

The use of repeated observations from NFI plots to determine current management practices

2018-05-17,

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Modified ppt

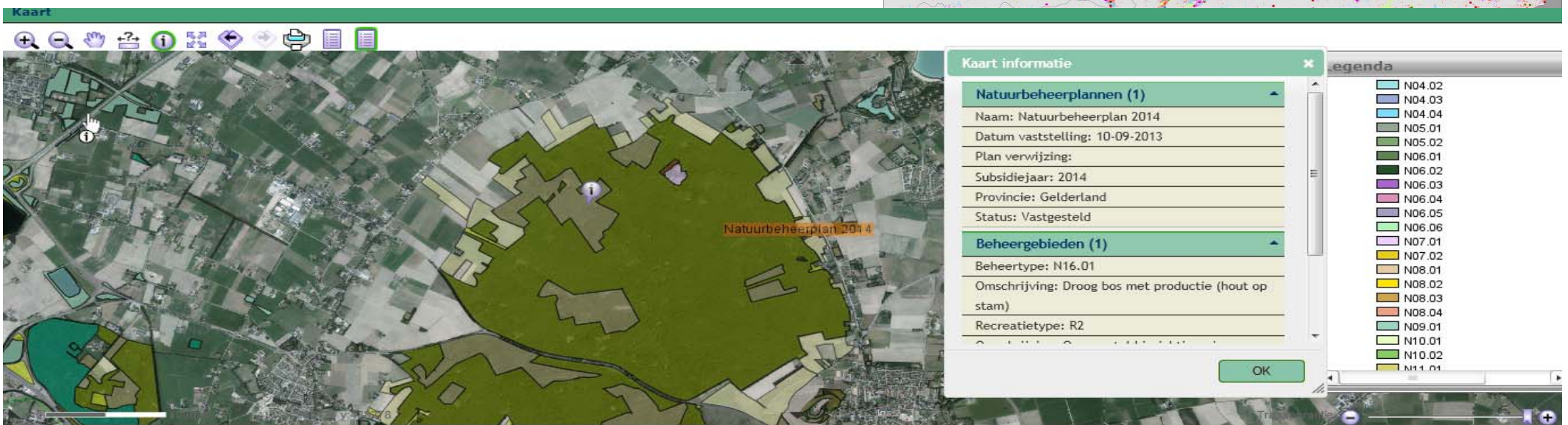
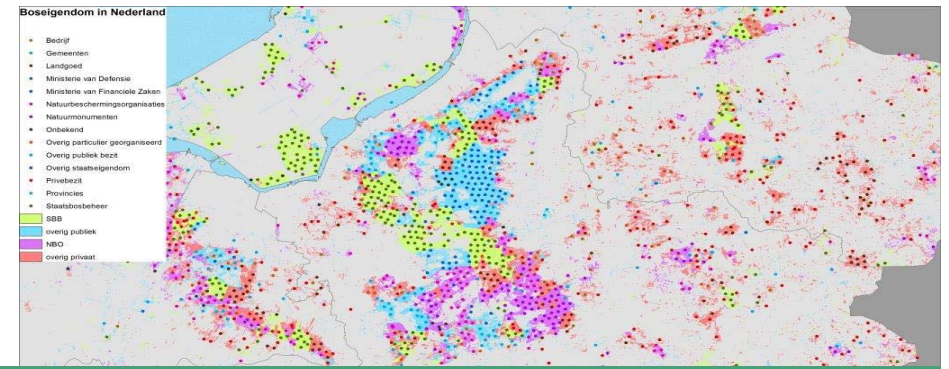
- This is a modified version of the presentation. Some of the original graphs came from a draft, unsubmitted, manuscript: **Mart-Jan Schelhaas et al.** *“European forest harvesting intensity by region, tree species and owner based on 700,000 trees”*.
- The graphs from this manuscript have been removed and instead two more anonymous examples have been included. These are not based on real data, but the order of magnitude is realistic.
- Aim is to have this manuscript published asap. If you wish to be informed once the paper is accepted/published, please sent an e-mail to: **martjan.schelhaas@wur.nl**

Background

- For projecting a reference level, it is essential to incorporate the real ongoing management
 - In most modelling, a standard 'yield table' management is incorporated
 - Actual management varies a lot by owner, etc.
- From re-measured NFI plots it is now possible to analyse real management
- this, we have available for 11 countries/regions, including The Netherlands

Material: (example Netherlands)

