CAN
CLIMATE ACTION NETWORK
Europe

Webinar: Of pipes and pylons

RGI training and exchange for NGOs, 4 March 2020
Jörg Mühlenhoff, Energy Scenarios Policy Coordinator

Technology assumptions in TYNDP scenarios

ENTSOE

ENTSOG

develop biennal

10 Years Network Development Plan (TYNDP)

TYNDP 2020 “storylines”

“National Trends Scenario” (NT)	“Global Ambition Scenario” (GA)	“Distributed Energy Scenario” (DE)

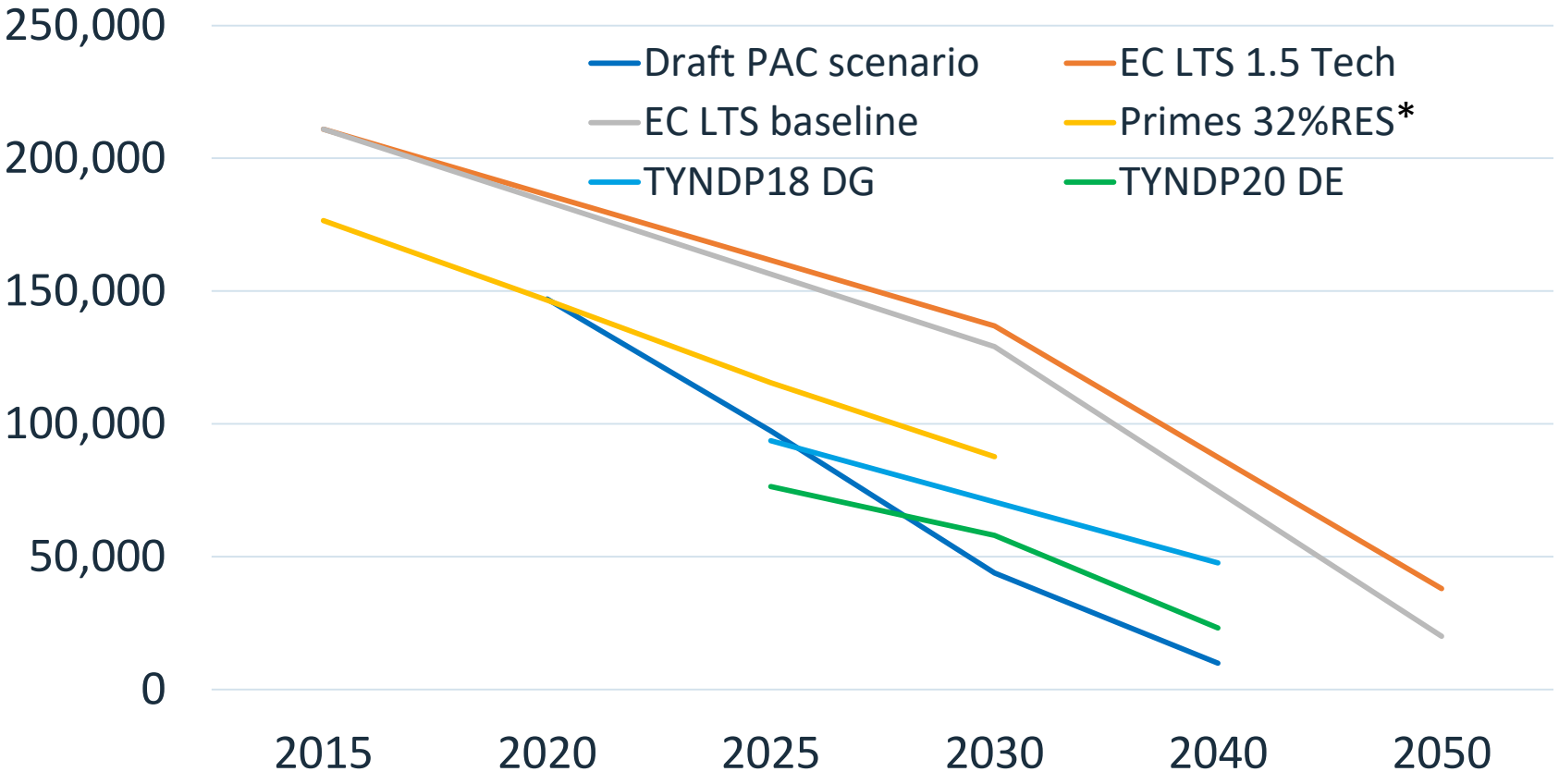
Technology assumptions in TYNDP scenarios

	"National Trends Scenario" (NT)	"Global Ambition Scenario" (GA)	"Distributed Energy Scenario" (DE)
Coal and oil	Moderate reduction of coal and fossil oil by 2040	Coal phase out by 2040, fossil oil by 2045	Coal phase out by 2040, fossil oil by 2045
Fossil gas	Low reduction of fossil gas	Moderate reduction of fossil gas	Fossil gas phase-out by 2045 (but use for hydrogen with CCS)
Nuclear	Moderate reduction of nuclear	Moderate reduction of nuclear	Moderate reduction of nuclear

CAN
CLIMATE ACTION NETWORK
Europe

Technology assumptions in TYNDP scenarios

Generation capacities of coal in different EU28 scenarios (MW)

