

# Effects of Black Carbon Mitigation on the Arctic Climate

## The WHITE project

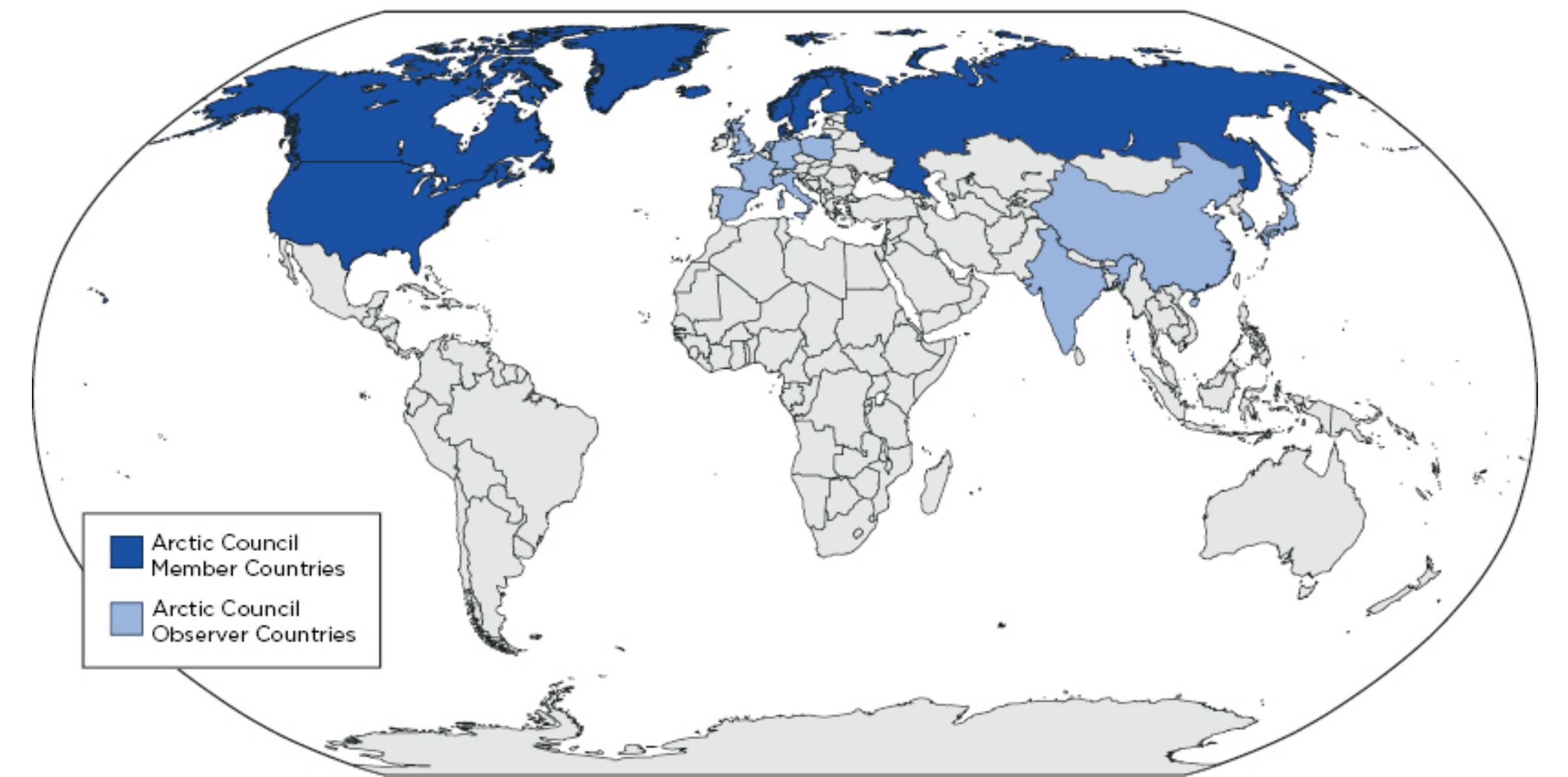
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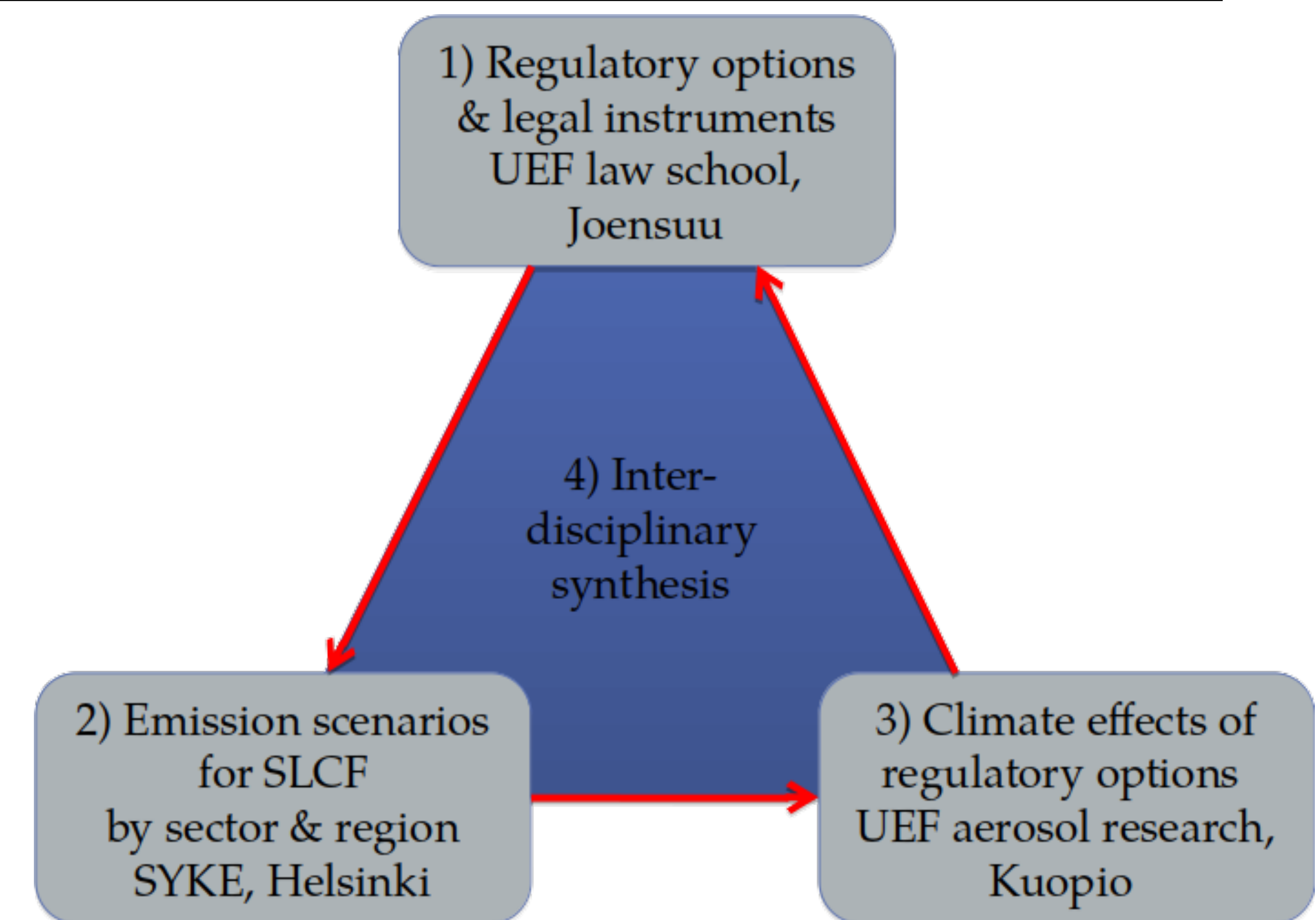
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The WHITE project combines the fields of law, aerosol physics, and environmental science, aiming to find opportunities to strengthen the regulatory framework for reducing emissions of short-lived climate forcers (SLCFs) in the Arctic. SLCFs, especially black carbon (BC), have a significant short-term warming influence on the climate.

