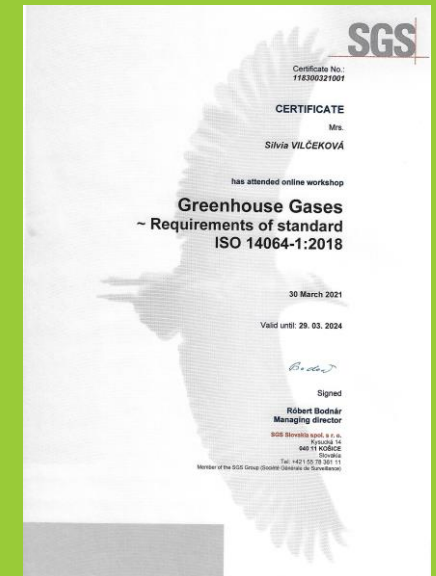
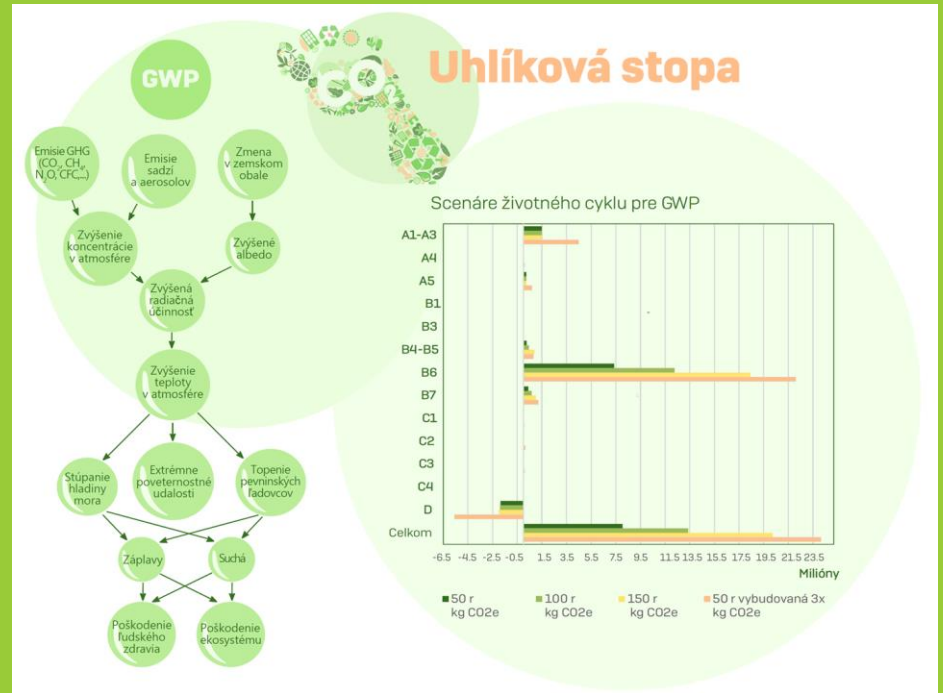
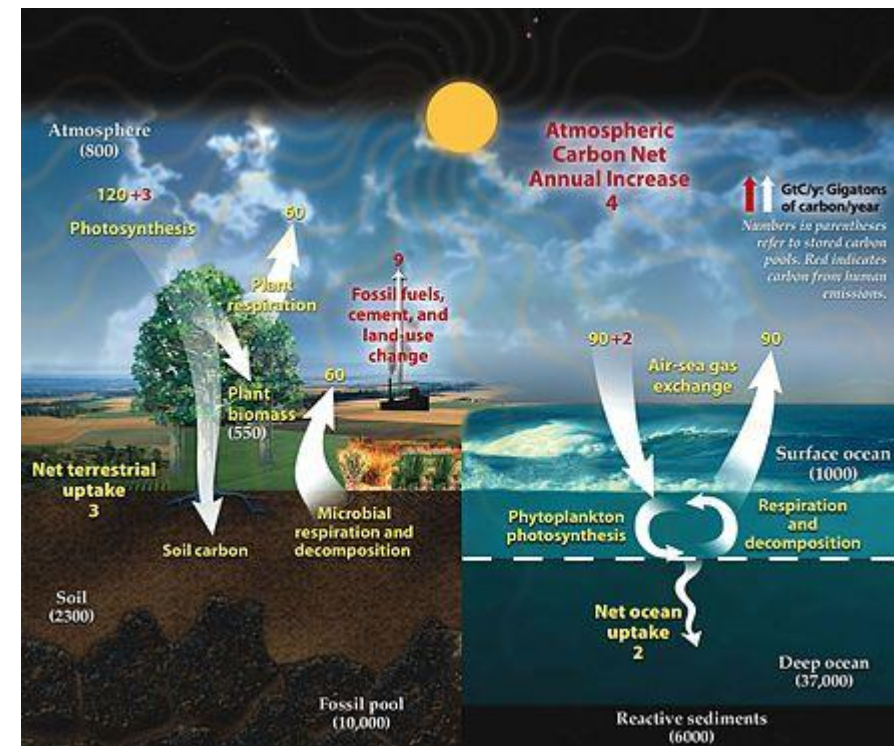


