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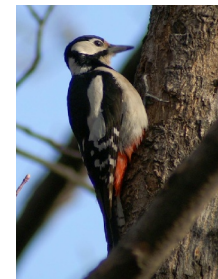
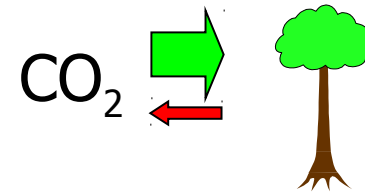
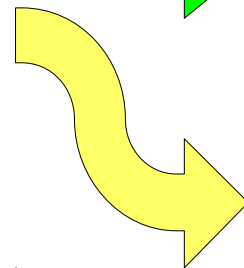
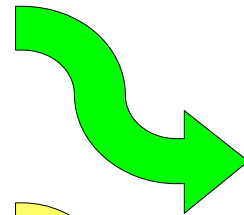
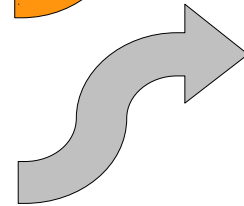
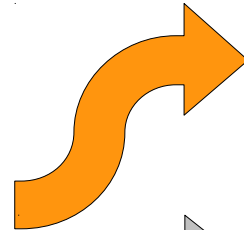
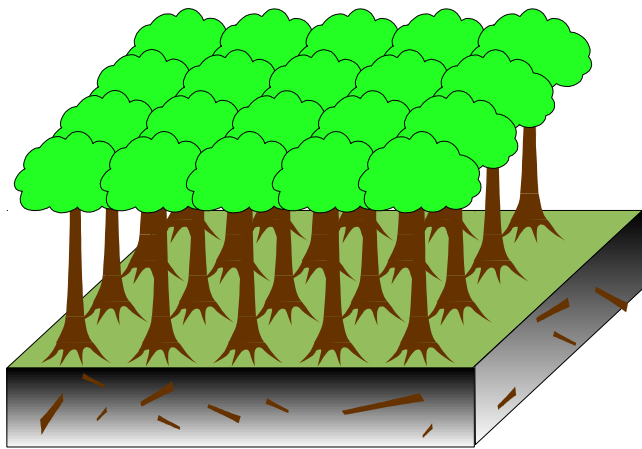
Bundling or stacking payment for environmental services:

Opportunities or threats to the provision of ES?

Nicolas Robert

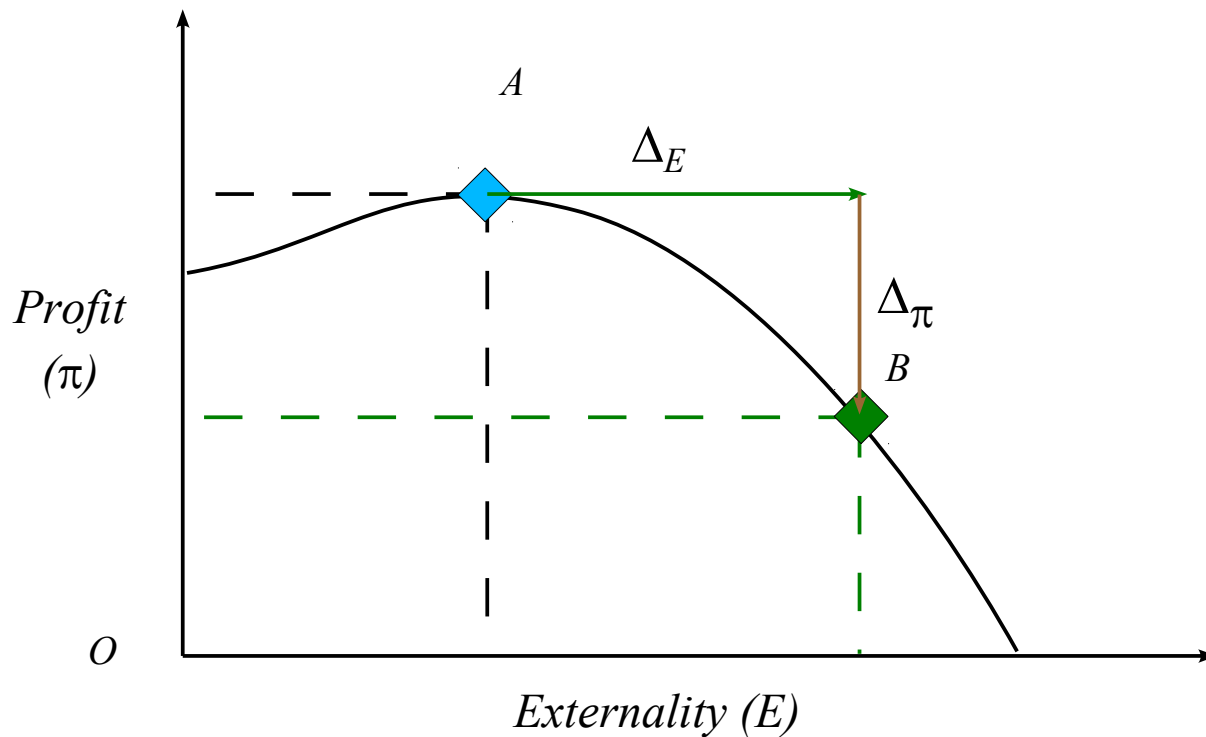
Early Stage Researchers Forum
Warsaw, PL – Sept 26, 2011