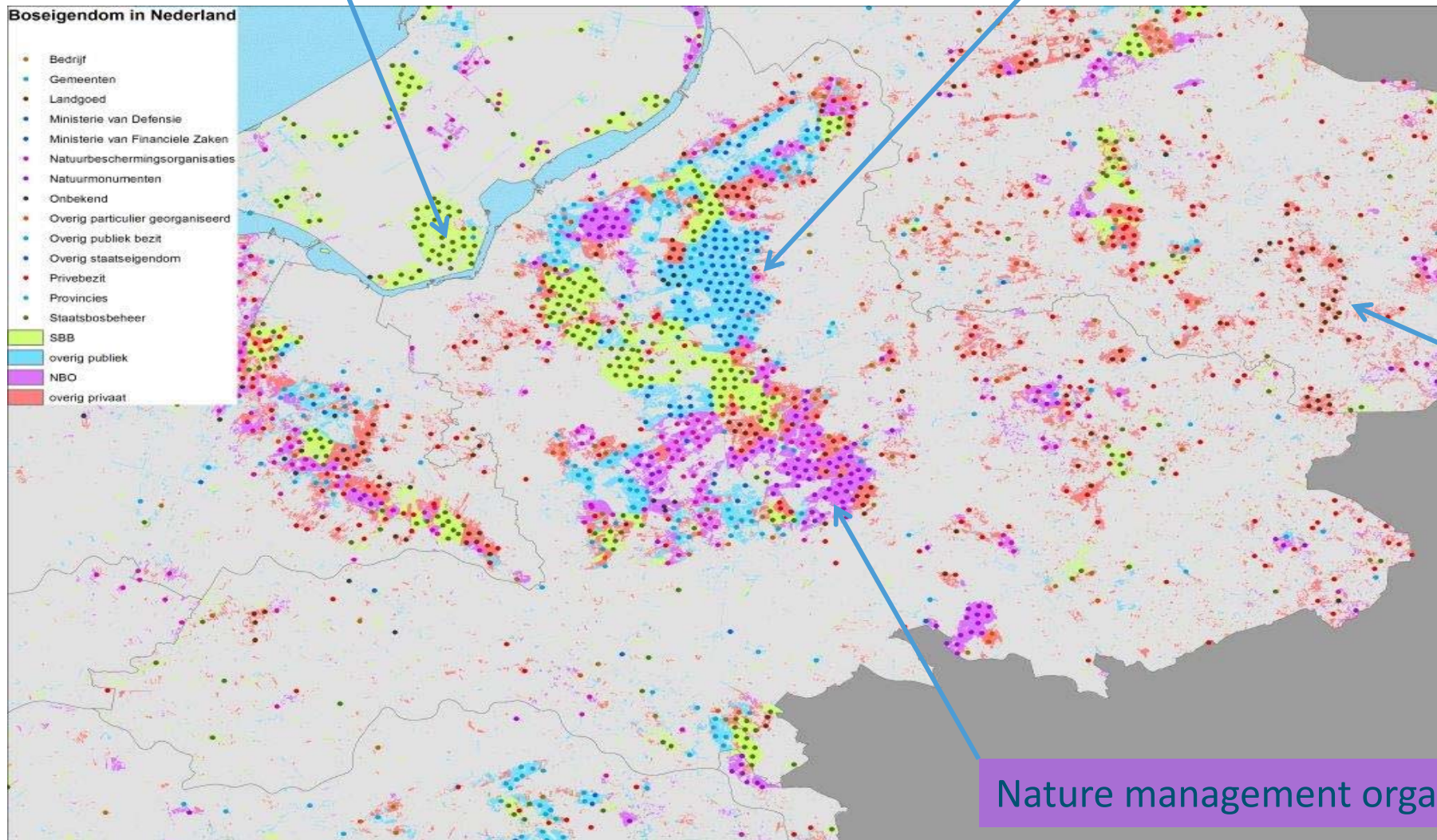
- NFI5 (2001-2005) and NFI6 (2012-2013)
- 1235 re-measured permanent sample plots
- Per tree: harvested or not
- Owner maps (5 owners)
- Subsidy maps (2 types)