Carbon Footprint of Product (CFP)



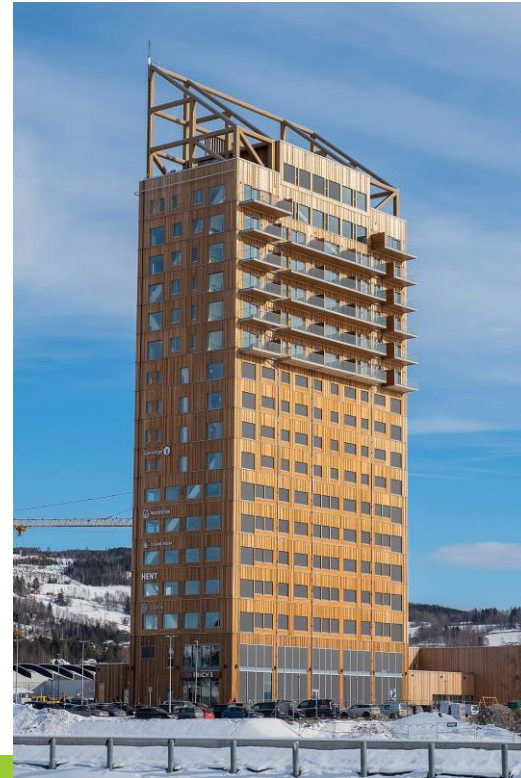
Carbon neutrality (EU plan to 2050)

- Achieving a balance between carbon emissions and their absorption from the atmosphere into the so-called **carbon sinks**
- Achieve carbon neutrality - we must balance all world emissions by "carbon sequestration" - CO₂ transfer, resp. C from the atmosphere to other active reservoirs (natural traps)
- sea
- ocean
- soil
- trees
- plants roots, carbon sequestrating