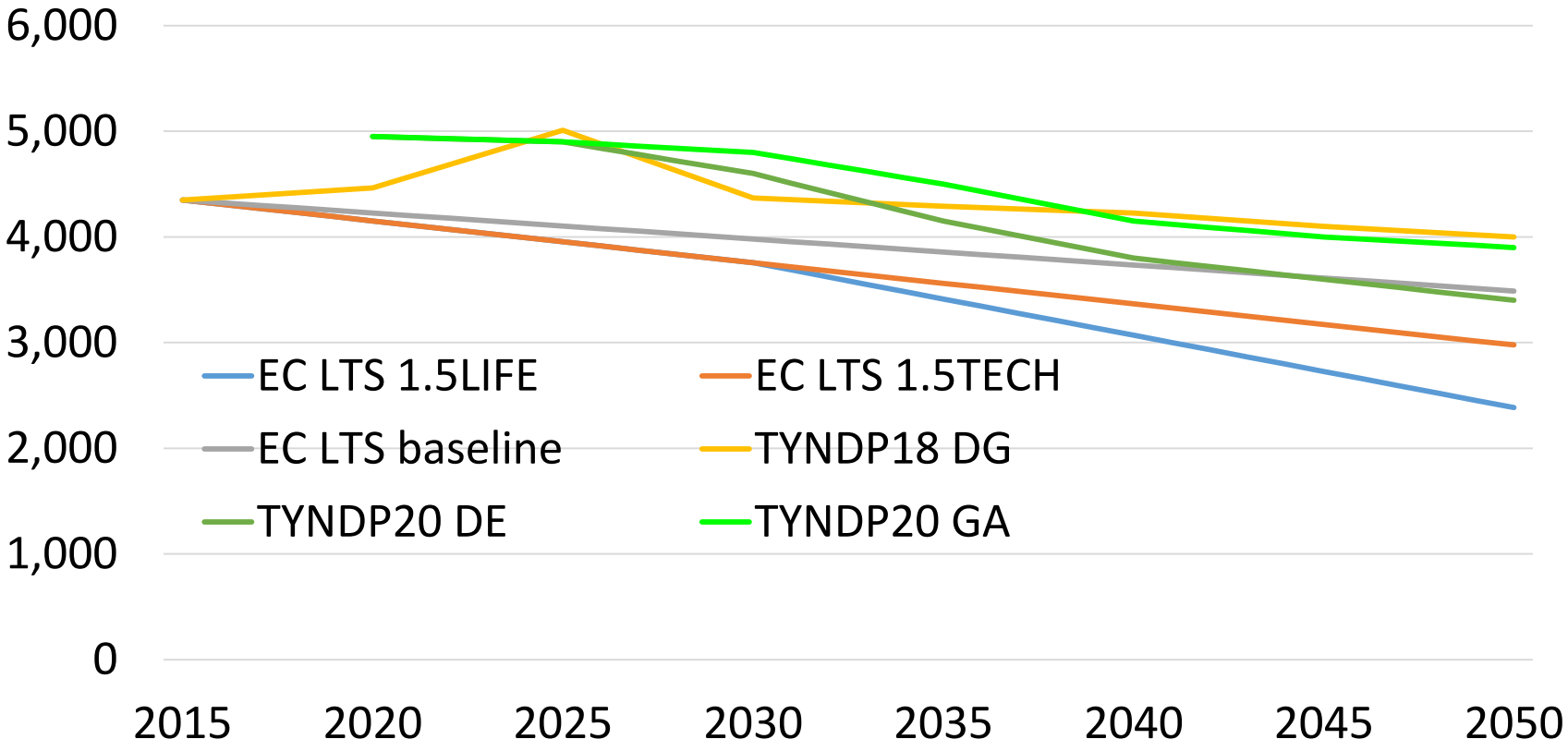


*Primes 32%RES: net generation capacities only

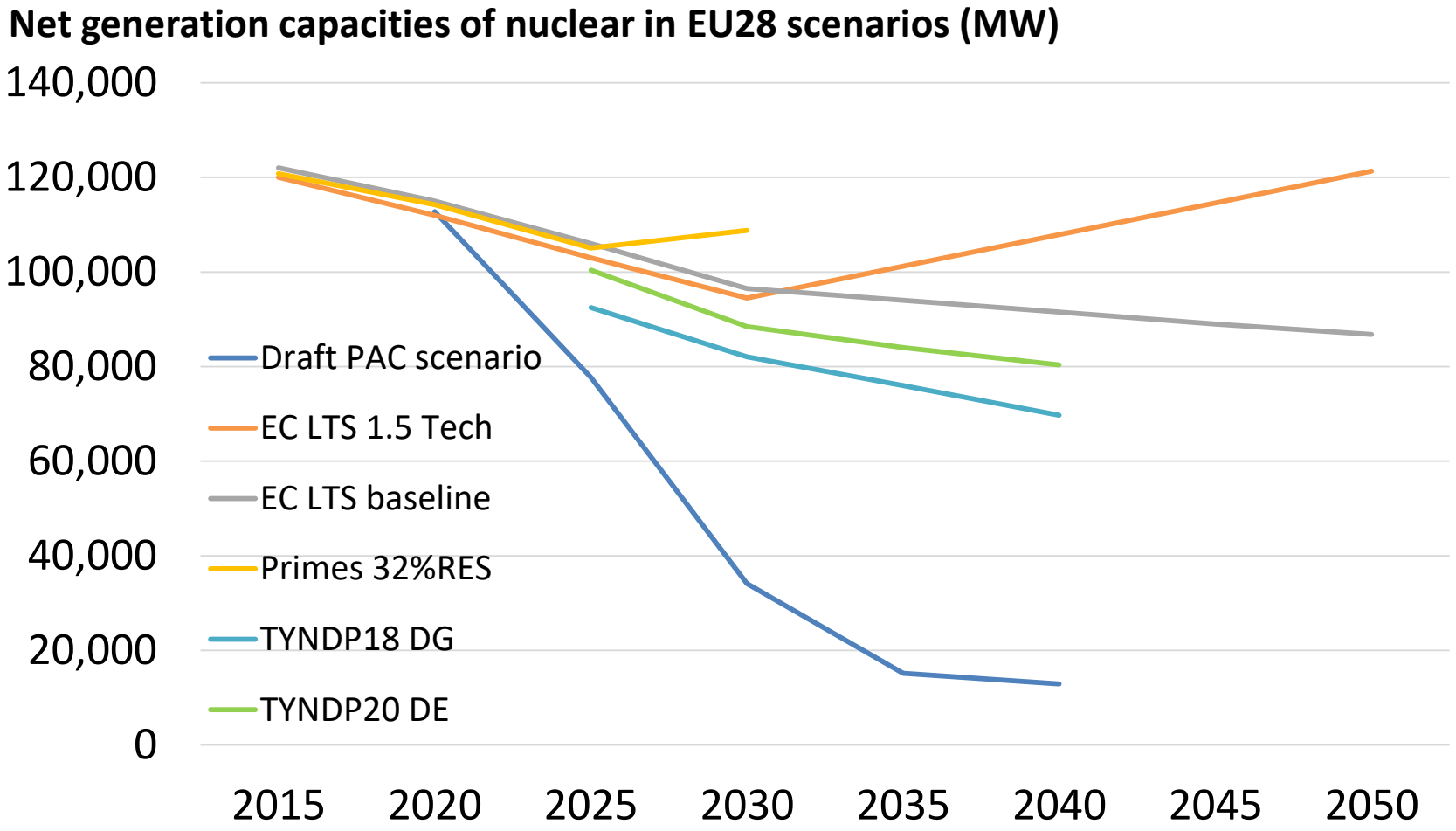
CAN
CLIMATE ACTION NETWORK
Europe

Technology assumptions in TYNDP scenarios

Gas demand (fossil gas, biomethane, synthetic methane, hydrogen) in EU28 scenarios (TWh)