Forestry: a multi-output process



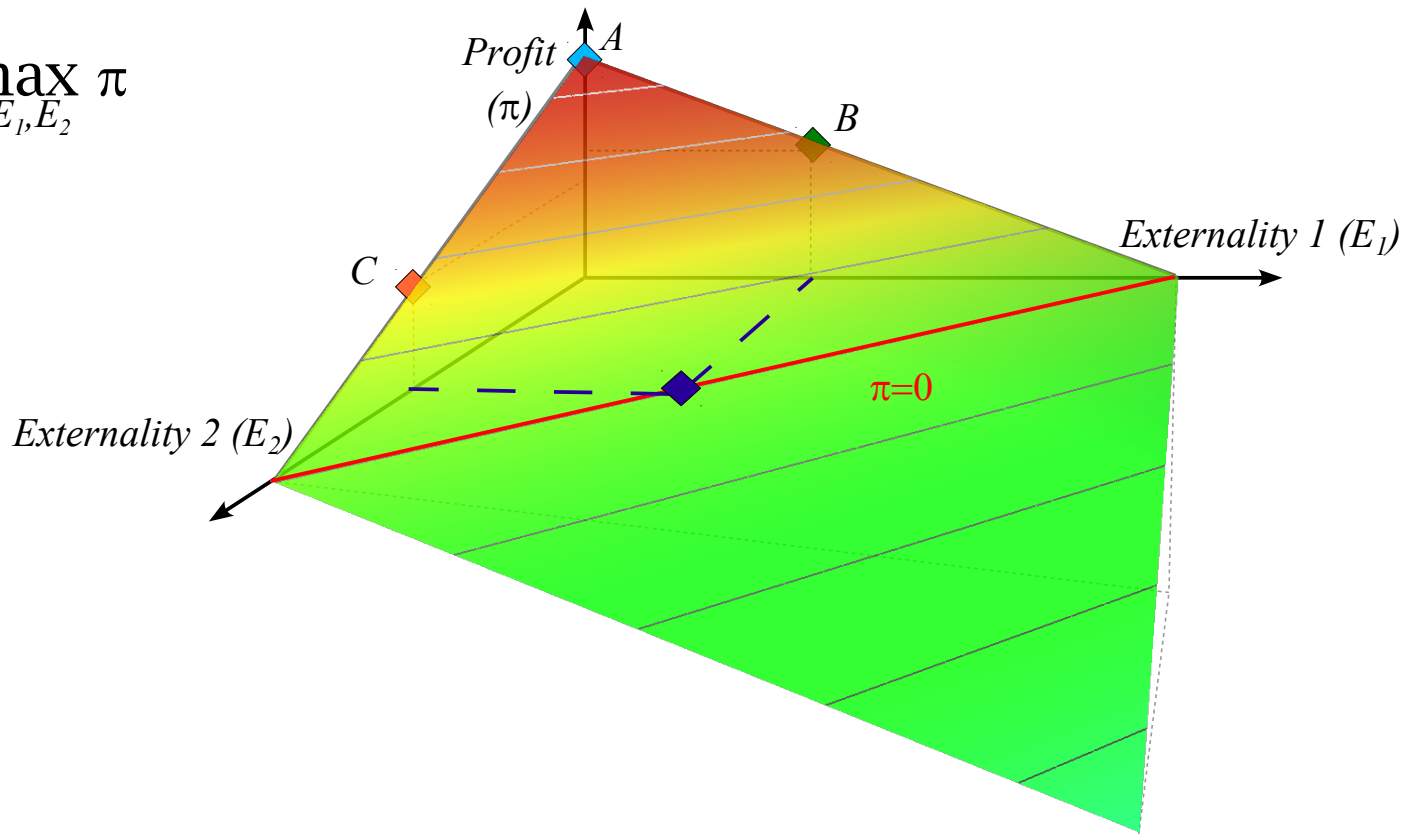
Potential tradeoff between the profit and an externality