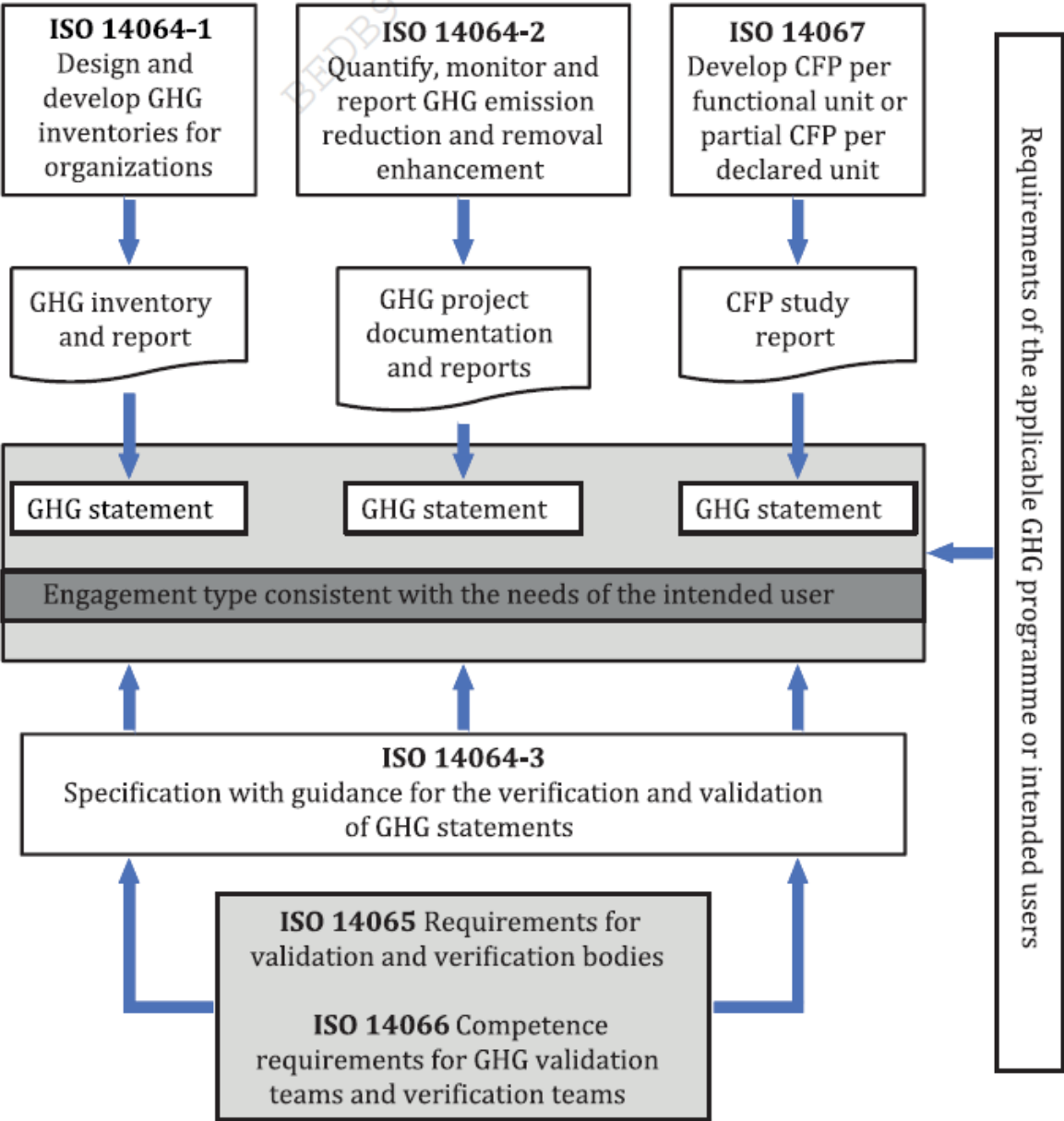
Carbon neutrality (EU plan until 2050)

- **Natural scavengers** absorb 9.5 to 11 gigaton of CO₂ per year
- In 2019, 38 gigaton of CO₂ was released into the atmosphere
- Reduction of CO₂ emissions compensation between different sectors
 - renewable energy investments
 - environmental technologies
 - increasing energy efficiency, ...