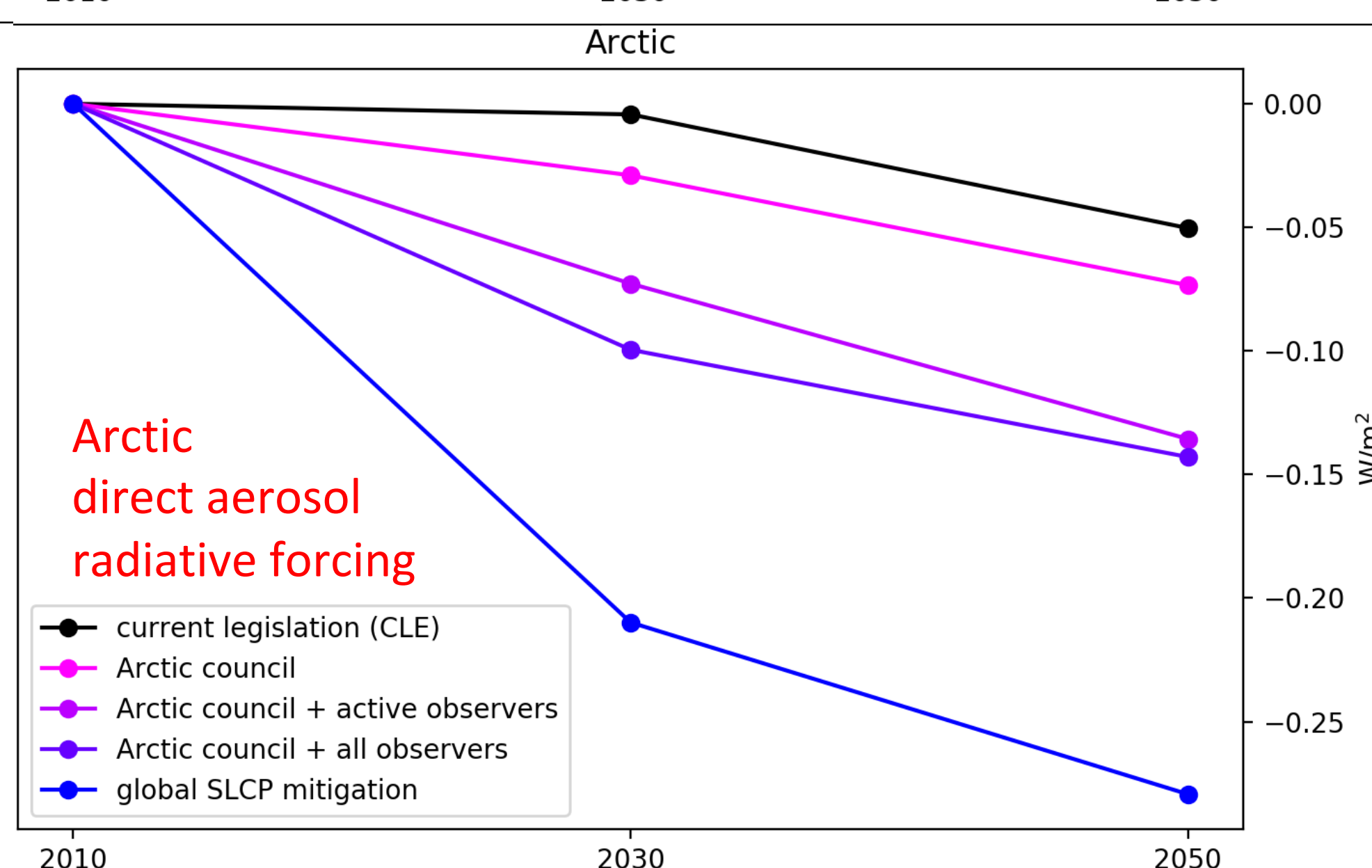
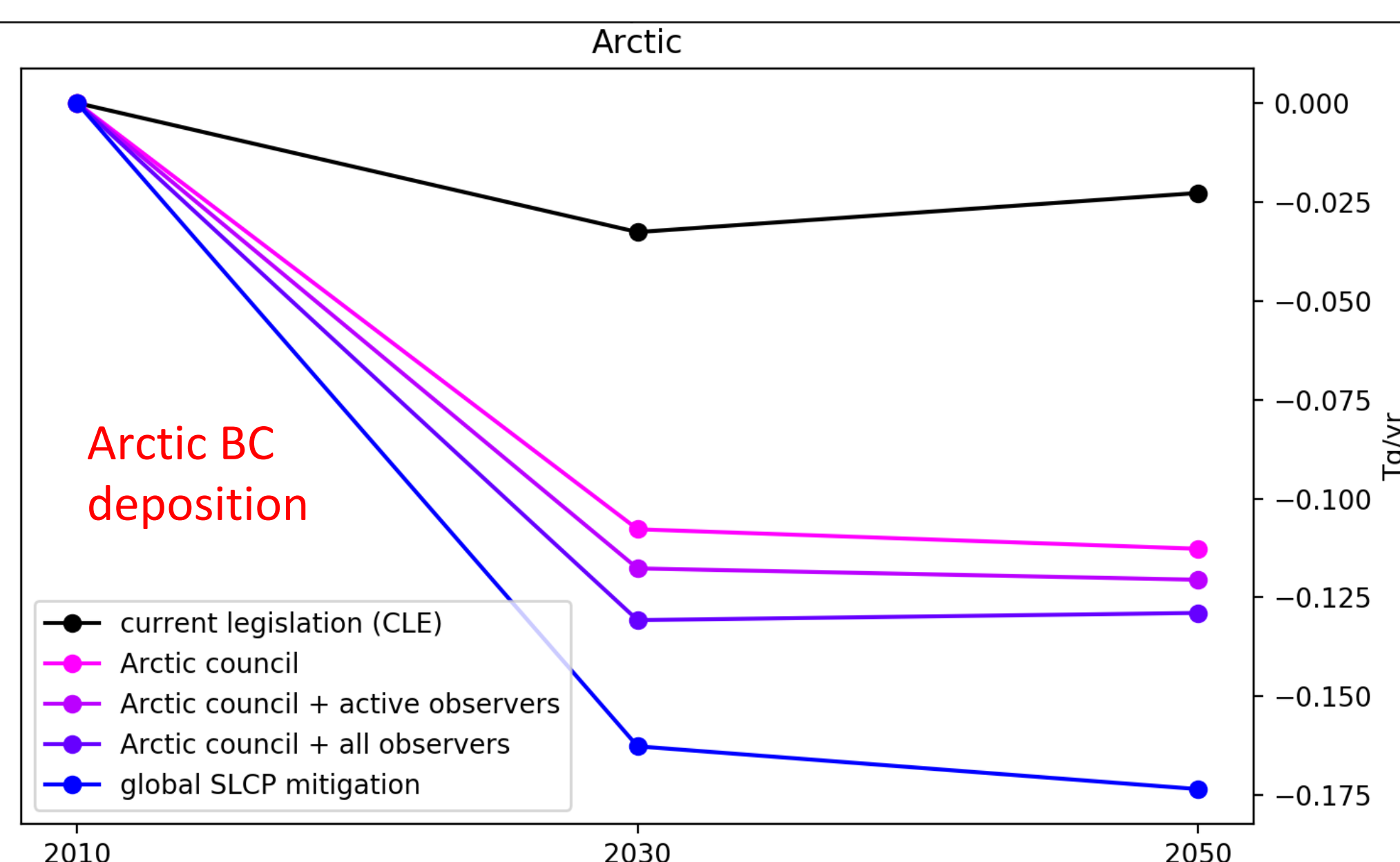
