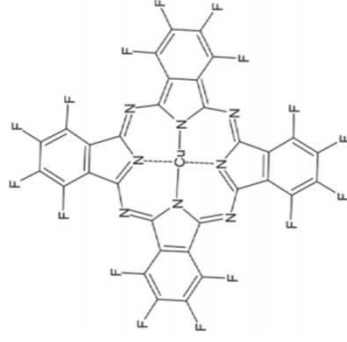
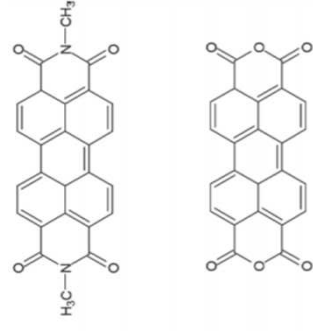
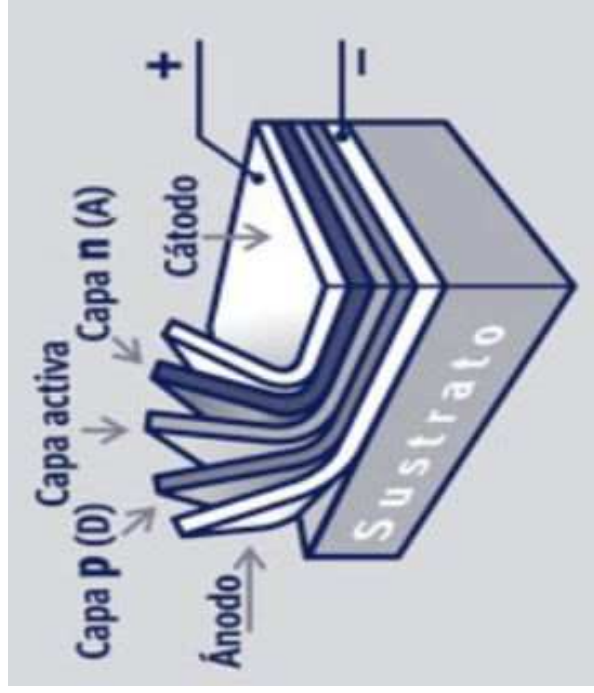
Semiconductor



Aislante

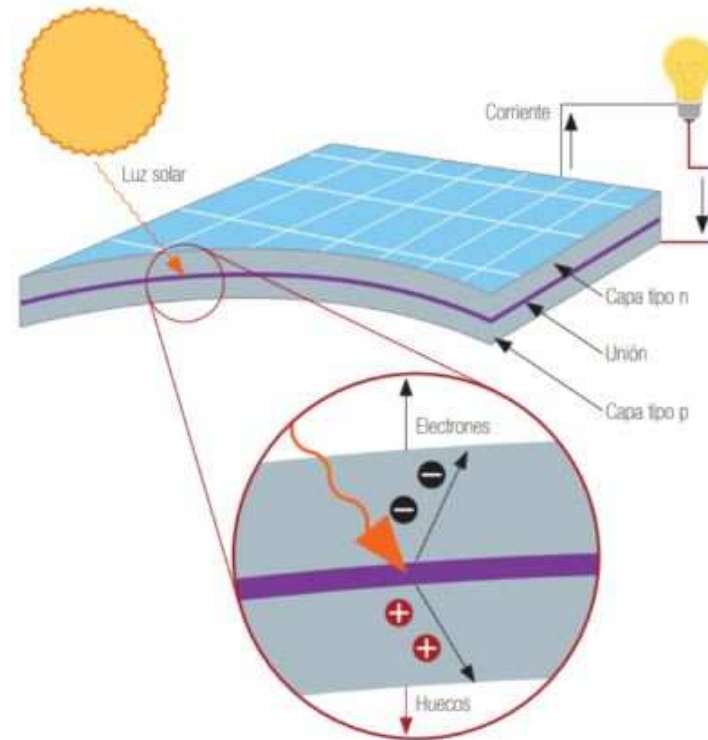


COMPONENTS



HOW DO THEY WORK?

- Foton absorption
- Electron excitation
- Exciton formation
- Difussion and dissociation of excitons
- Voltage difference



ADVANTAGES VS DISADVANTAGES

- Flexible
- Lightweight
- They can work in transparent supports
- They can be painted on a surface

