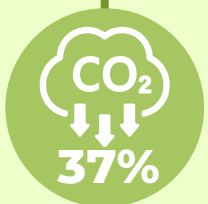




Early Phase Out Scenario cost 34% Higher

than than keeping the Coal-fired Power Plants (CFPP) running as is (**the reference scenario**). Although this scenario has additional costs, it is far cheaper to early retire the CFPP and replace it with renewables, than to retrofit with **Carbon Capture and Storage (CCS)**.

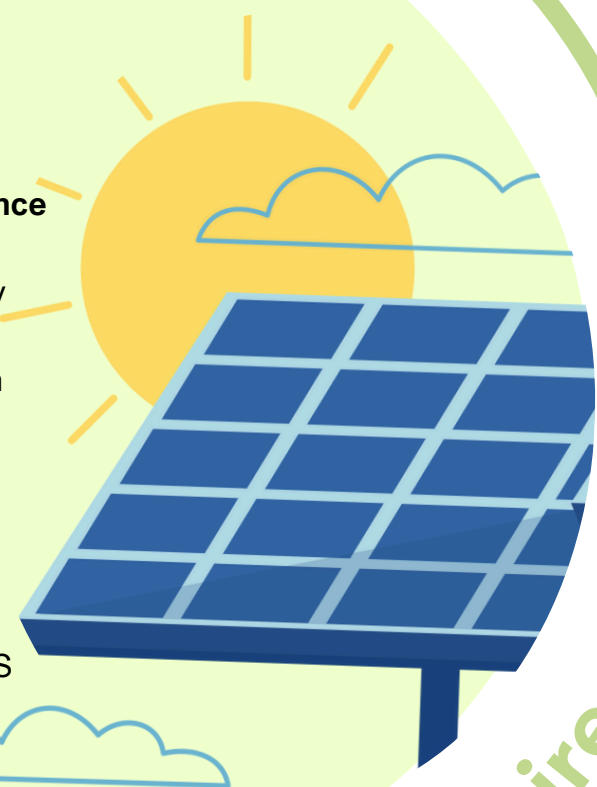


Reduce More Emission

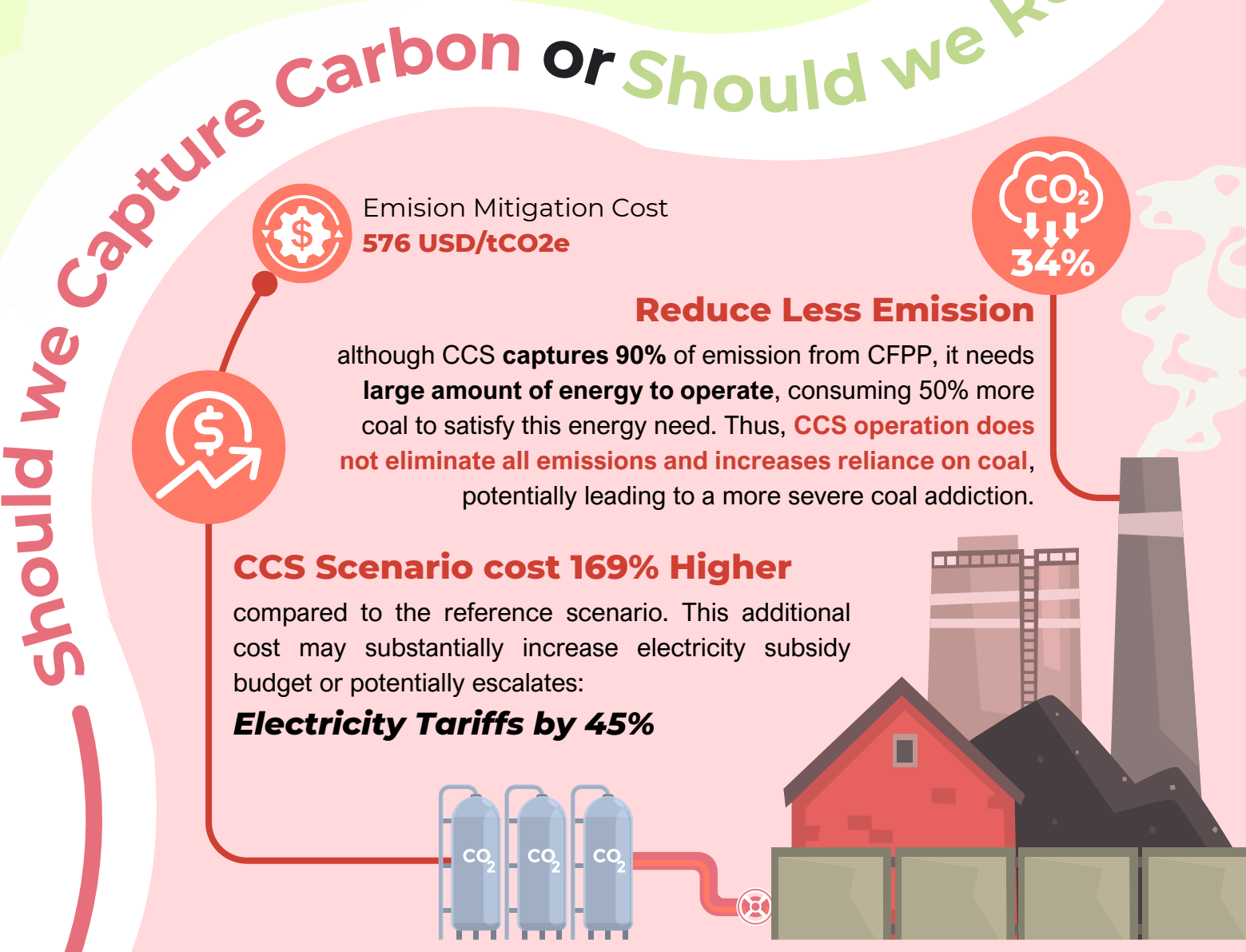
10 years early retirement of CFPP in exchange for renewable energy reduce more emission than retrofitting with CCS