Owners

State Forest Service

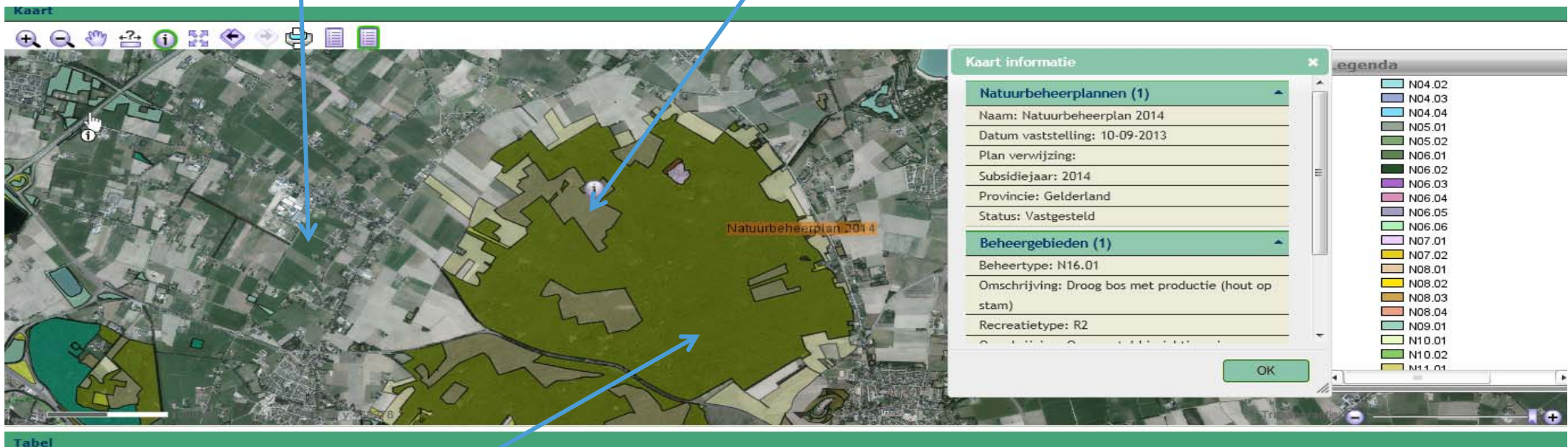
Other state-owned



Subsidy scheme as indication for management (aim) (=FMA)