Technology assumptions in TYNDP scenarios



Technology assumptions in TYNDP scenarios

	"National Trends Scenario" (NT)	"Global Ambition Scenario" (GA)	"Distributed Energy Scenario" (DE)
Wind energy	540 GW capacity in 2040	590 GW capacity in 2040 + 90 GW capacity for hydrogen production	629 GW capacity in 2040 + 230 GW capacity for hydrogen production
Solar PV	12% electricity share in 2030, 14% in 2040	10% electricity share in 2030, 12% in 2040	13% electricity share in 2030, 17% in 2040
Biomass	Low growth of biomass	Moderate growth of biomass, ca. 750 TWh biomethane 2050	High growth of biomass, ca. 1,000 TWh biomethane 2050

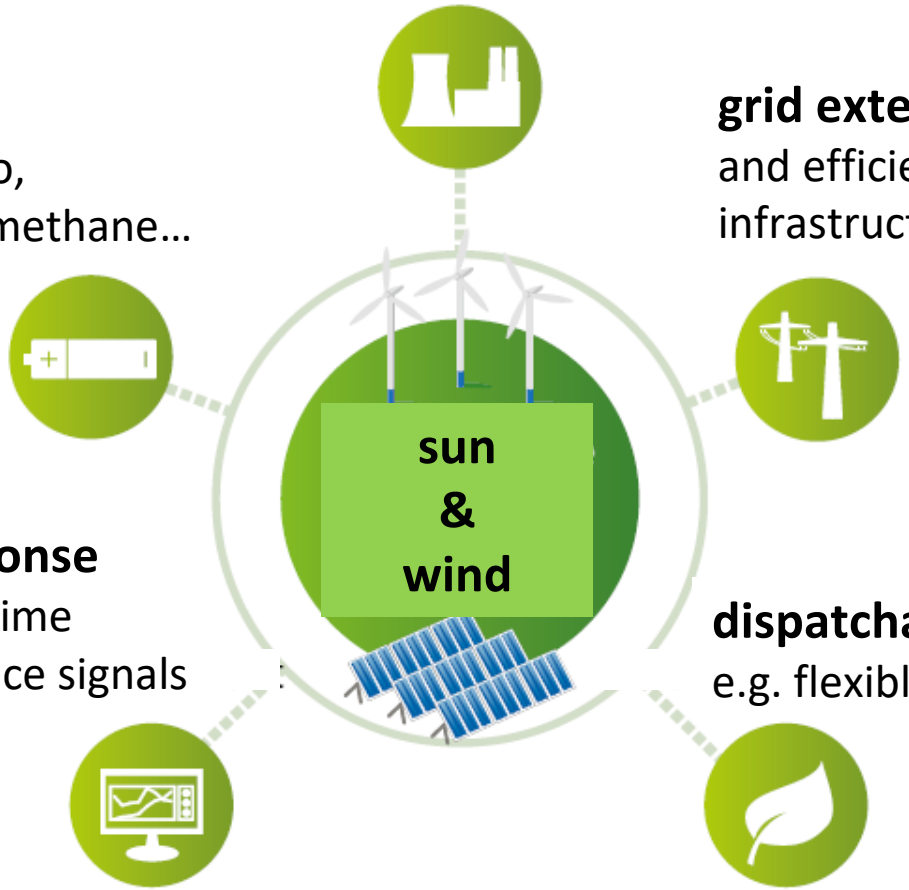
CAN
CLIMATE ACTION NETWORK
Europe

Infrastructure is more than pipes & pylons

existing fossil capacities
reduce generation, become more flexible, phase out or use non-fossil gas

storage
e.g. batteries,
pumped hydro,
H_2, synthetic methane…

grid extension
and efficient use of existing infrastructure (TSO & DSO level)



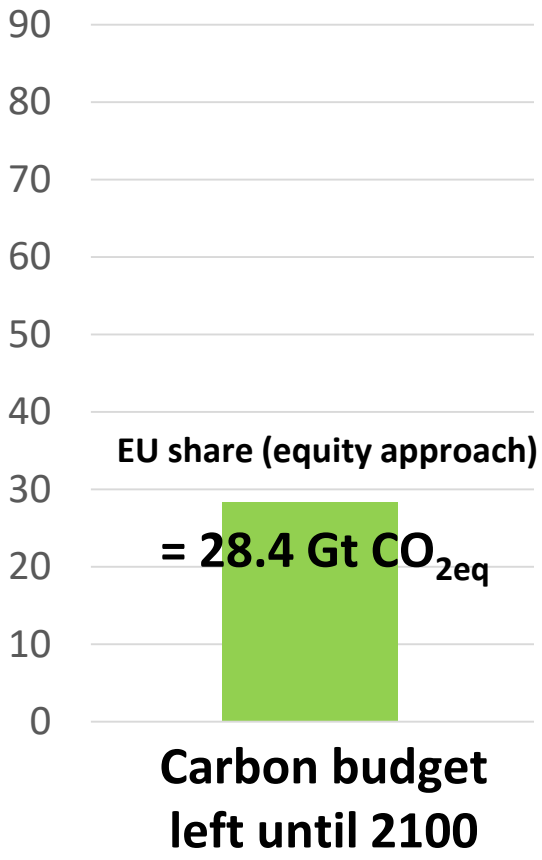
demand response
following real-time and/or local price signals