Emission Mitigation Cost
188 USD/tCO₂e



Should we Retire CFPP Early?



Should we Capture Carbon or Should we Retire CFPP Early?



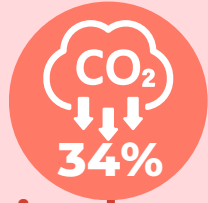
Emission Mitigation Cost
576 USD/tCO₂e



CCS Scenario cost 169% Higher

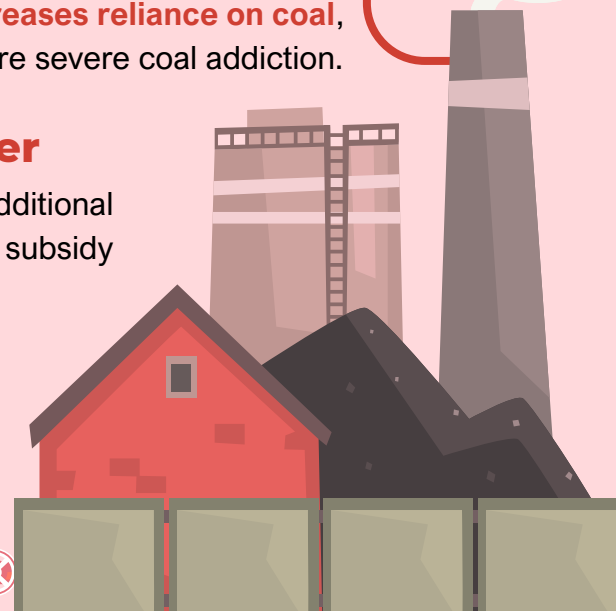
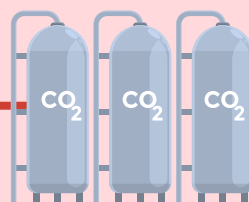
compared to the reference scenario. This additional cost may substantially increase electricity subsidy budget or potentially escalates:

Electricity Tariffs by 45%



Reduce Less Emission

although CCS captures 90% of emission from CFPP, it needs **large amount of energy to operate**, consuming 50% more coal to satisfy this energy need. Thus, **CCS operation does not eliminate all emissions and increases reliance on coal**, potentially leading to a more severe coal addiction.



KEY POINTS



Design an **evidence-based pathway** to select an optimal mix between renewables and coal-exit strategies to decarbonize the power sector.



Develop a **national emission pathway** to be aligned across ministries and agencies for developing a cohesive national CFPP retirement plan.