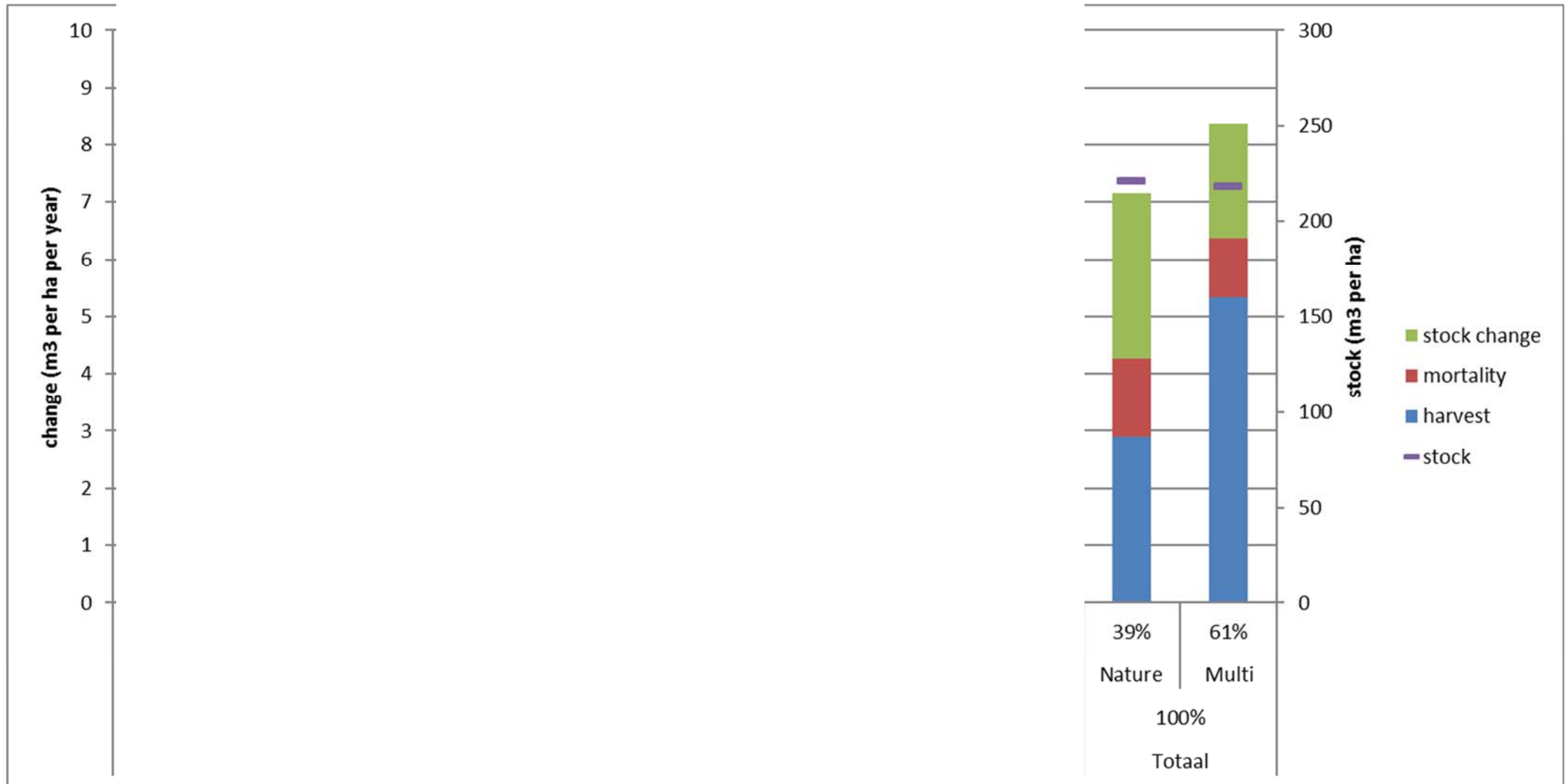
No subsidy scheme known

Nature-oriented

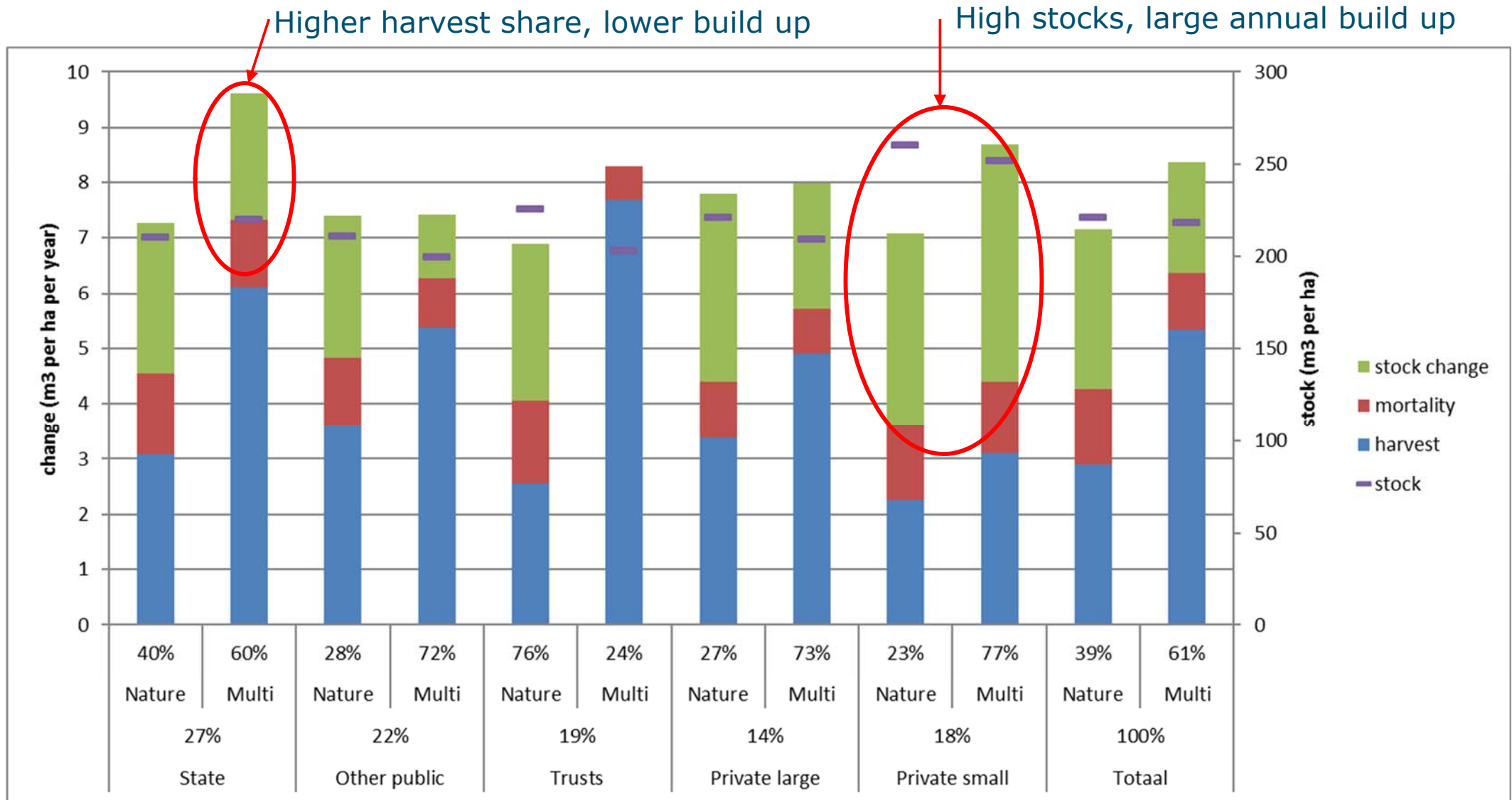