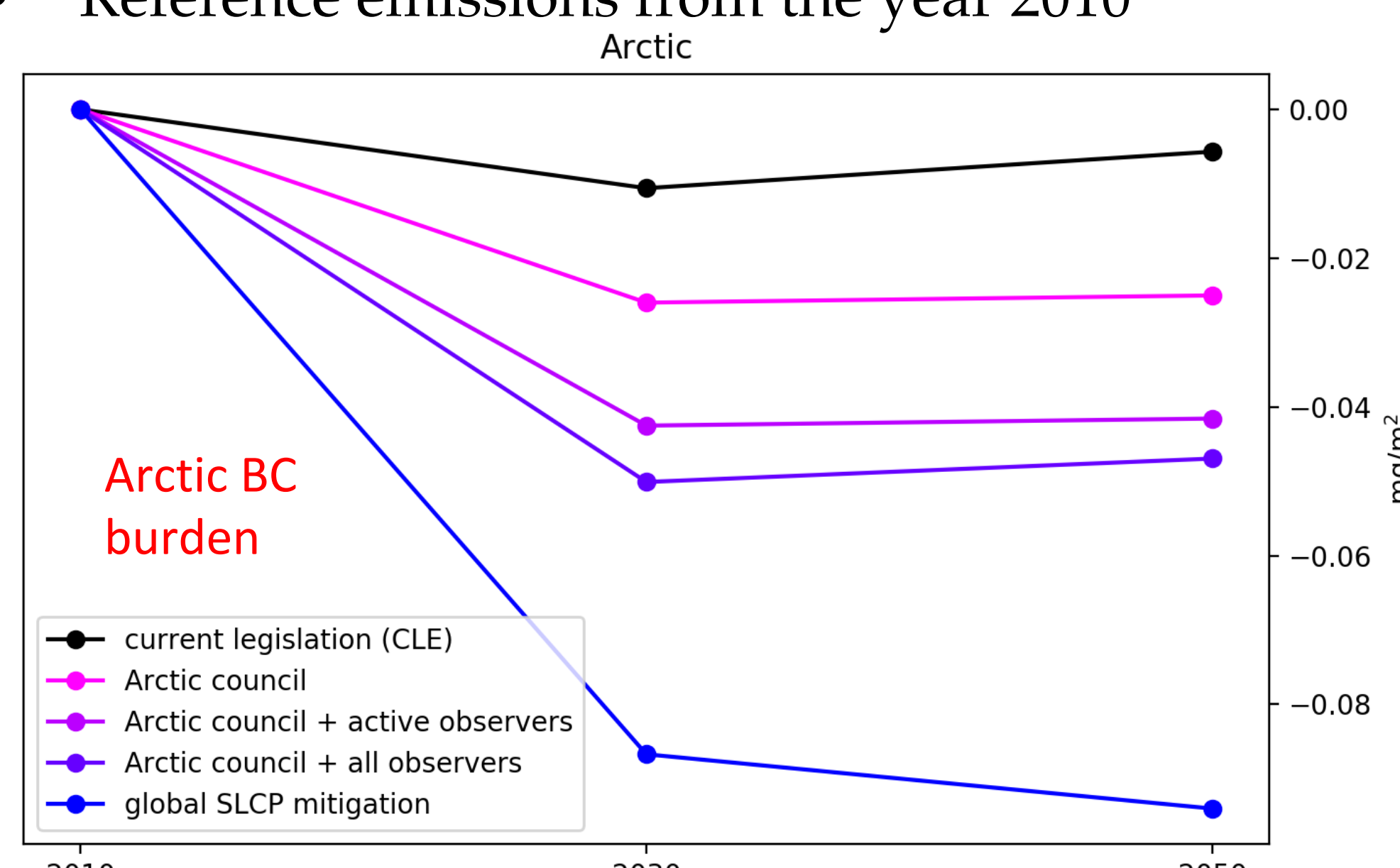
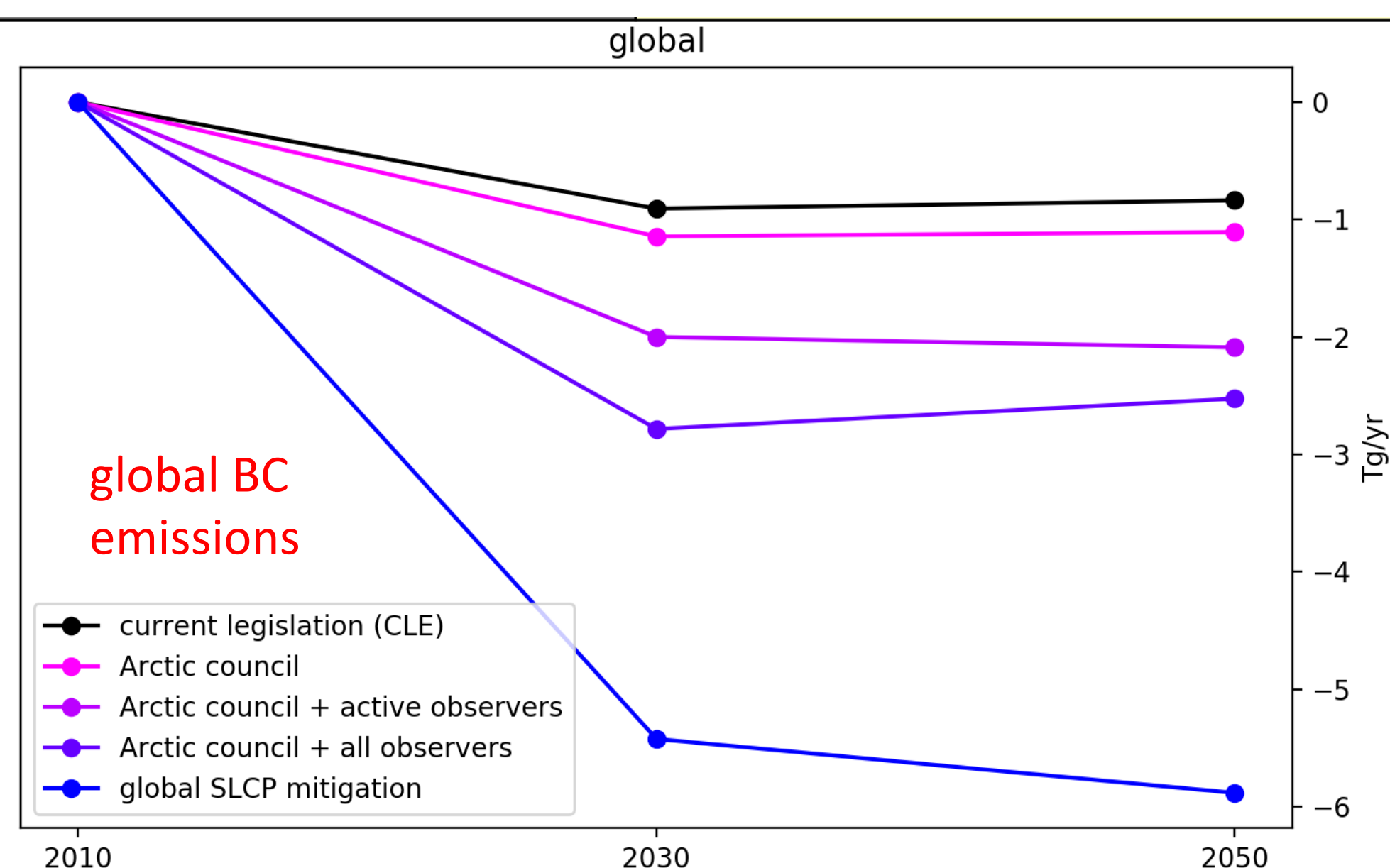
We studied the effects of BC mitigation on the Arctic climate, with special focus on the Arctic council (AC) framework. Mitigation scenarios are based on maximum feasible emission reductions.