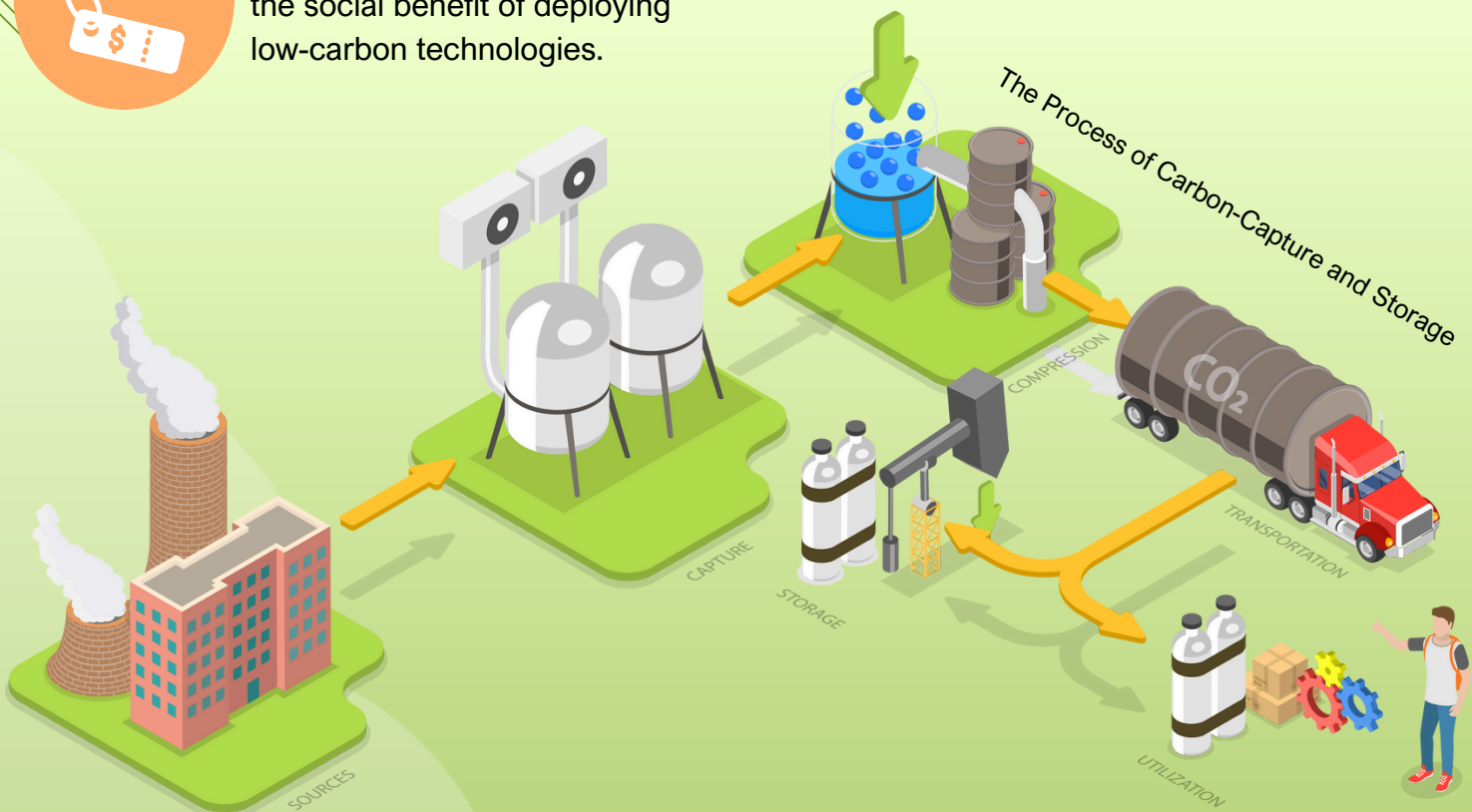
Utilize **carbon pricing** to quantify the social benefit of deploying low-carbon technologies.



Utilize **innovative financing mechanisms** for early retirement of CFPP to **limit the impact on public budget**.



Further studies covering the cost and benefit of other decarbonization methods, such as cofiring, biomass and ammonia.



Scan to read the full report
or access through
s.id/CASE-CoalEndgame

This infographic is based on the Coal's endgame: Cost-benefit analysis (CBA) of early retirement coal-fired power plant (CFPP) versus CFPP with carbon capture and storage (CCS).