- The Intergovernmental Panel on Climate Change (**IPCC**) (1988) is the expert guarantor for defining methods for determining greenhouse gas emissions.
- The IPCC does not carry out any basic research, nor does it monitor the climate itself and other climate-related natural phenomena.
- The IPCC's work consists mainly in publishing **special reports**
- IPCC - world temperature must not rise by more than 1.5 ° C.
- Achieve carbon neutrality by 2050 - the goal of the Paris Climate Agreement - signed by 195 signatories
- December 2019 - European Commission unveils **European Green Deal** - to achieve the goal of making Europe climate-neutral by 2050
- 5 EU countries have climate targets set out in legislation (Sweden, Denmark, France, Germany and Hungary)

Relationship among the ISO 14060 family of GHG standards



ISO 14060

- The ISO 14060 family of standards provides a clear and consistent approach to:
 - quantification and monitoring of greenhouse gas emissions and removals
 - reporting
 - validation of these processes
- **ISO 14064-1**
 - principles and requirements for the design, establishment and management of **greenhouse gas inventories** for organization
 - requirements for determining the boundaries of the emissions system
 - requirements and guidelines for quality management,
 - internal audit and accountability at each level of management

- **ISO 14064-2**

- principles and requirements for determining the baseline scenario of the project
- **quantification and monitoring of emissions within the project**
- **reporting**
- project **verification** and **validation**

- The standard focuses on projects to reduce emissions and increase greenhouse gas emissions

- **ISO 14064-3**

- requirements for the **verification of greenhouse gas statements**

- **ISO 14065**
 - requirements for bodies performing **validation** or **verification** of greenhouse gas **statements**
- **ISO 14066**
 - requirements for the **competence** of **validation teams**
- **ISO 14067**
 - principles, requirements and guidelines for **quantifying the carbon footprint of products**

