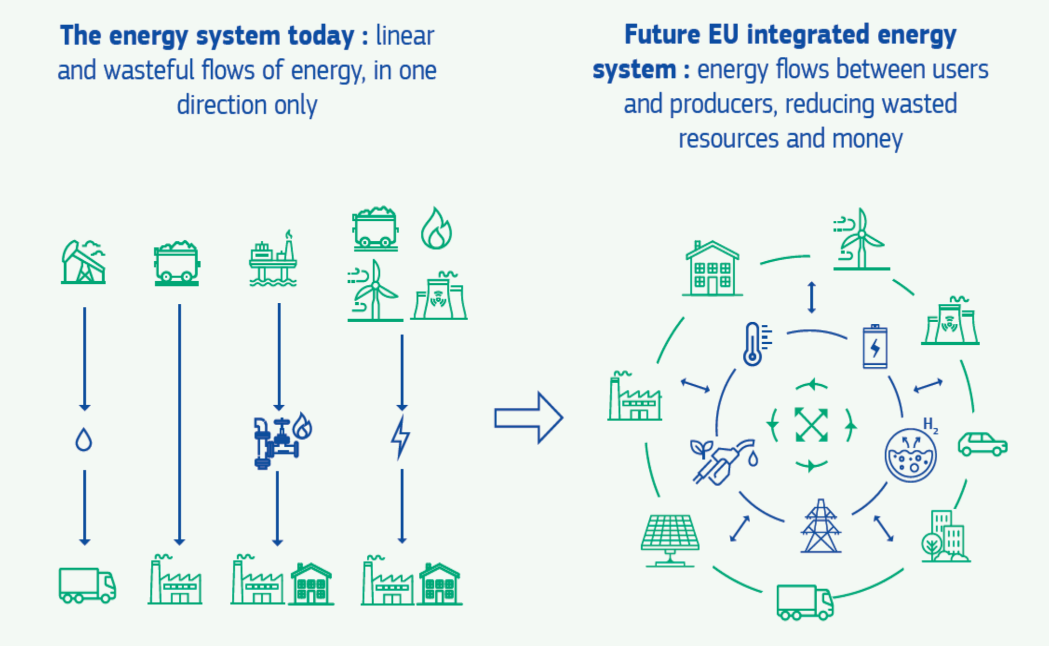
GREENING THE ENERGY COMMUNITY

Opportunities for Sector Coupling

EUROPEAN GREEN DEAL AND THE ENERGY SECTORS

European Green Deal

- *2050 climate neutrality*
- *Decarbonistaion of all sectors of the economy*
- *Higher GHG emission reduction in 2030*



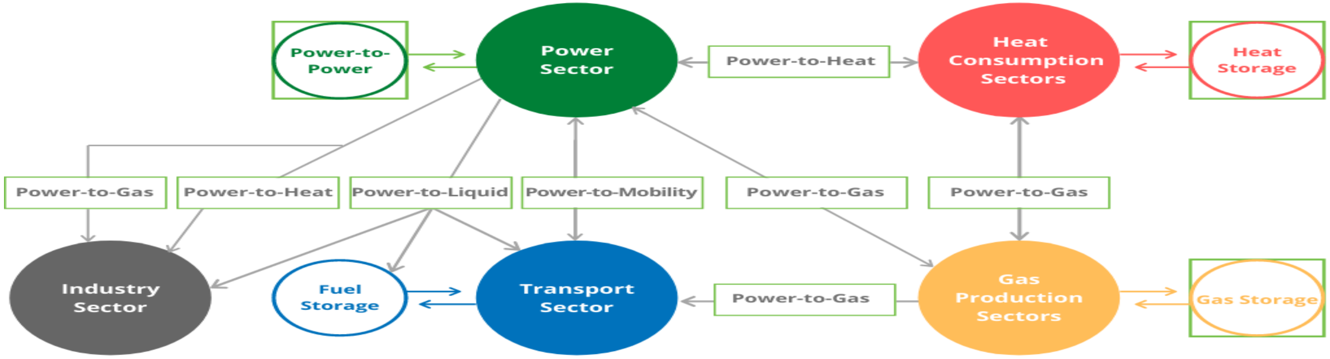
Energy Sector

- *75% of EU's GHG emissions is coming from the energy sector*
- *65% electrification by 2050*
- *80% electricity produced from RES*
- *Traditional energy system v future one: no wasteful one directional flows*

ENERGY SYSTEM INTEGRATION

Sector coupling *v* Sector integration

Coordinated planning & operation of the energy system as a whole, across multiple energy carriers, infrastructures and consumption sectors



Three main synergies from sector integration:

- *Circular energy system with EE first;*
- *Greater direct electrification for end-use sectors;*
- *Use of renewable & low-carbon fuels, including hydrogen, for end-use application.*

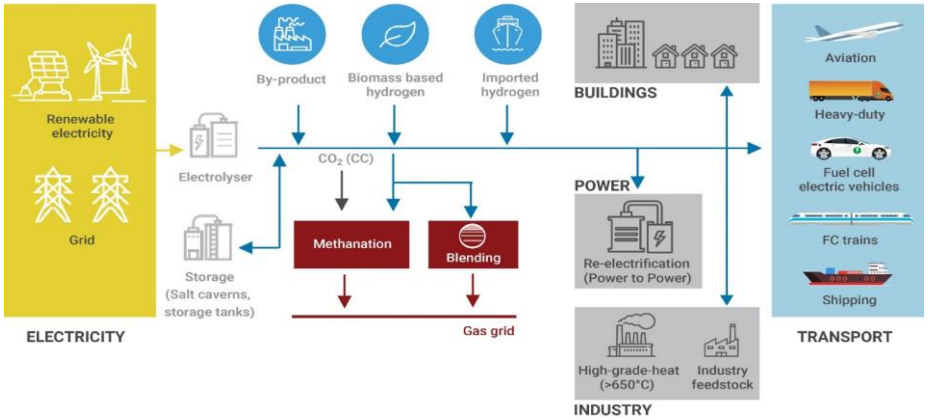
Electrification or (and which) alternative - depends on costs, technology, suport...