Climate modelling setup:

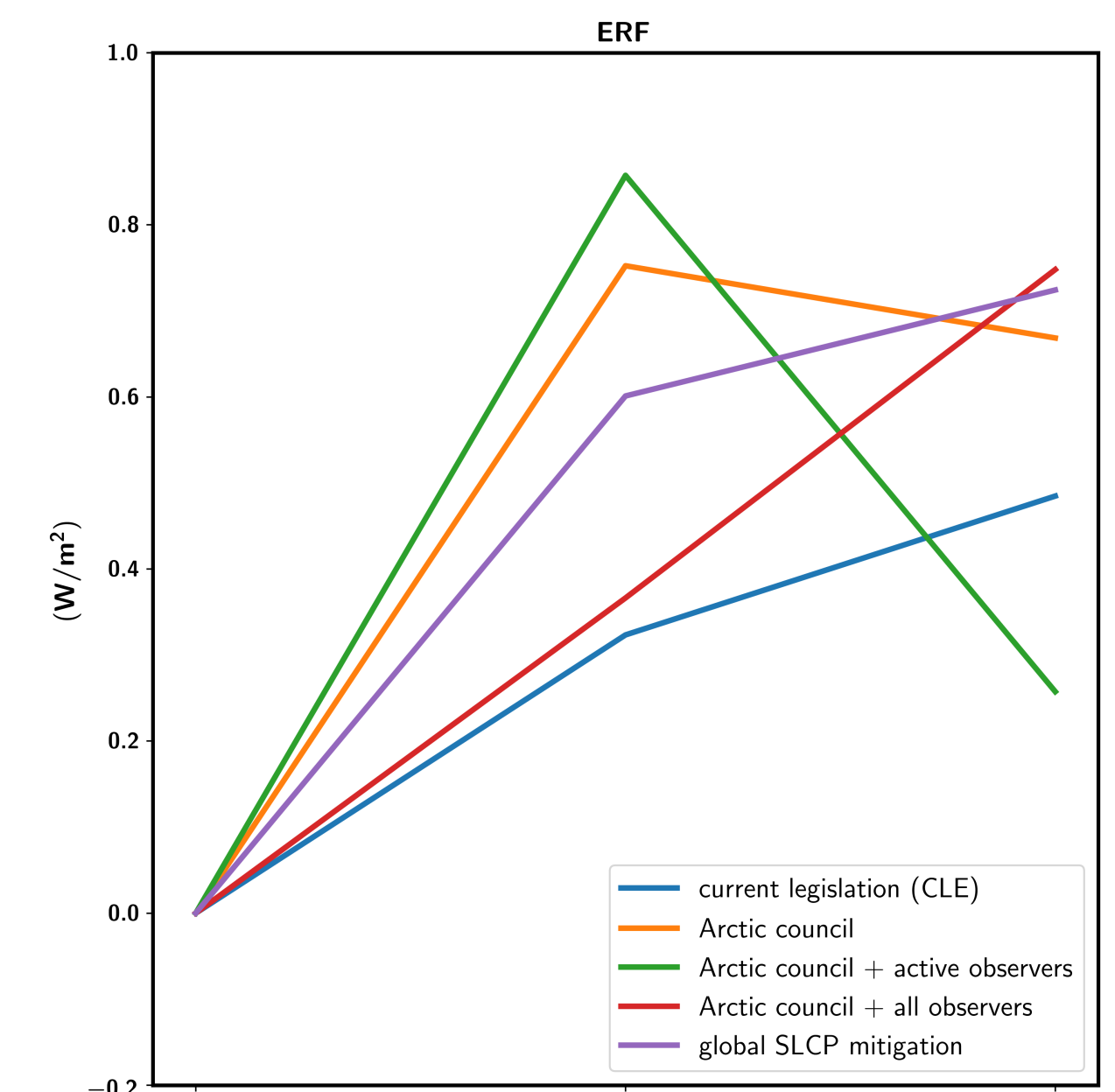
- Model: ECHAM6.3.-HAM2.3.-SALSA

- 5 mitigation scenarios, focus on BC and OC
- Simulated for the years 2030 and 2050
- Reference emissions from the year 2010



## Main findings:

- AC member countries have significant contribution to BC levels in the Arctic
- BC mitigation decreases direct radiative forcing in the Arctic
- High uncertainties in indirect forcings (mainly due to cloud processes).



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