$$h = \max_{/E} \pi$$



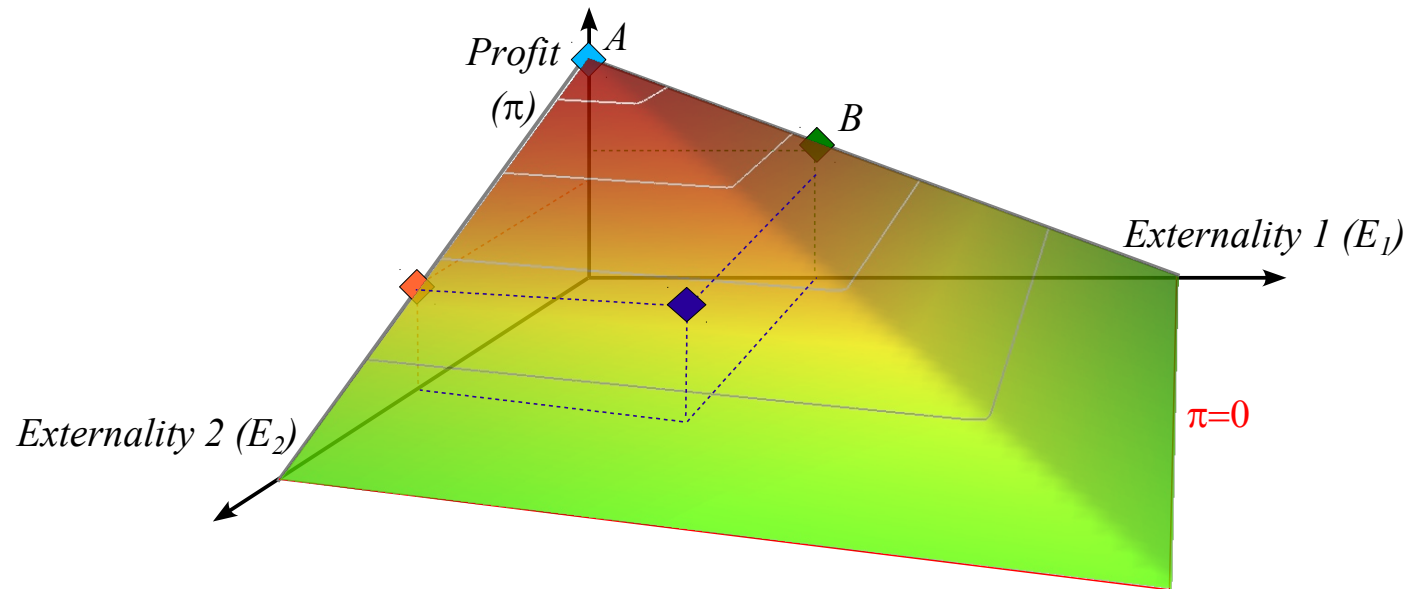
Maximum profit with independent externalities