Why is it necessary?

- *minimise the costs of transition & open new opportunities*
- *facilitate the energy transition away from fossil fuel*
- *electrification cannot be 100% => need to substitute fossil fuels with carbon free primary sources*

THE ROLE OF HYDROGEN

Energy Community



- *Clean Hydrogen is a priority for the energy transition of Europe* (F. Timmermans)
- *Hydrogen is the missing link in the puzzle to a fully decarbonised economy* (K. Simson)

- Increase of RES (instead of curtailments) => Power-to-H
- Hydrogen is still expensive: 1,5€/kg (fossil-fuel, no CO2 cost); 2 €/kg (fossil-fuel+CCS)and 2,5-5 €/kg (clean H)
- Supportive framework & clear rules needed

- H – feedstock, fuel, energy carrier & storage
- Investment priority: 180-470 bil. EUR by 2050 in clean H
- Promote clean, but in short and mid-term allow other forms of H => aim at decarbonising H-production

2020 – 2024

installation 6GW RE H electrolysers & production up to 1 mil. t RE H

2025 – 2030

installation 40GW RE H electrolysers & production up to 10 mil. t RE H

2030 – 2050

RE H technologies reach maturity & deployment on large scale

H in energy mix: 2% now to 13-14% by 2050

H in heavy transport, aviation, chemical, steel industry... but cars, heating, electricity have better alternatives

FUTURE LEGAL AND REGULATORY FRAMEWORK

Market Rules

Implementation of CEP

Upgrade of gas framework – making it fit for decarbonised gases

Regulation necessary for market failure BUT no market yet for decarbonized gases

- Which parts of the value chain will be regulated?
- Will there be LTC and/or VIU allowed?
- Clear def. of decarbonised gases
- Rules for integrating decarbonised gases in the existing gas markets
- Blending gases and enabling development of new gases / technologies – quality issues
- Role of TSO /DSO in competitive activities related to H2
- Will there be TPA to H2 networks?
- Will OU be required?
- Financial consequences for HH
- What about CO2 transportation, including TPA, role of TSOs, charging etc..

Guarantees of Origin

Virtual trading for developing competitive & liquid H market

Enable consumers / industry to track the source of and GHG content (within ETS / CBAT framework)

How will H-related GoO look like

EU-wide instruments needed

Taxation

Avoid dou

What kind of subsidies for different energy carriers and fuels

Carbon cost internationalisation

Infrastructure

Revision of TEN-E

Link with TEN-T

coordinate planning

State Aid framework

Competition Law compliance

Consumer information

GREEN AGENDA FOR THE WESTERN BALKANS

Energy Community

10 Nov 2020: **Sofia Declaration on the Green Agenda for the Western Balkans** - *cornerstone for a long-term vision in establishing a modern, climate neutral, resource-efficient and competitive economy.*

- *align with new Climate Law (meaning for EnC) and with EU ETS, set 2030 targets, adopt NECPs & carbon pricing …*
- *review legislation for decarbonisation & enforce through EnC*
- *phase-out coal & shift to clean energy*
- *sustainable & socially-just recovery*

What is the Green Agenda for the WB?

- *new growth strategy => from traditional to sustainable economy in line with the European Green Deal.*
- **Five** main areas of the Green Agenda for the WB:
  - ✓ *Decarbonisation: climate, energy, mobility*
  - ✓ *Circular economy*
  - ✓ *Depollution: air, water & soil*
  - ✓ *Sustainable food systems & rural areas*
  - ✓ *Biodiversity: protection & restoration of ecosystems*
- Connectivity = *the heart at the new* ***Economic and Investment Plan for the WB****: up to 9 bil. EUR EU grants & with backing of the WB Guarantee Facility - raising up to 20 bil. EUR investments in energy, transport & digital transition.*
- **Investing in***: sustainable transport, clean energy, environment and climate, digital future, private sector, human capital*

Subject to: *WB accelerating reforms & (roadmap for and establishing)* ***Common WB Regional Market !!!***

CHALLENGES AND OPPORTUNITIES FOR GREENING THE ENERGY COMMUNITY

Energy Community

Status quo

Liberalisation not finalised
- Risk of carbon leakage from EnC as third countries
- No carbon price & weak state aid enforcement
- 2.4 bil.EUR direct and indirect subsidies to coal in EnC

See: Coal subsidies in EnC study
Upcoming EnC Carbon pricing study…

- *Coal, oil and natural gas must be phased out!*
- *Alternatives must be found in EnC as in EU!*

What to expect?

Sector integration / cooperation with Transport Community
- improve energy & transport sector governance / enforcement of binding legislation;
- address market, regulatory, technical & other barriers for energy and transport sector coupling;
- need regulations enabling and supporting sustainable development of energy and transport sectors to use synergies…

How do we do it?

Hydrogen in EnC:
- International dimension of EU Hydrogen strategy
- EnC Hydrogen study launched
- EnC - RES in T study

Overcoming the crisis => **opportunity** to engage on a resilient, sustainable and fair recovery path & to establish modern, resilient and clean energy systems

Regional cooperation / **Energy Community as a platform** to facilitate economic recovery

THANK YOU
FOR YOUR ATTENTION

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