dispatchable renewables
e.g. flexible biogas, hydro power

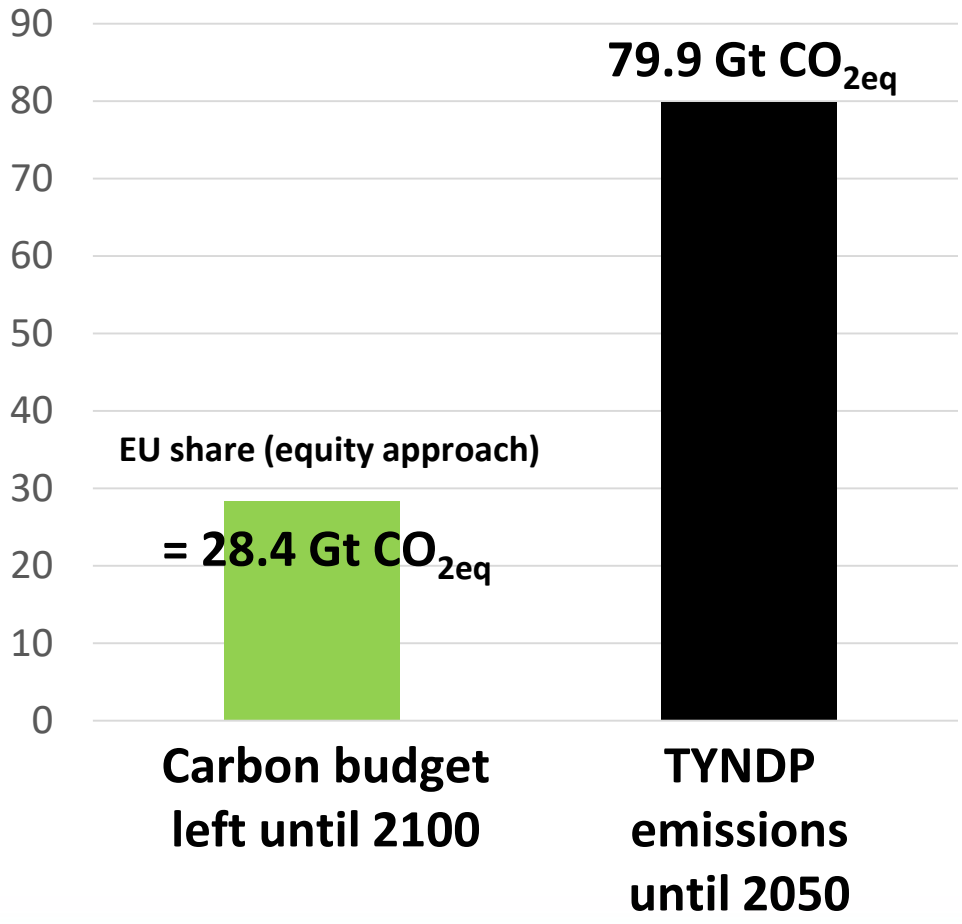
infographic: AEE

CAN
CLIMATE ACTION NETWORK
Europe

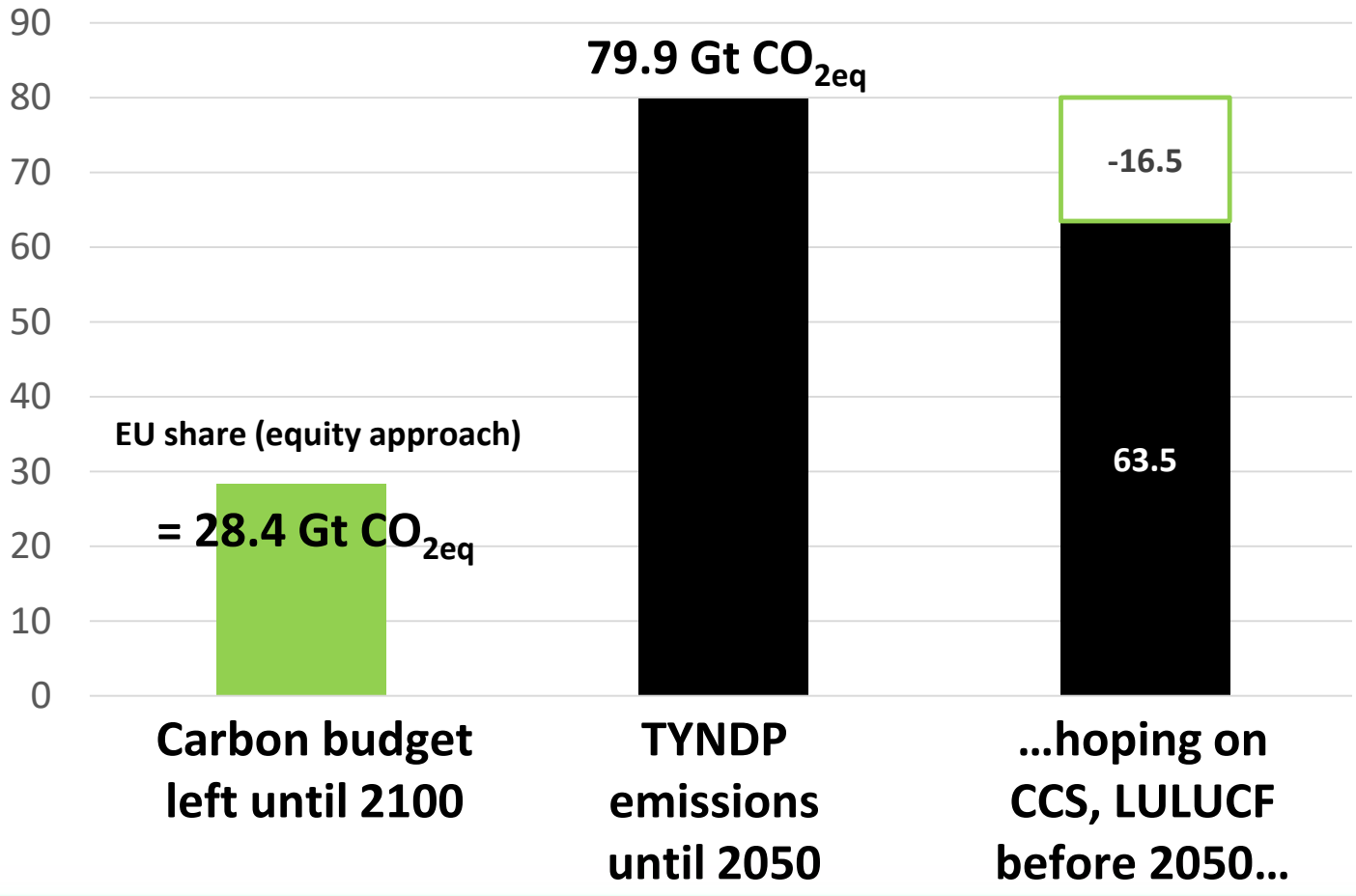
Is the TYNDP 2020 Paris compatible?