$$h = \max_{/E_1, E_2} \pi$$



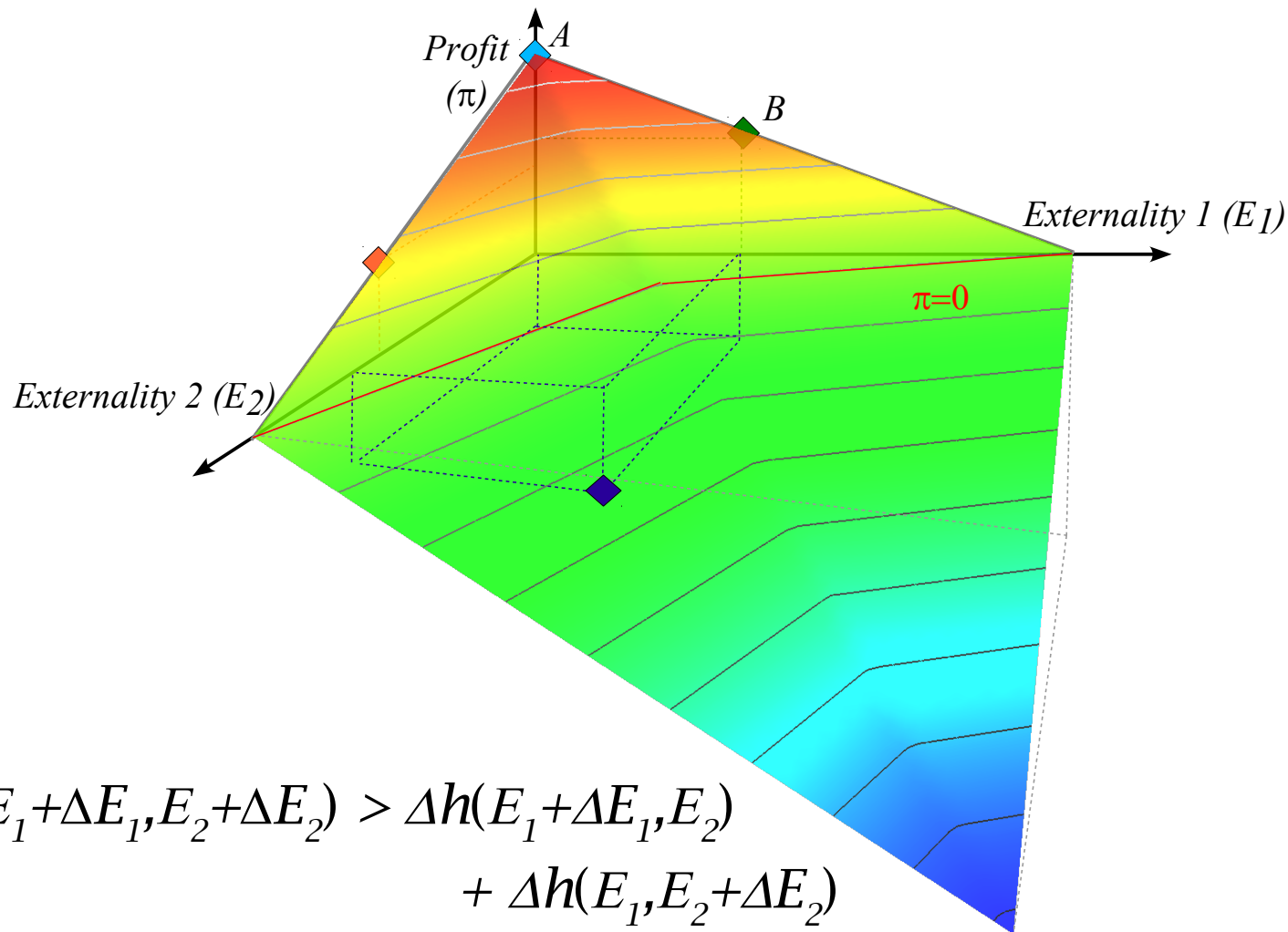
$$\Delta h(E_1 + \Delta E_1, E_2 + \Delta E_2) = \Delta h(E_1 + \Delta E_1, E_2) + \Delta h(E_1, E_2 + \Delta E_2)$$