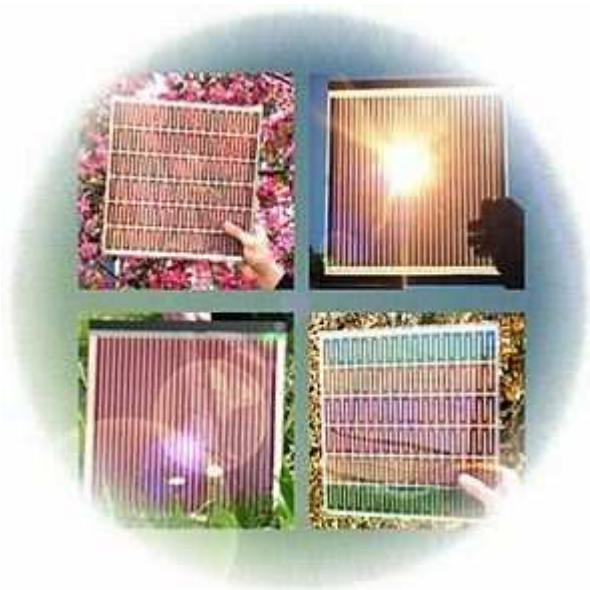


- Lower efficiency
- Degradation
- Stability

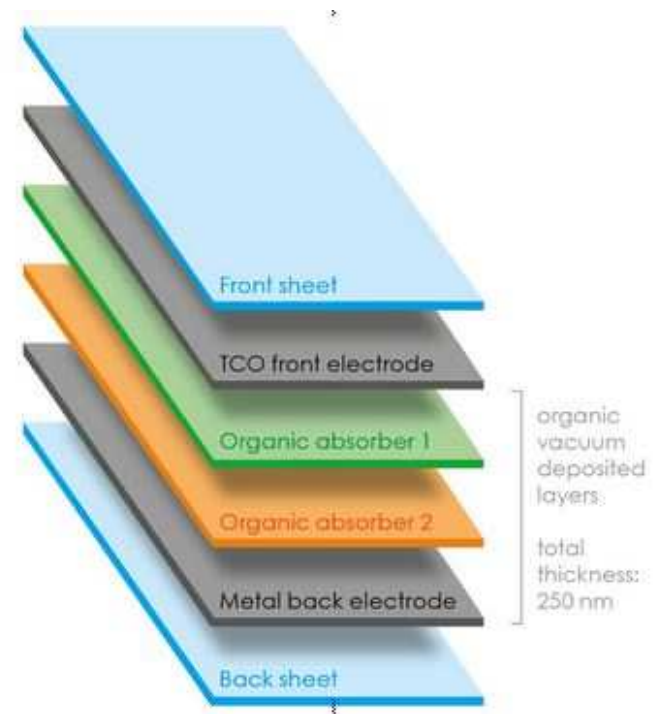


CLASSIFICATION

➔ DYE-SENSITIZED SOLAR CELLS (DSSC)