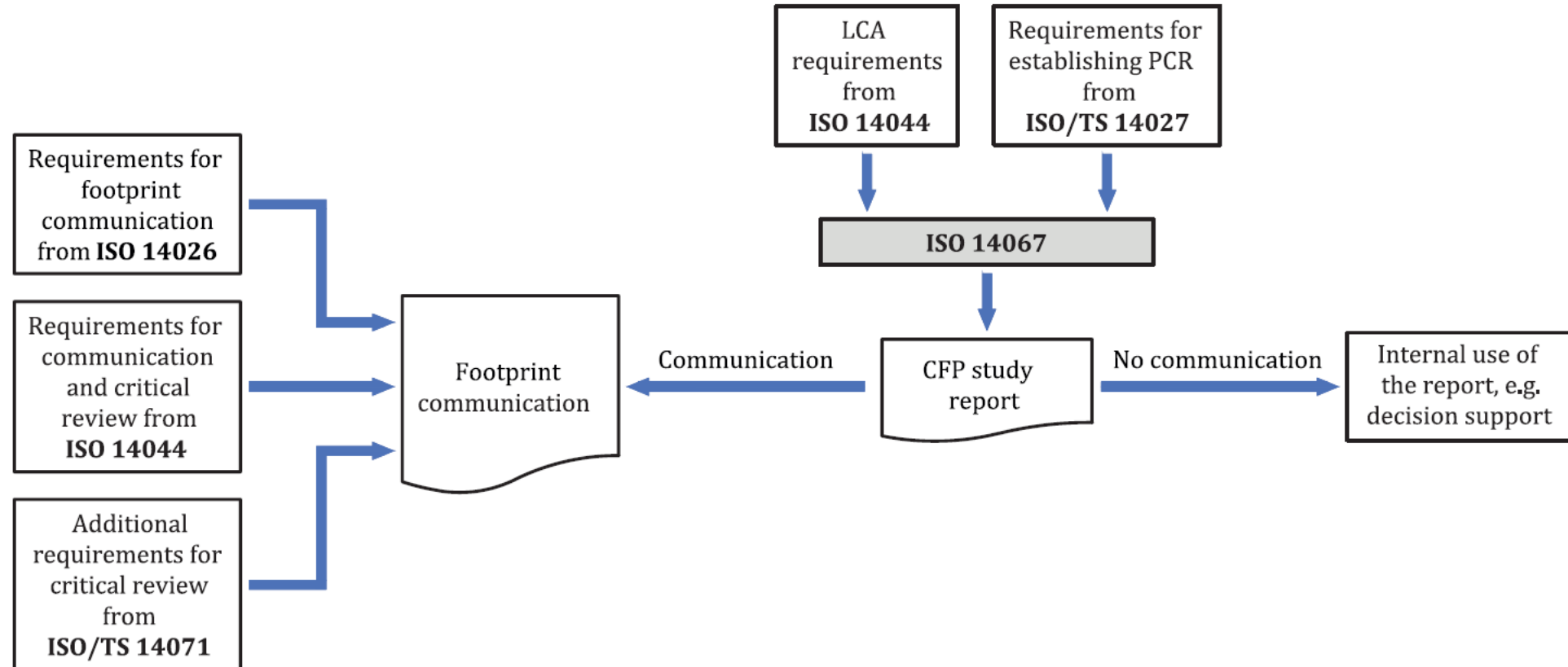
CARBON FOOTPRINT OF PRODUCT

EN ISO 14067 Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification



- specifies principles, requirements and guidelines for the quantification and reporting of the carbon footprint of a product
- the aim is quantification of a CFP which takes into consideration the entire life cycle of a product, including acquisition of raw material, desing, production, transportation/delivery, use and the end-of-life treatment
- **Carbon footprint of a product** is sum of GHG emissions and GHG removals in a product system, expressed as CO₂ equivalent and based on a life cycle assessment using the single impact category of **climate change**.

Relationship between ISO 14067 and standards beyond the GHG management family of standards



CFP

- EN ISO 14040:2007 Environmental management - Life cycle assessment - Principles and framework.
- EN ISO 14044:2007 Environmental management - Life cycle assessment - Requirements and guidelines.
- EN ISO 14026:2019 Environmental labels and declarations - Principles, requirements and guidelines for communication of footprint information.
- STN EN ISO 14067: 2018 Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification.



Specific GHG emissions and removals treatment in the CFP study or partial CFP and documented separately in the CFP study report

Specific GHG emissions and removals	Treatment in the CFP or the partial CFP			Documentation in the CFP study	
	Shall be included	Should be included	Should be considered for inclusion	Shall be documented separately in the CFP study report	Shall be documented separately in the CFP study report, if calculated
Fossil and biogenic GHG emissions and removals	X			X	
GHG emissions and removals occurring as a result of dLUC	X			X	
GHG emissions and removals occurring as a result of iLUC			X		X
GHG emissions and removals from land use		X			X
Biogenic carbon in products					X
Aircraft GHG emission	X			X	

Direct land use change dLUC - change in the human use of land within the relevant boundary

Indirect land use change iLUC - change in the use of land which is a consequence of direct land use change, but which occurs outside the relevant boundary

Required information for the CFP study report

- a) functional or declared unit and reference flow
- b) system boundary
- c) list of important unit processes
- d) data collection information, including data sources
- e) the list of GHGs taken into account
- f) the selected characterization factors
- g) the selected cut-off criteria and cut-offs
- h) the selected allocation procedures
- i) timing of GHG emission and removals
- j) description of data, including decisions concerning data, and assessment of data quality
- k) results of sensitivity analyses and uncertainty assessments

Required information for the CFP study report

- l) treatment of electricity, which should include information on the grid emission factor calculation and relevant grid specific constraints
- m) results of the life cycle interpretation, including conclusions and limitations
- n) disclosure and justification of value choices that have been made in the context of decisions within the CFP study
- o) scope, and modified scope, if applicable, along with justifications and exclusions
- p) description of the stages of the life cycle, including a description of the selected use profiles and end-of-life scenarios
- q) the assessment of influence of alternative use profiles and end-of-life scenarios on the final results
- r) time period for which the CFP is representative ,
- s) reference of the PCR applied or other supplementary requirements used in the study
- t) description of performance tracking.

Conclusion

- Based on the quantification of GHG emissions and removals for a product, the following measures can be proposed:
 - purchase of green electricity
 - replacement of petrol with green electricity
 - replacement of diesel for green electricity
 - replacement of natural gas with green electricity, biomass and/or heat pumps

THANK YOU FOR YOUR ATTENTION.