Maximum profit with positively interacting externalities

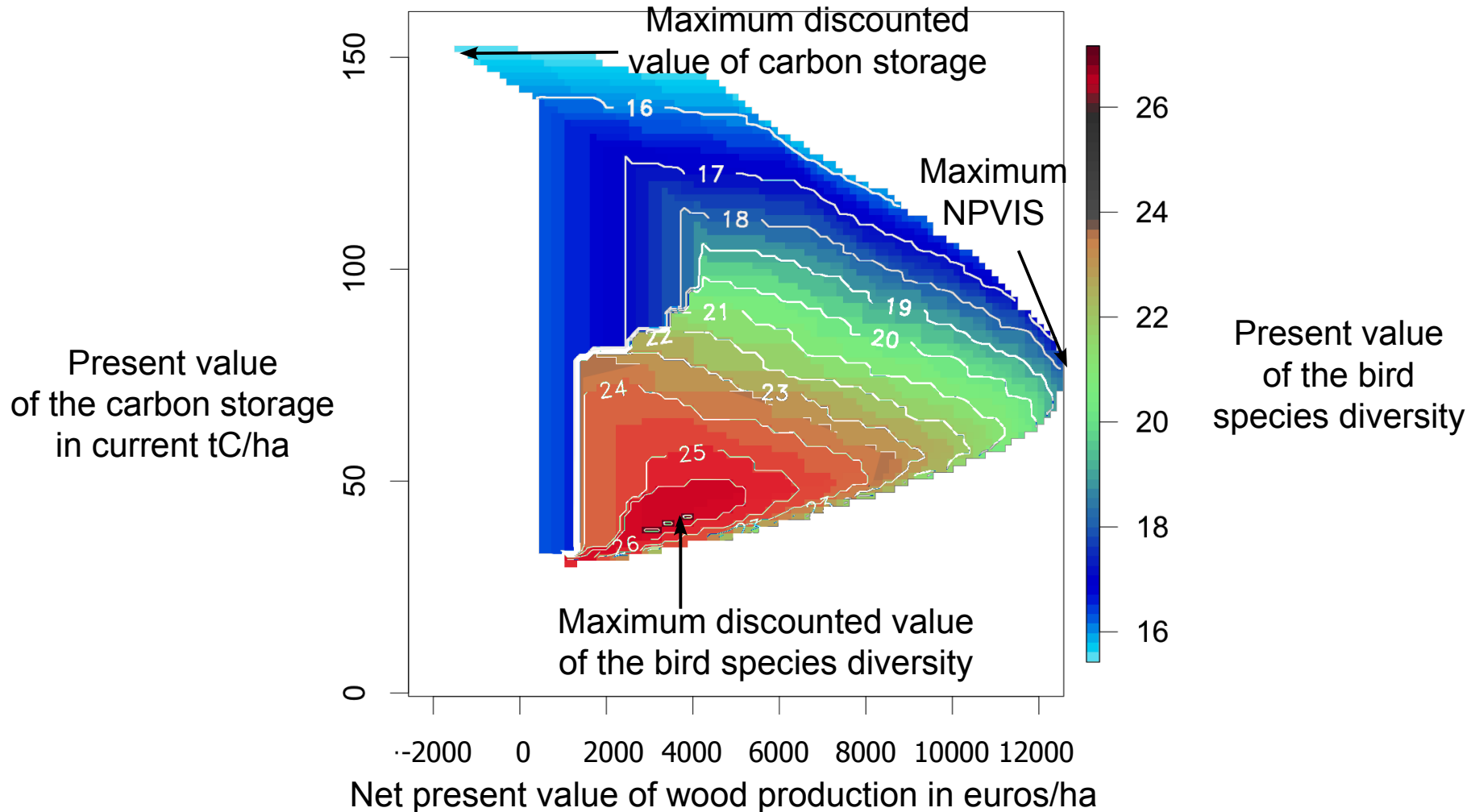


$$\Delta h(E_1 + \Delta E_1, E_2 + \Delta E_2) < \Delta h(E_1 + \Delta