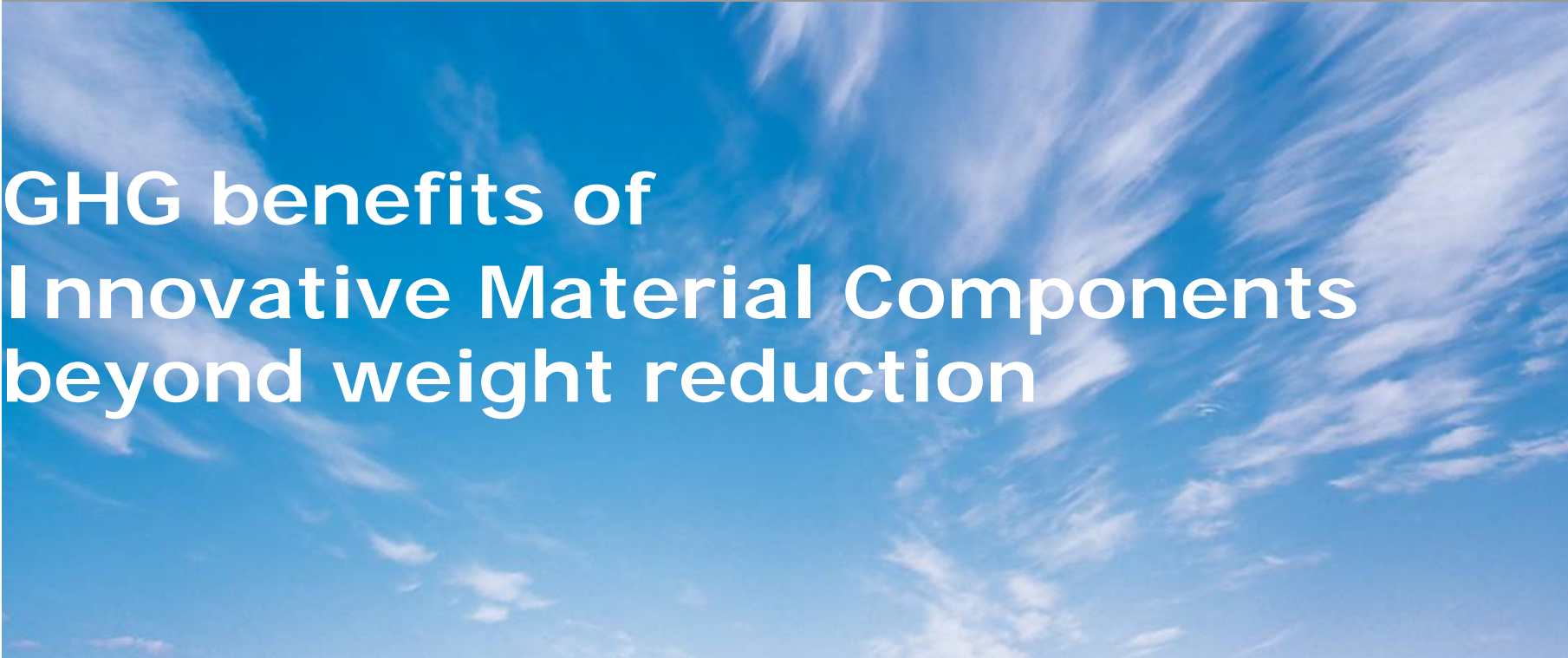


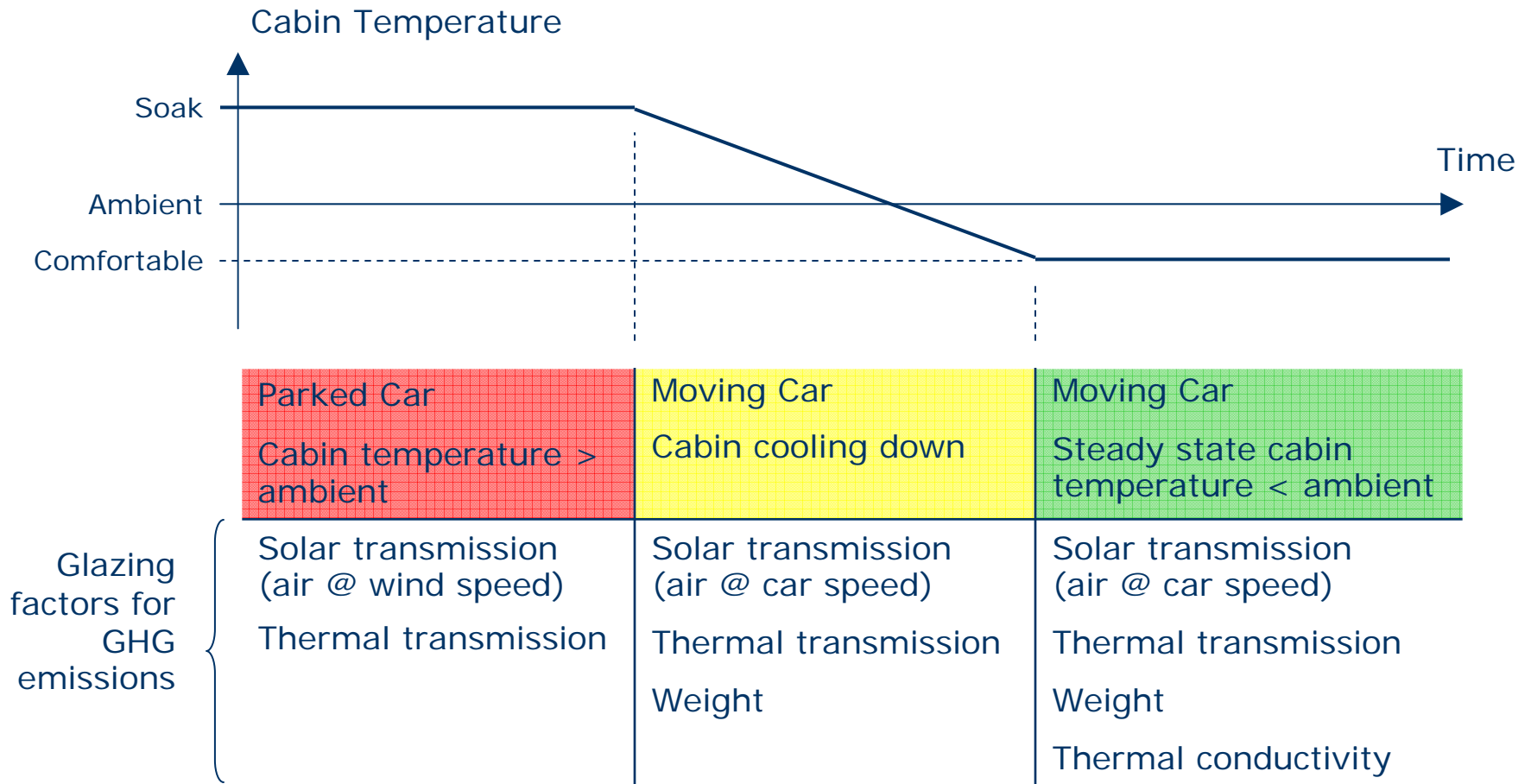
18 May 2010



GHG benefits of Innovative Material Components beyond weight reduction

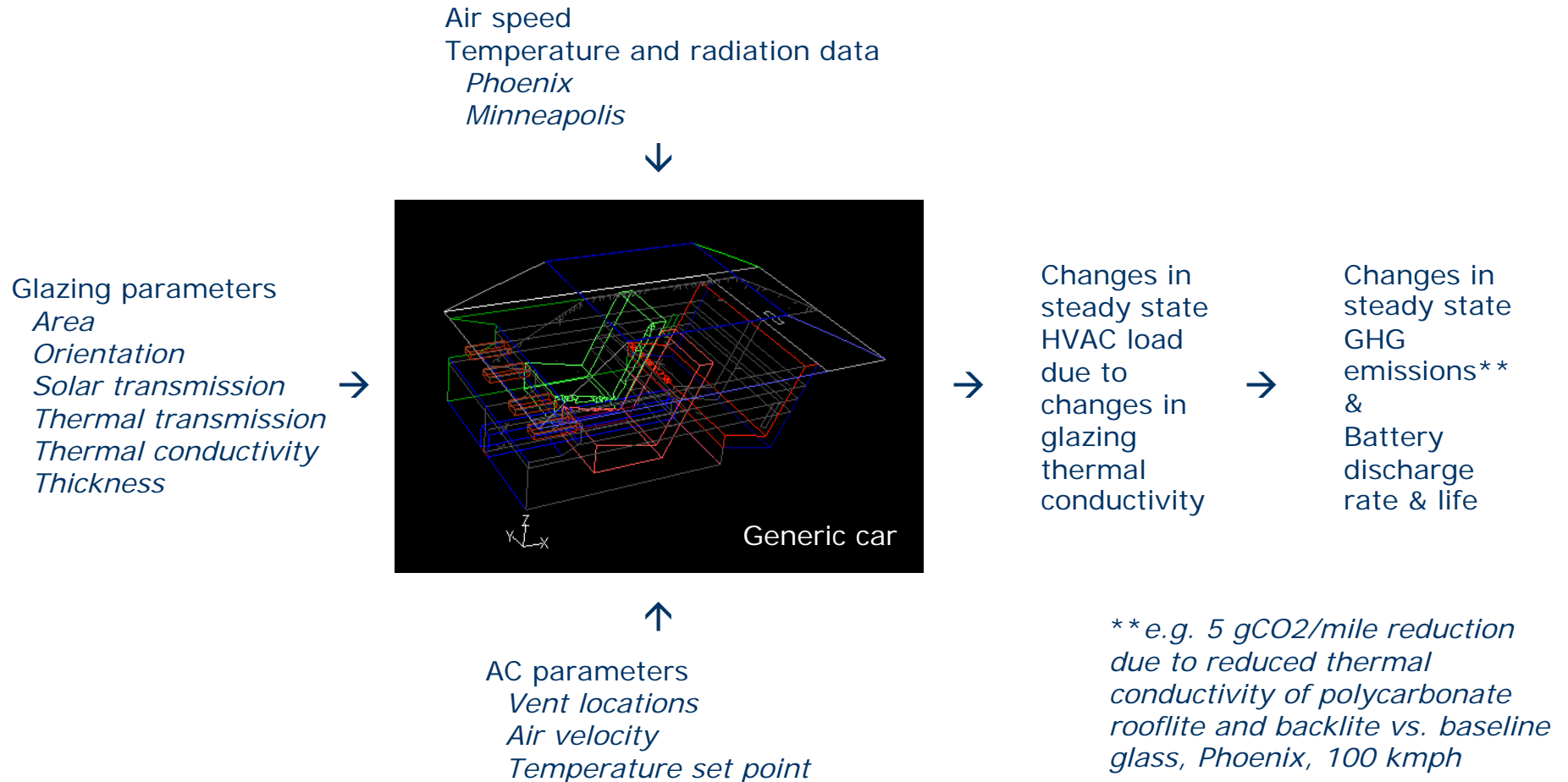
Sharing our futures

Warm Weather Trip Cycle



Analogy ... House insulation : utility bills
 Glazing thermal conductivity : steady state HVAC load

SABIC-IP CFD* analysis quantifies thermal conductivity effect



Reduced glazing thermal conductivity → reduced steady state HVAC load
→ reduced GHG emissions & battery discharge rate (hybrids)

Conclusions

Reduced glazing thermal conductivity ...

- Aids maintenance of comfortable cabin temperature
- Hot weather: GHG reduction, additive to weight reduction benefits
- Cold weather: battery discharge rate reduced & life extended ...

Indirect GHG benefit

Supports value proposition of hybrid vehicles

Trip Cycle Analysis (origin to destination) recognizes ...

- Initial cabin temperature
- Transition to comfortable temperature
- Maintenance of comfortable temperature

Drive cycle for AC indirect emissions should ...

- Encompass steady state cabin temperature
- Simulate air flow over moving car