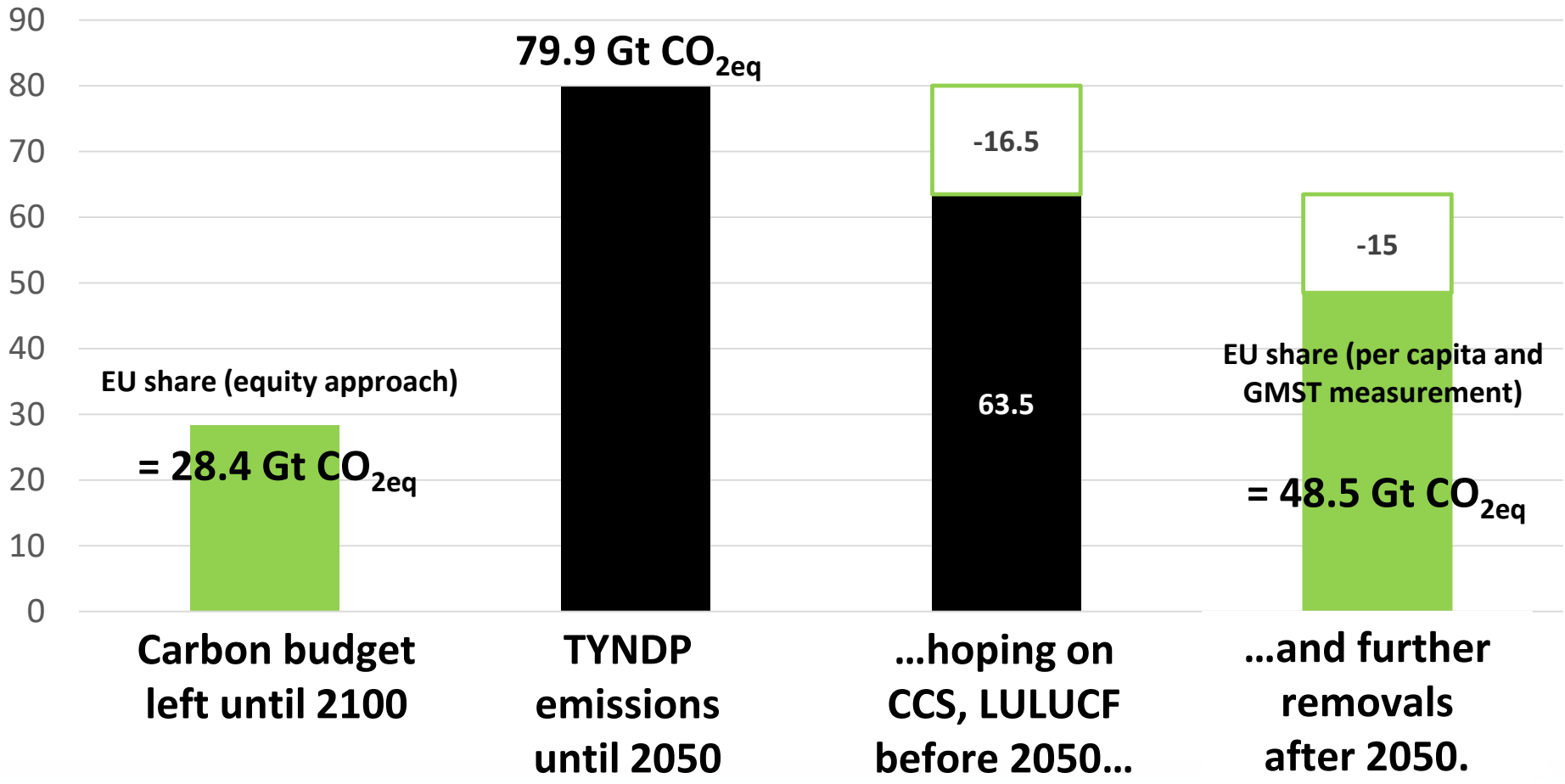
Is the TYNDP 2020 Paris compatible?



Is the TYNDP 2020 Paris compatible?



Is the TYNDP 2020 Paris compatible?



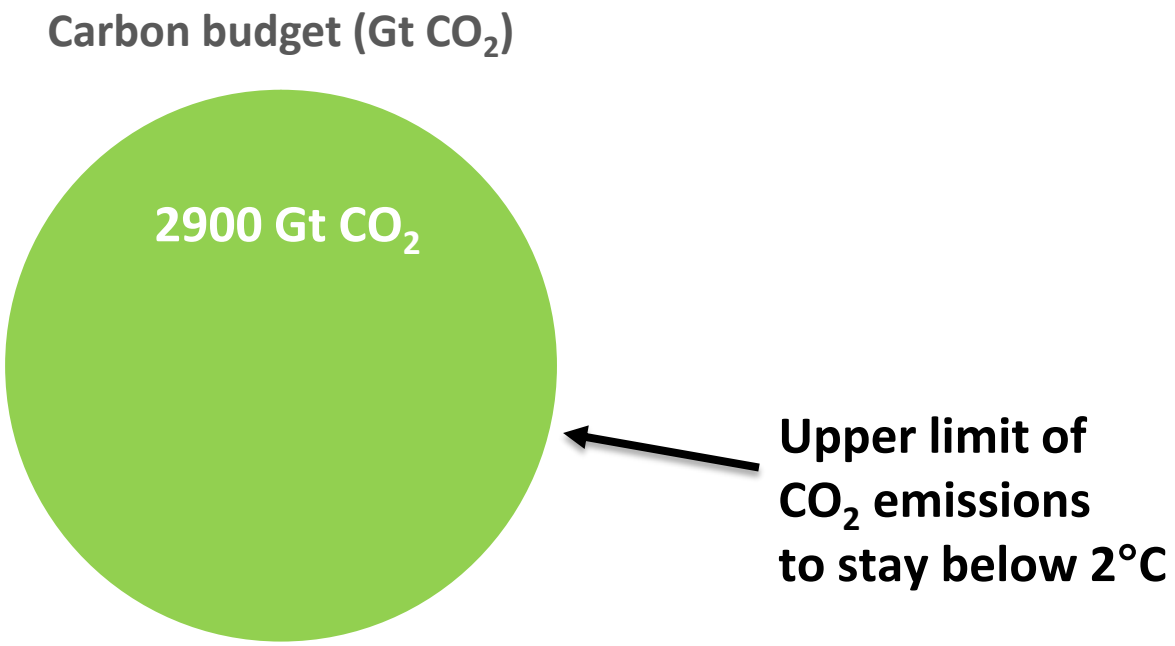
CAN
CLIMATE ACTION NETWORK
Europe

Thank you for your attention!