E_1, E_2) + \Delta h(E_1, E_2 + \Delta E_2)$$

Maximum profit with negatively interacting externalities

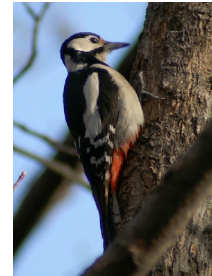
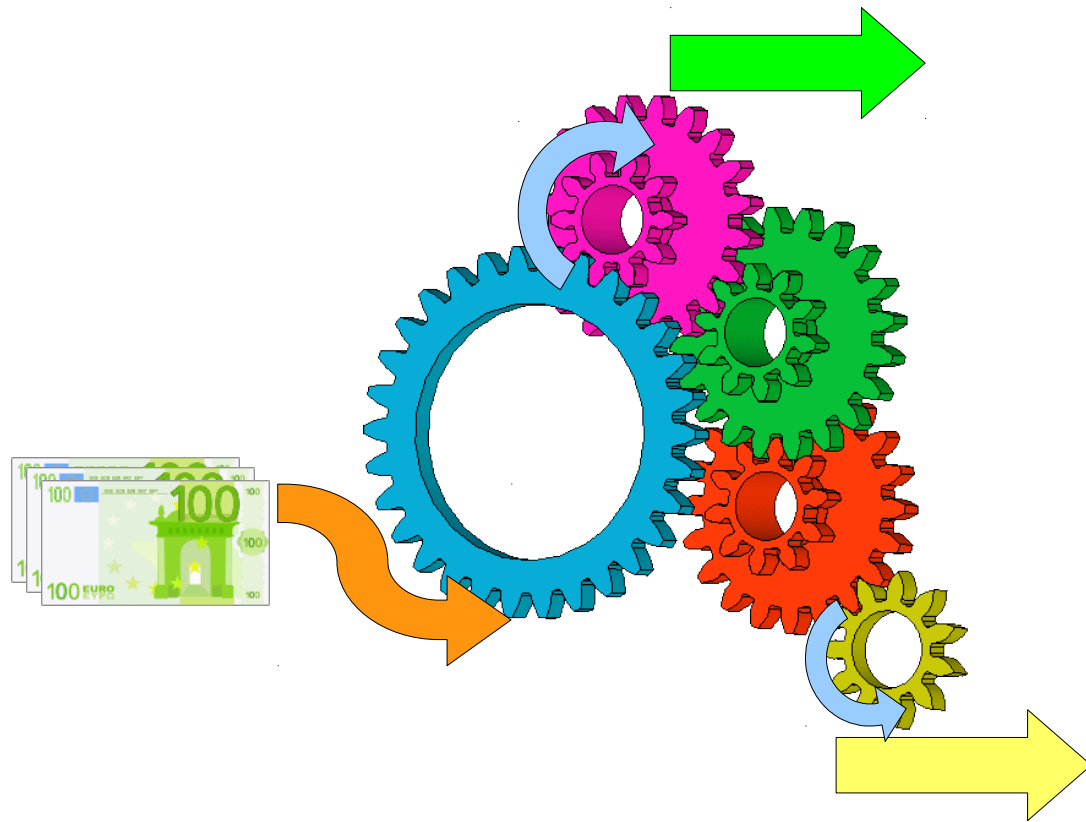