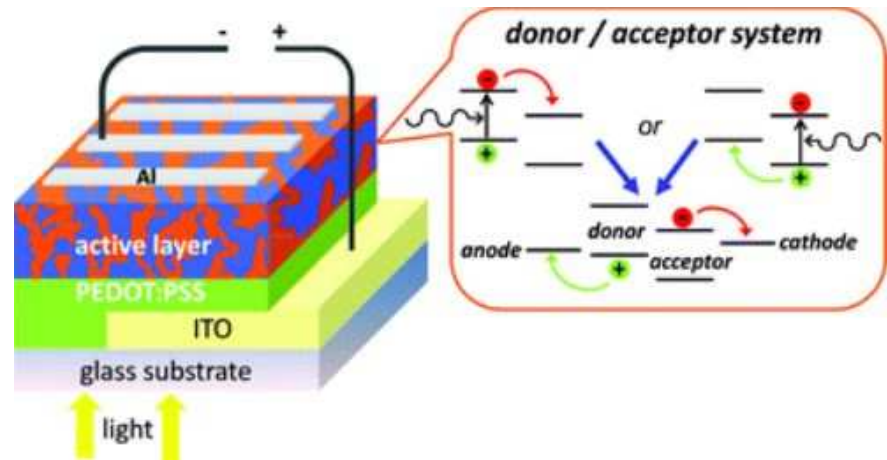


➔ MULTILAYER CELLS

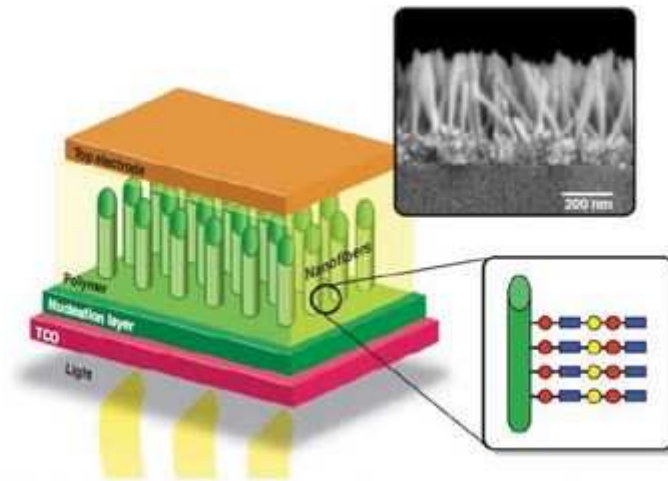




BULK-HETEROJUNCTION CELLS

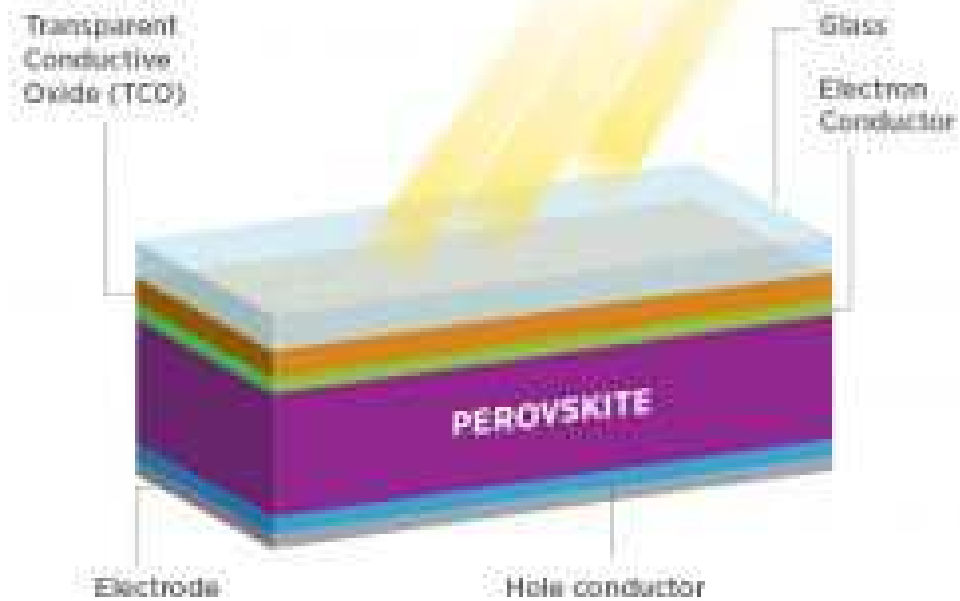


HYBRID ORGANIC/INORGANIC SOLAR CELLS



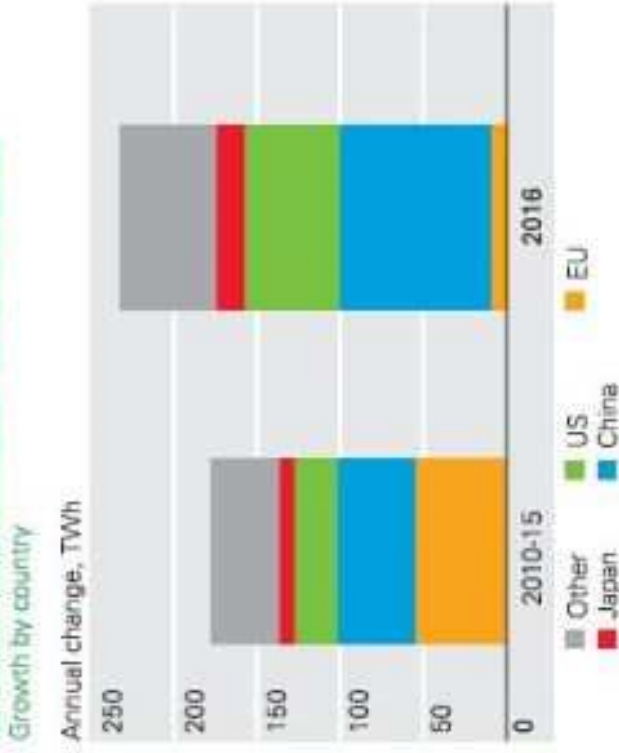
➔ CELLS BASED ON PEROVSKITE

**THIN FILM
PEROVSKITE SOLAR CELL**

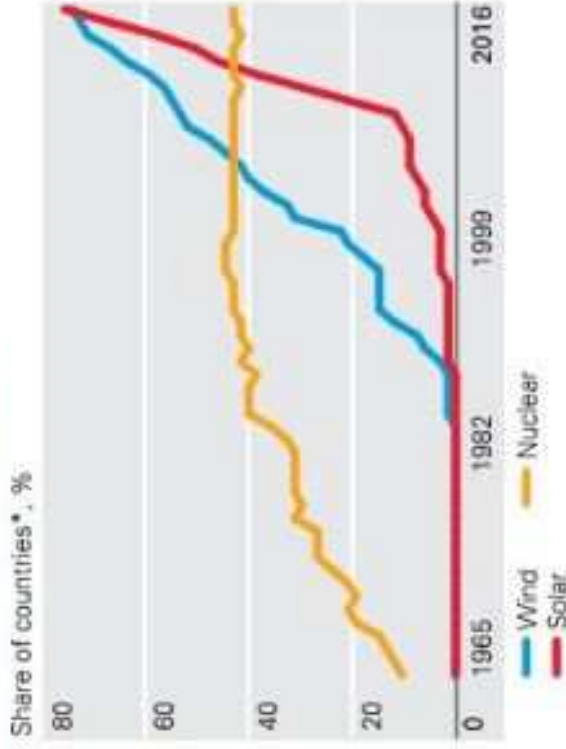