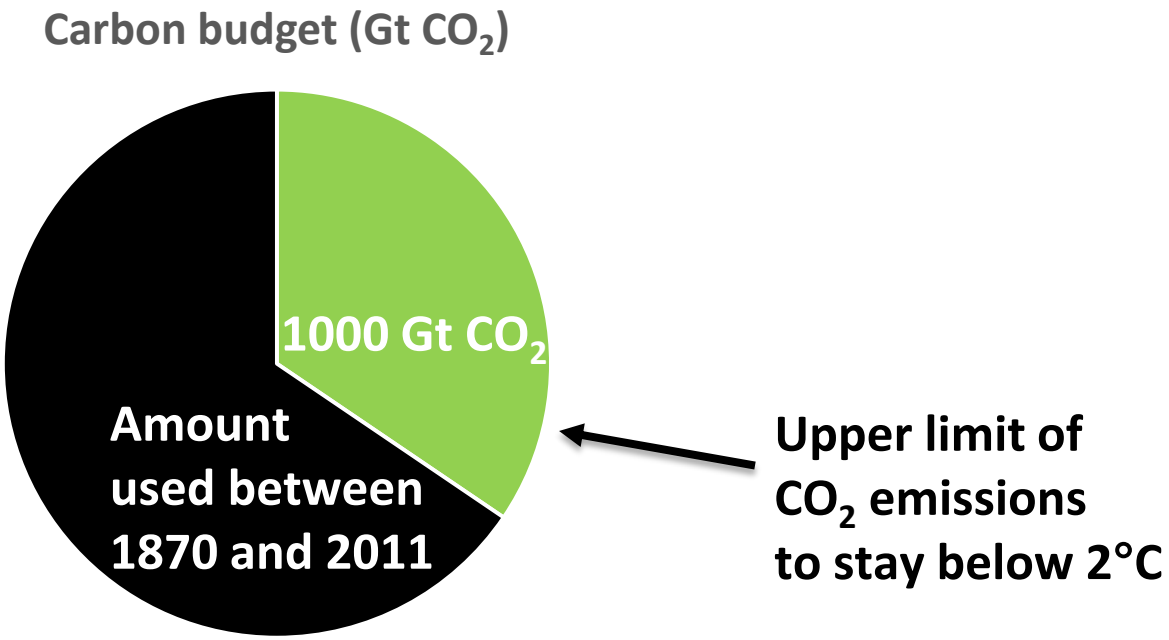
joerg@caneurope.org

BACKUP

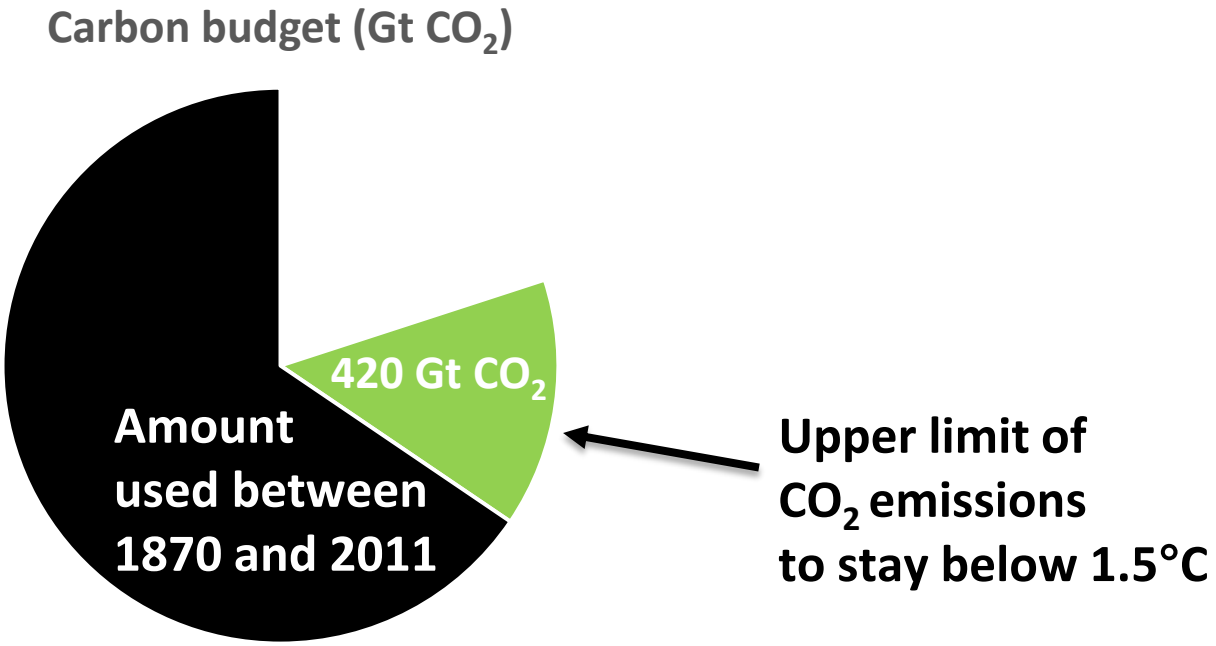
Carbon budget approach



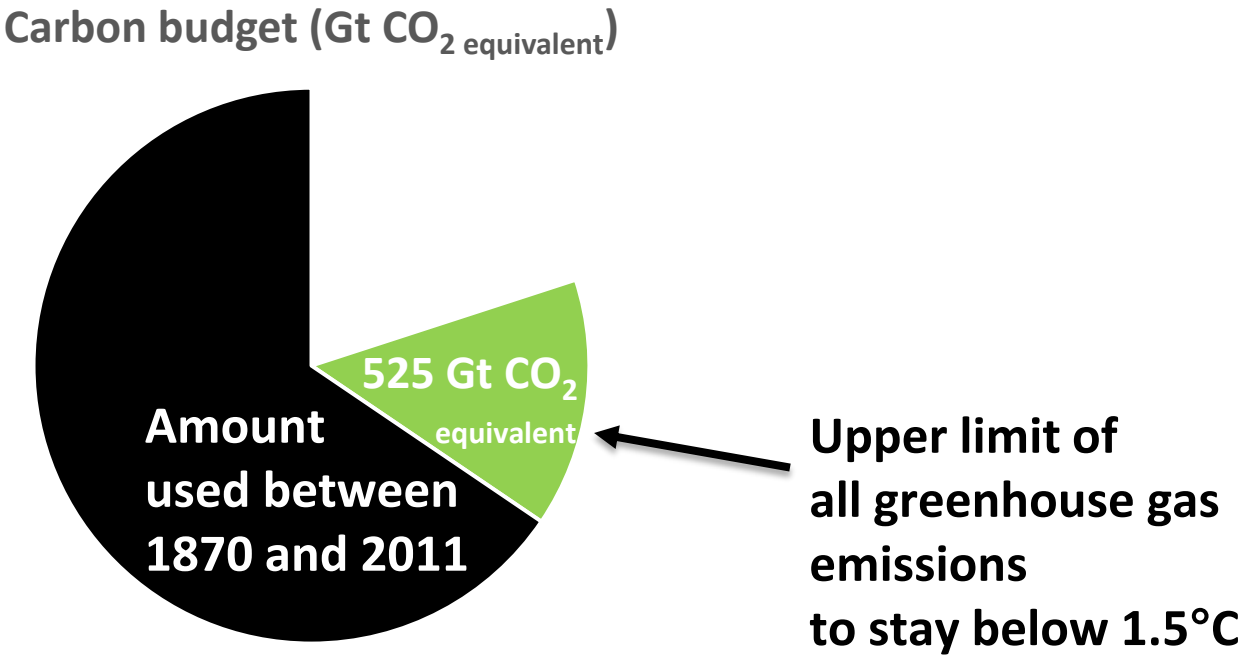
Carbon budget approach



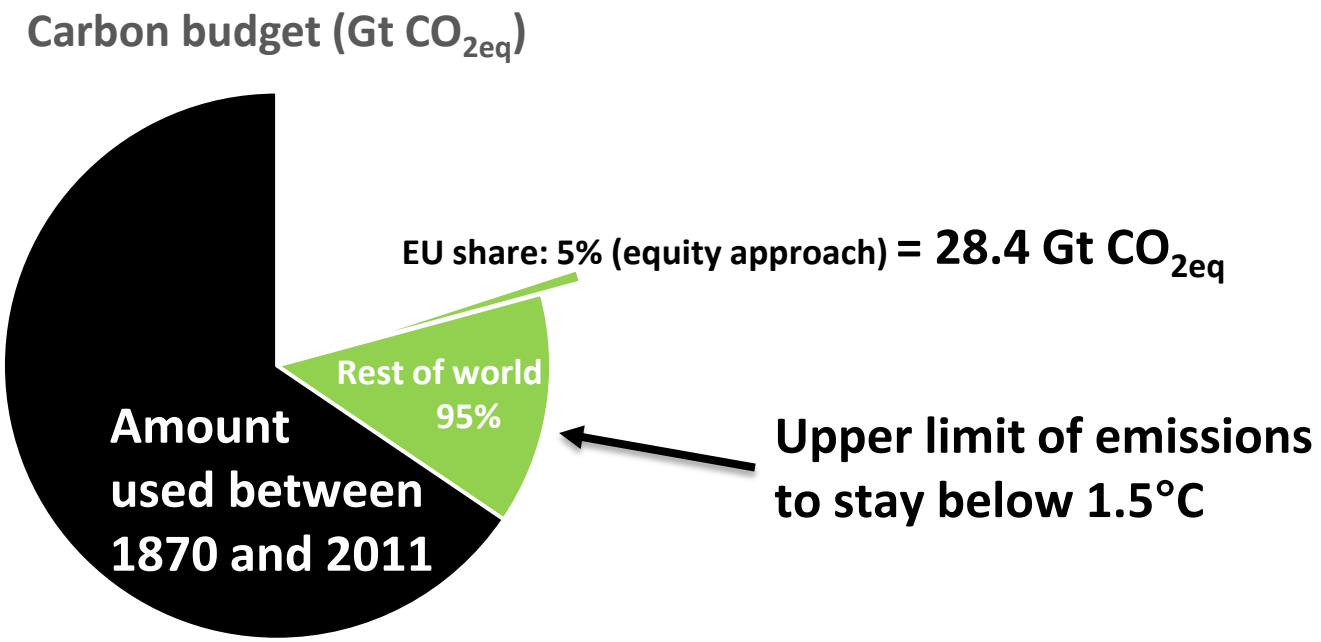
Carbon budget approach



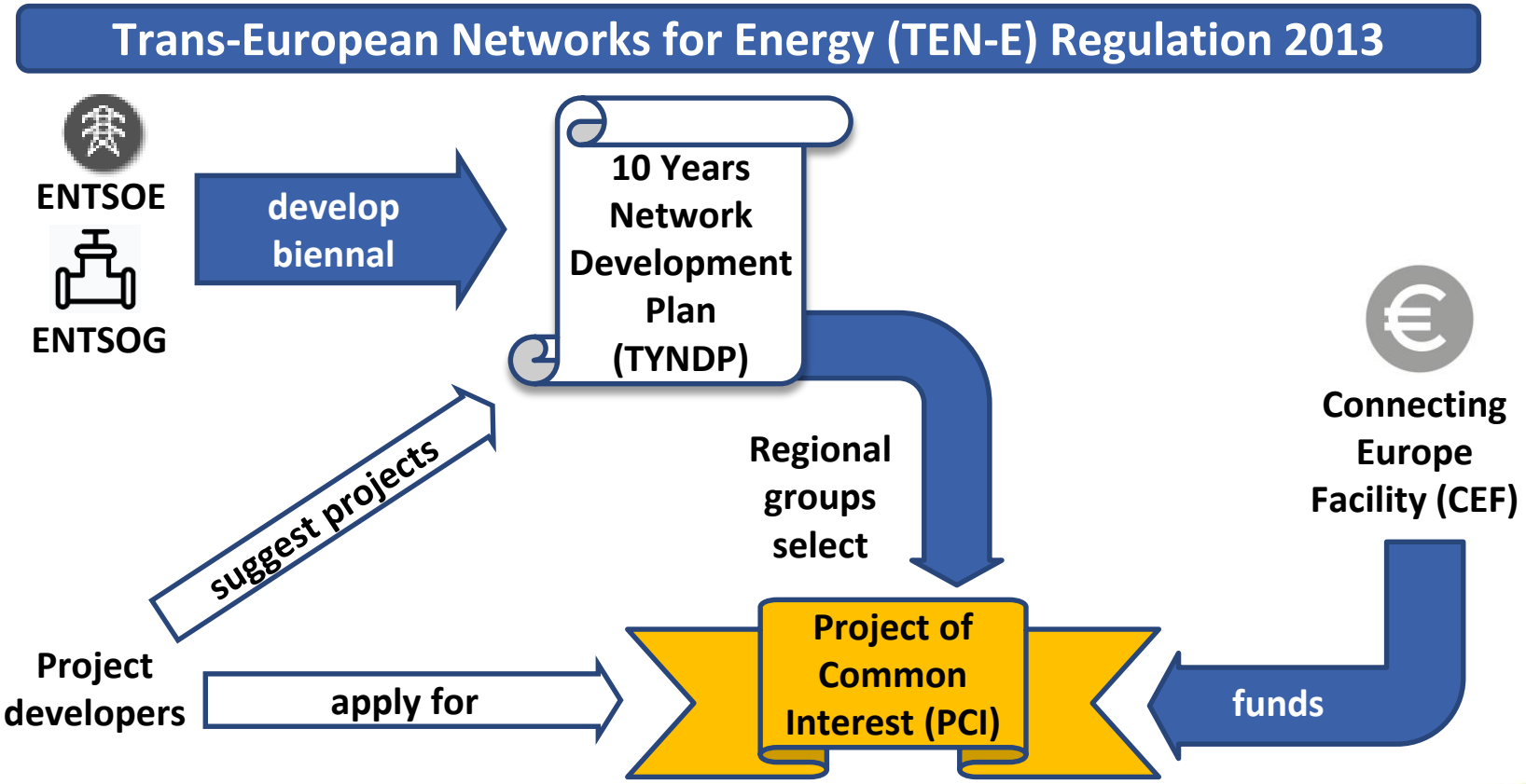
Carbon budget approach



Carbon budget approach



How the EU plans its energy infrastructure



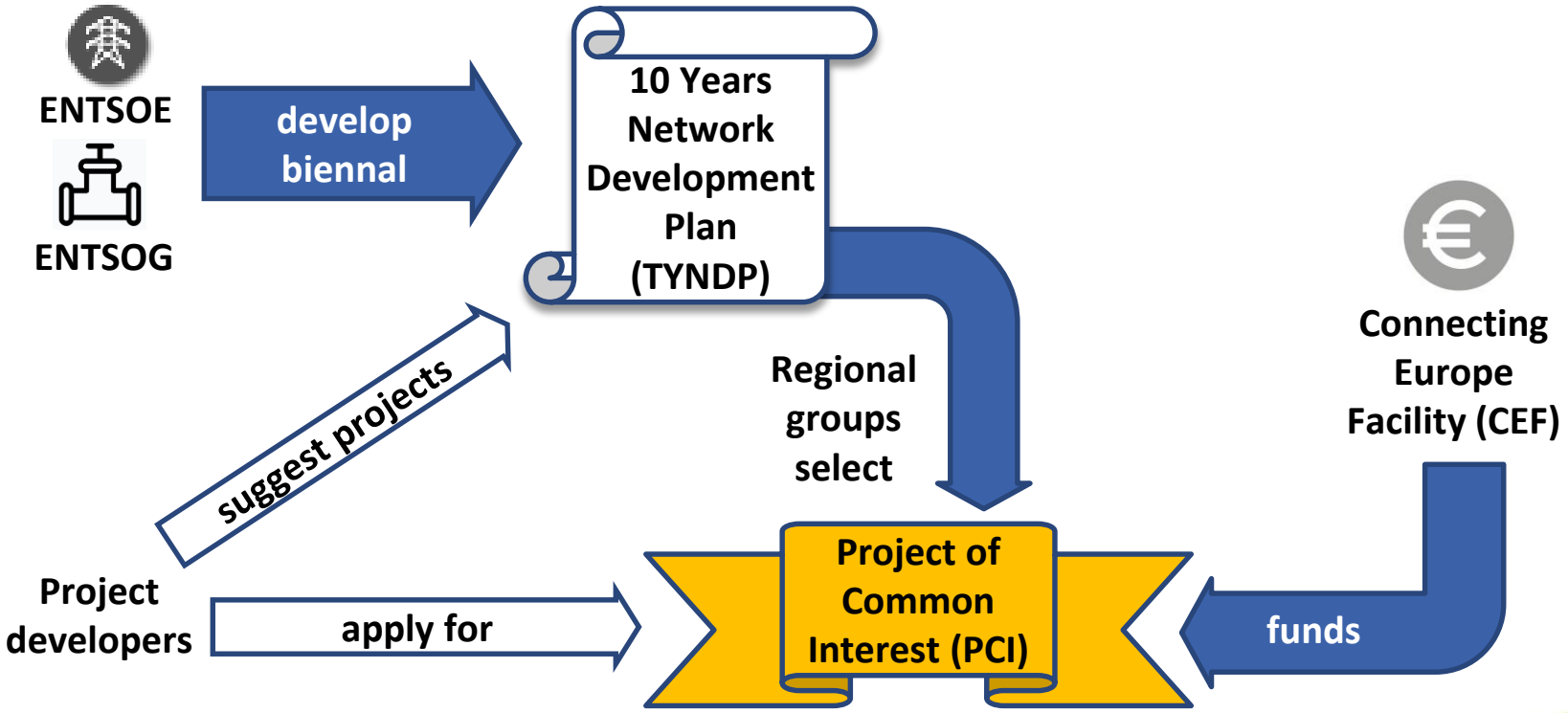
Regulation on conditions for access to the network for cross-border exchanges in electricity (714/2009), 13 July 2009, articles 8 (10), (11).
Regulation on guidelines for trans-European energy infrastructure (347/2013), 17 April 2013.
Regulation establishing the Connecting Europe Facility (1316/2013), 11 December 2013.

CAN CLIMATE ACTION NETWORK Europe

How the EU plans its energy infrastructure

Paris Agreement 2015 | Clean Energy Package 2018 | EGD 2020 ?

Trans-European Networks for Energy (TEN-E) Regulation 2013



Regulation on conditions for access to the network for cross-border exchanges in electricity (714/2009), 13 July 2009, articles 8 (10), (11).
Regulation on guidelines for trans-European energy infrastructure (347/2013), 17 April 2013.
Regulation establishing the Connecting Europe Facility (1316/2013), 11 December 2013.

CAN CLIMATE ACTION NETWORK Europe