Production-oriented

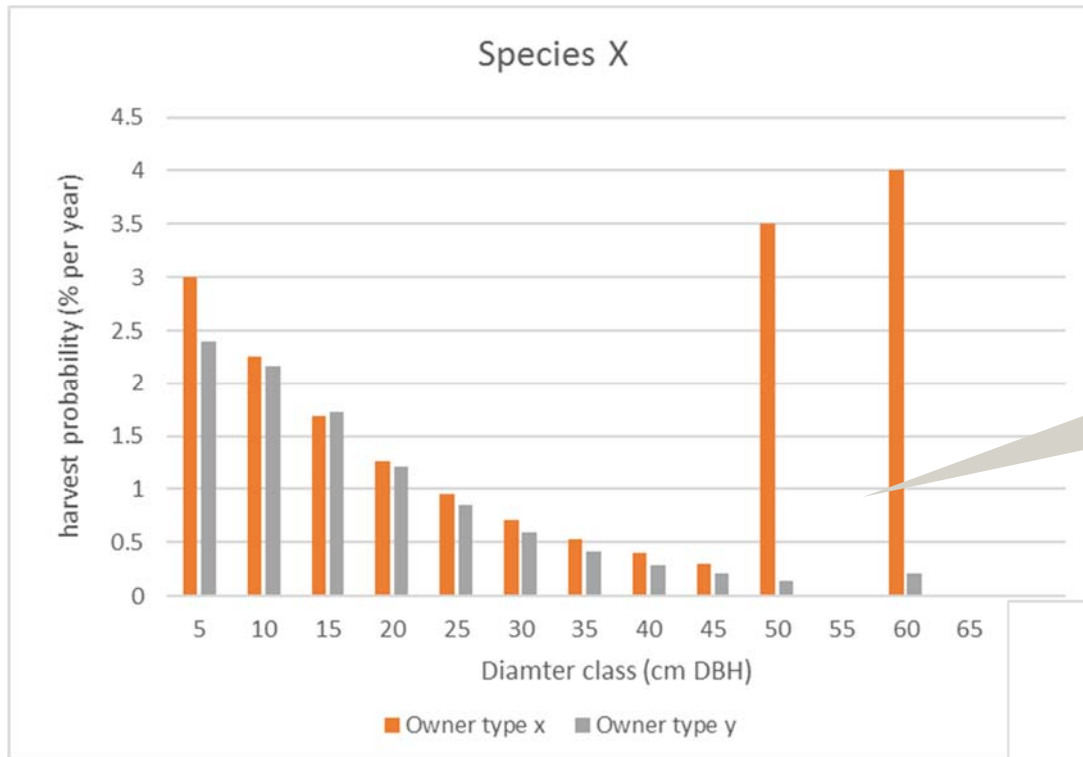
Wood balance per category – results