APPROACH TO THE ENERGY SYSTEM AND RENEWABLE ENERGIES

Growth and diffusion of renewables



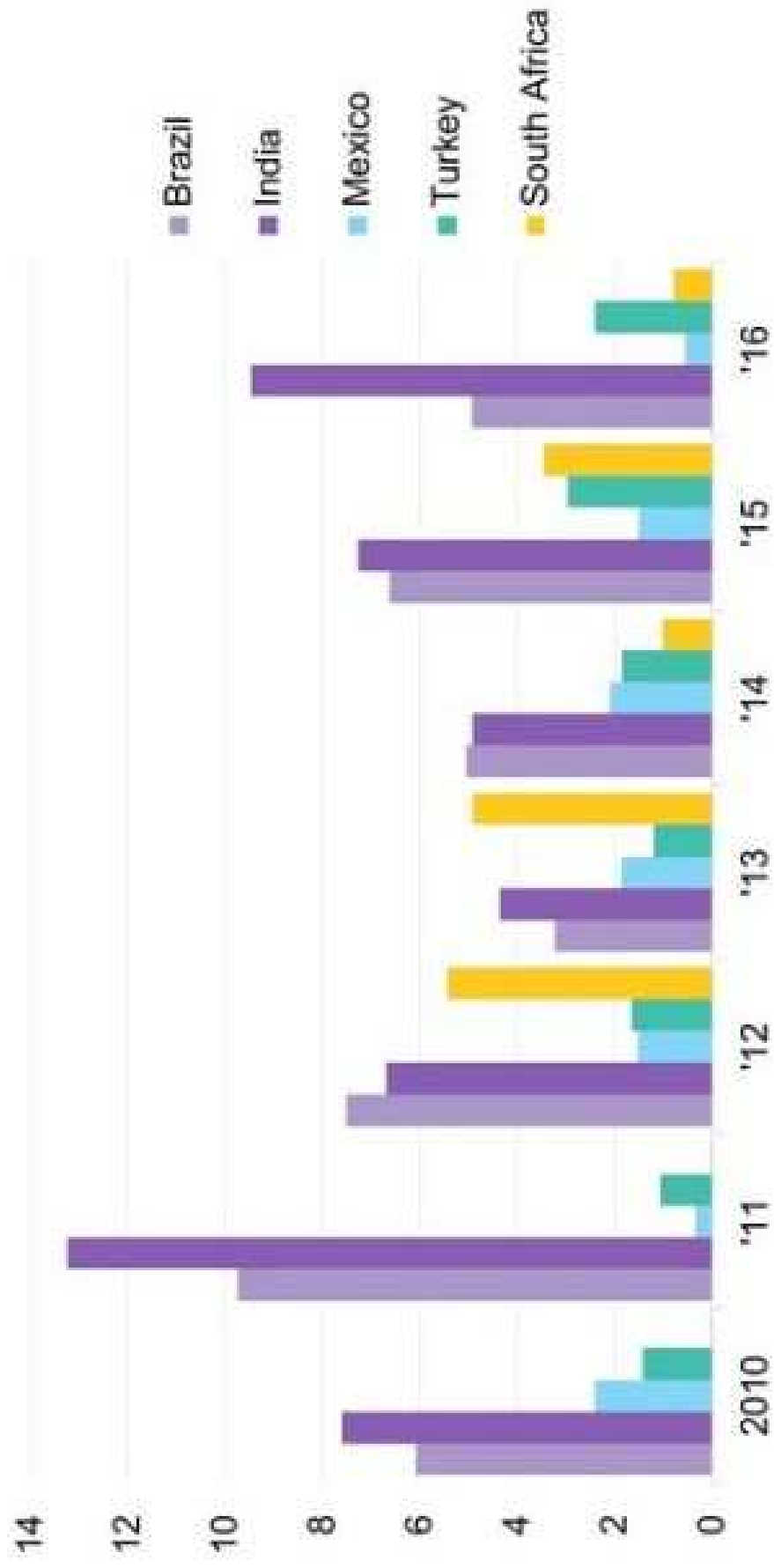
Diffusion of power technologies



*The proportion of the 87 countries that are individually listed in the Statistical Review with power generation of at least 50 GWh from the specified technology.



\$ billions



*Thank
You!*