Profit and ES provision in regular high oak forest



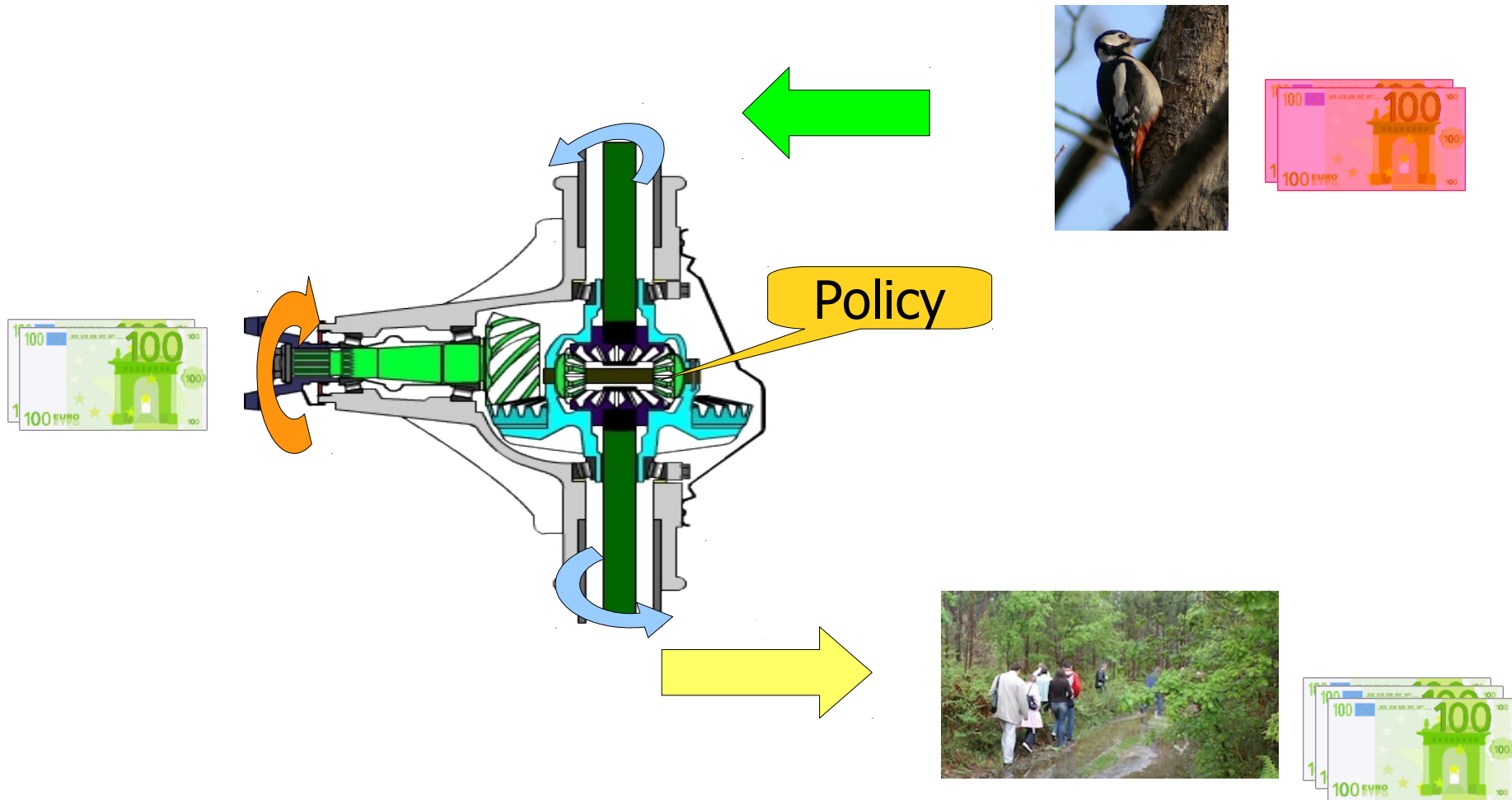
Conclusions

Synergies → high opportunities



Conclusions

Oppositions → Possible risks





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Thank you for your attention

Nicolas Robert
nicolas.robert@ifn.fr