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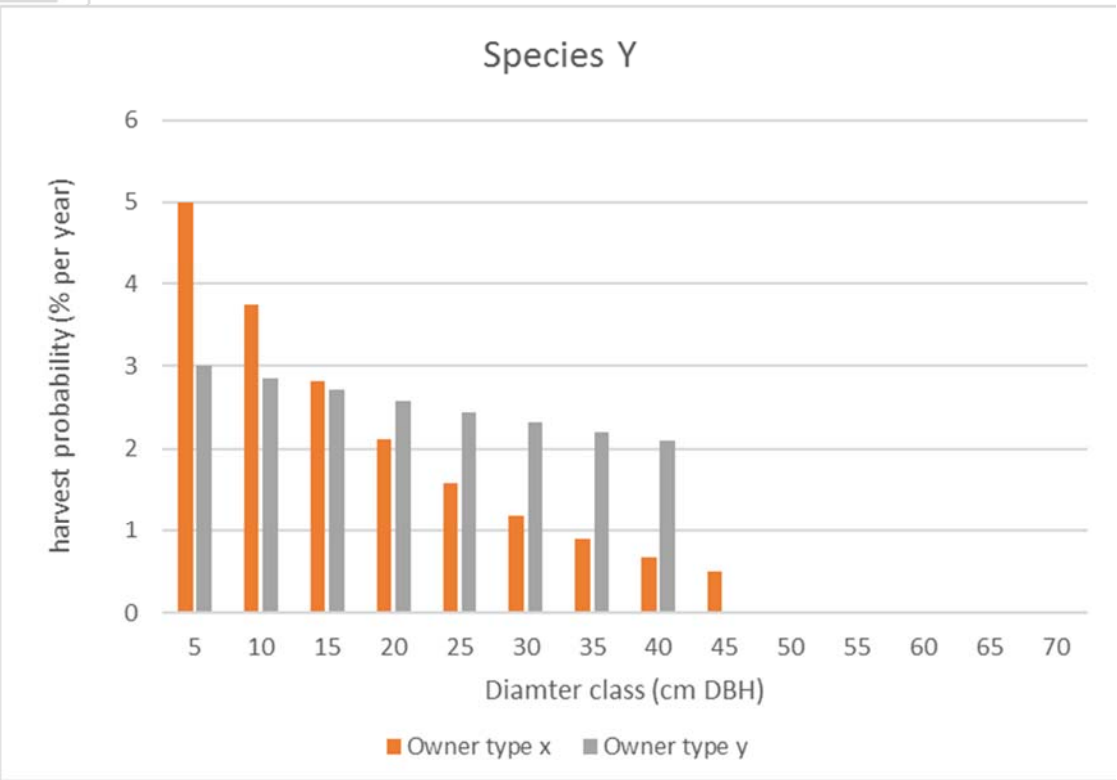


Harvest pattern over DBH (examples)



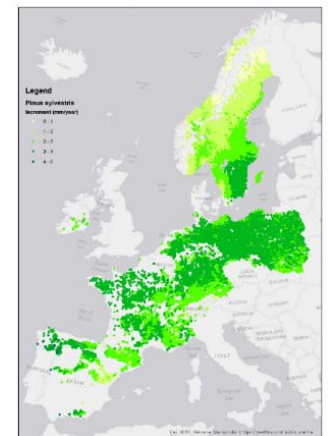
Owner type Y does not harvest thick trees of species X, but owner type X does

Graphs replaced. Just an example for the type of info that can be used. Not based on real data. The order of magnitude is realistic.



Projecting it forward:

- Diameter-distribution model (EFISCEN Space)
- Initialised for all NFI plots (2012-2013 data)
- Growth from Schelhaas et al. (2018)
- Management according to appropriate category
- Mortality according to average over all forests
- No ingrowth (yet)
- Projected growing stock in 2021, 2026 and 2030 can be used as input for the LULUCF system to determine FRL



Link to LULUCF system

NL LULUCF system

State of forest



NFI 5

State of forest



NFI 6

2000

2009

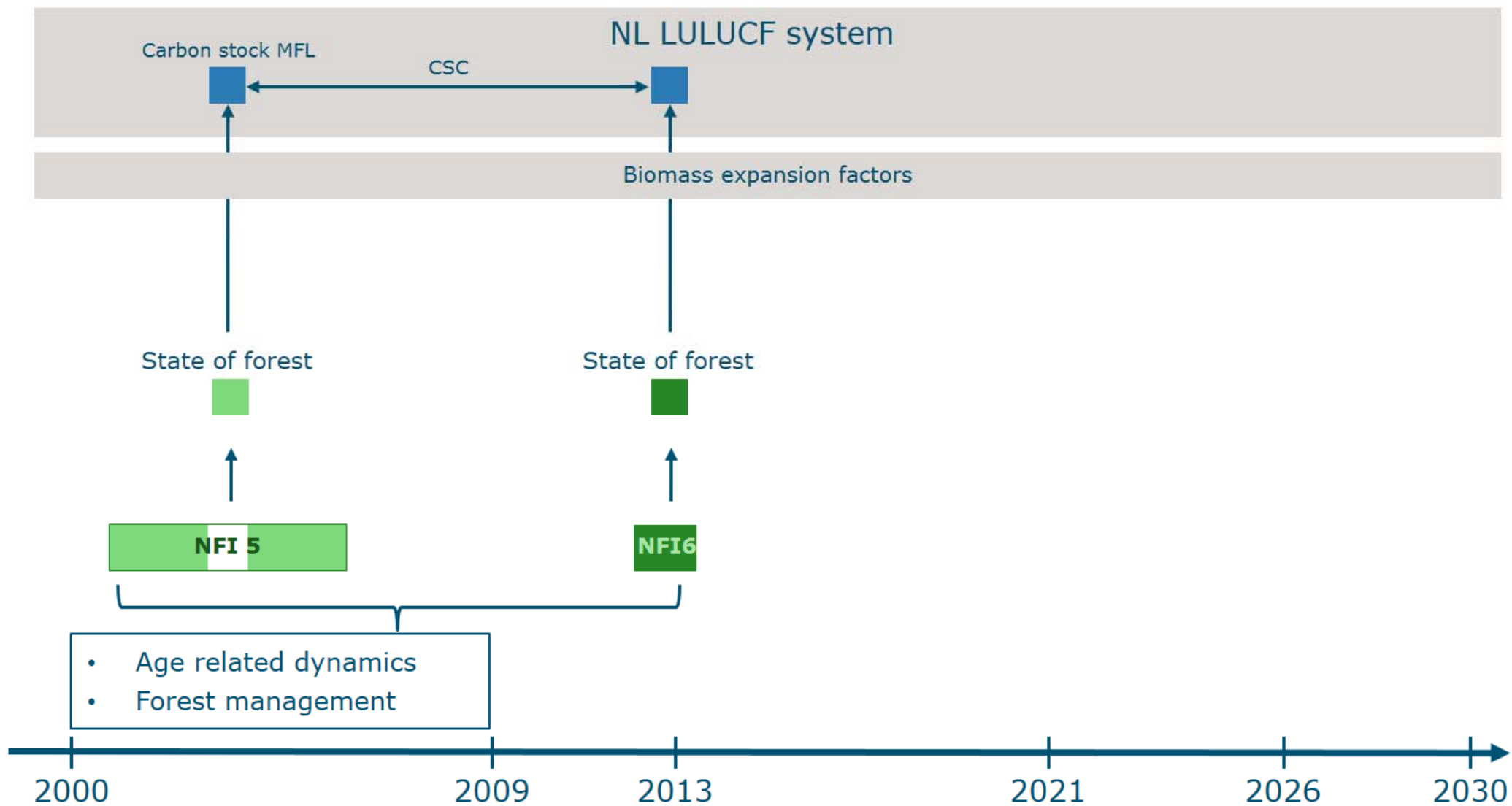
2013

2021

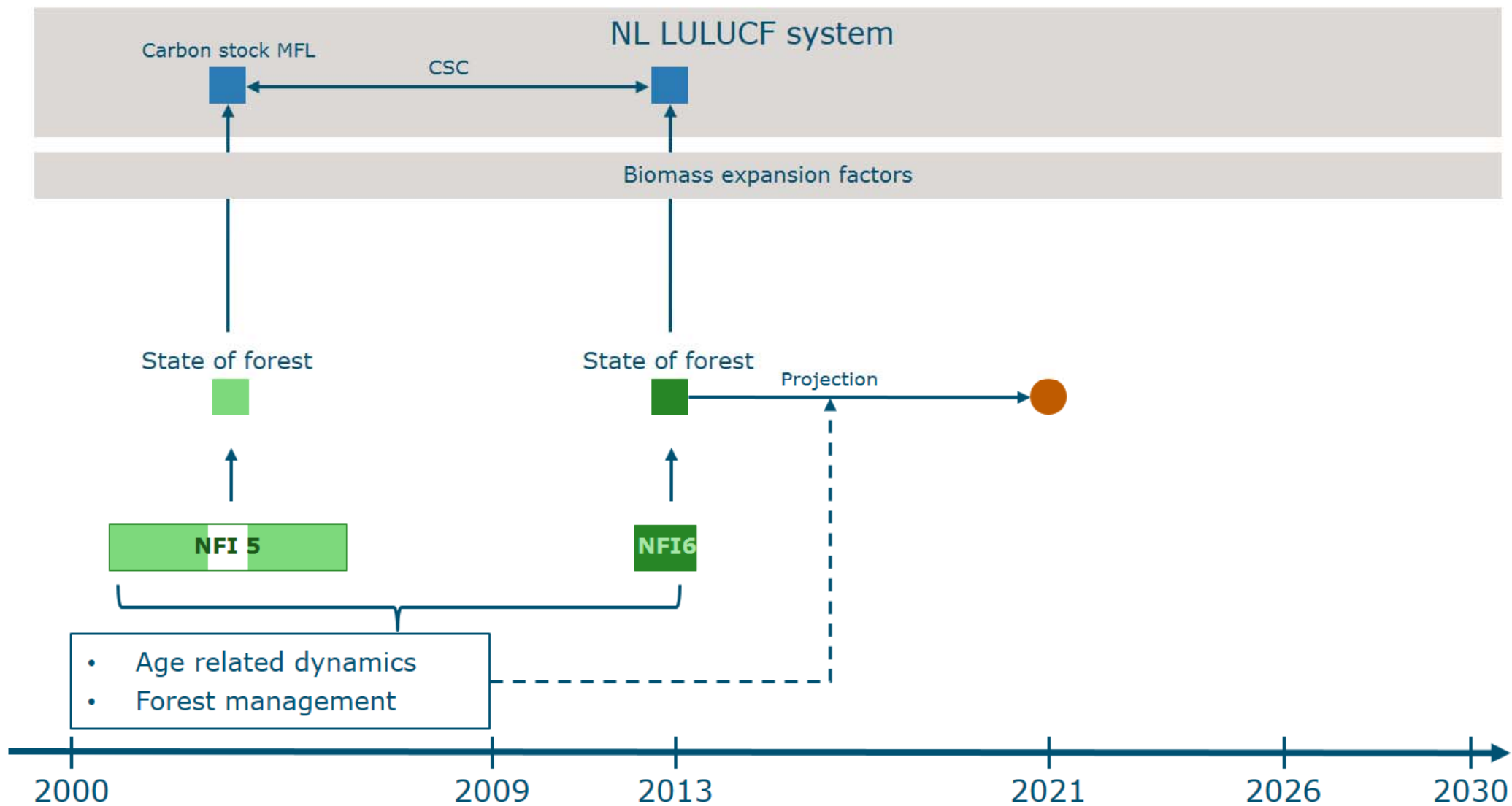
2026

2030

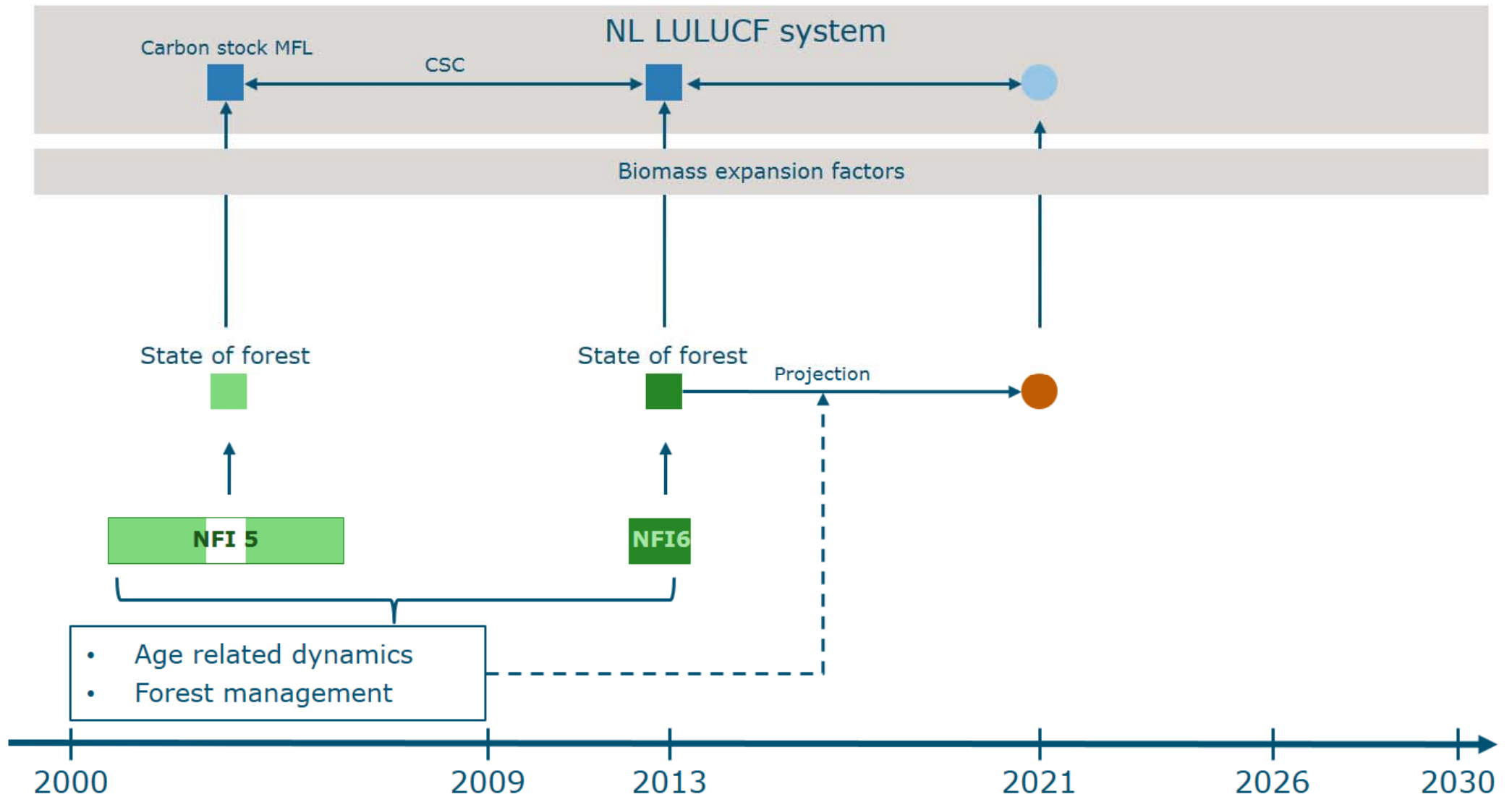
Link to LULUCF system



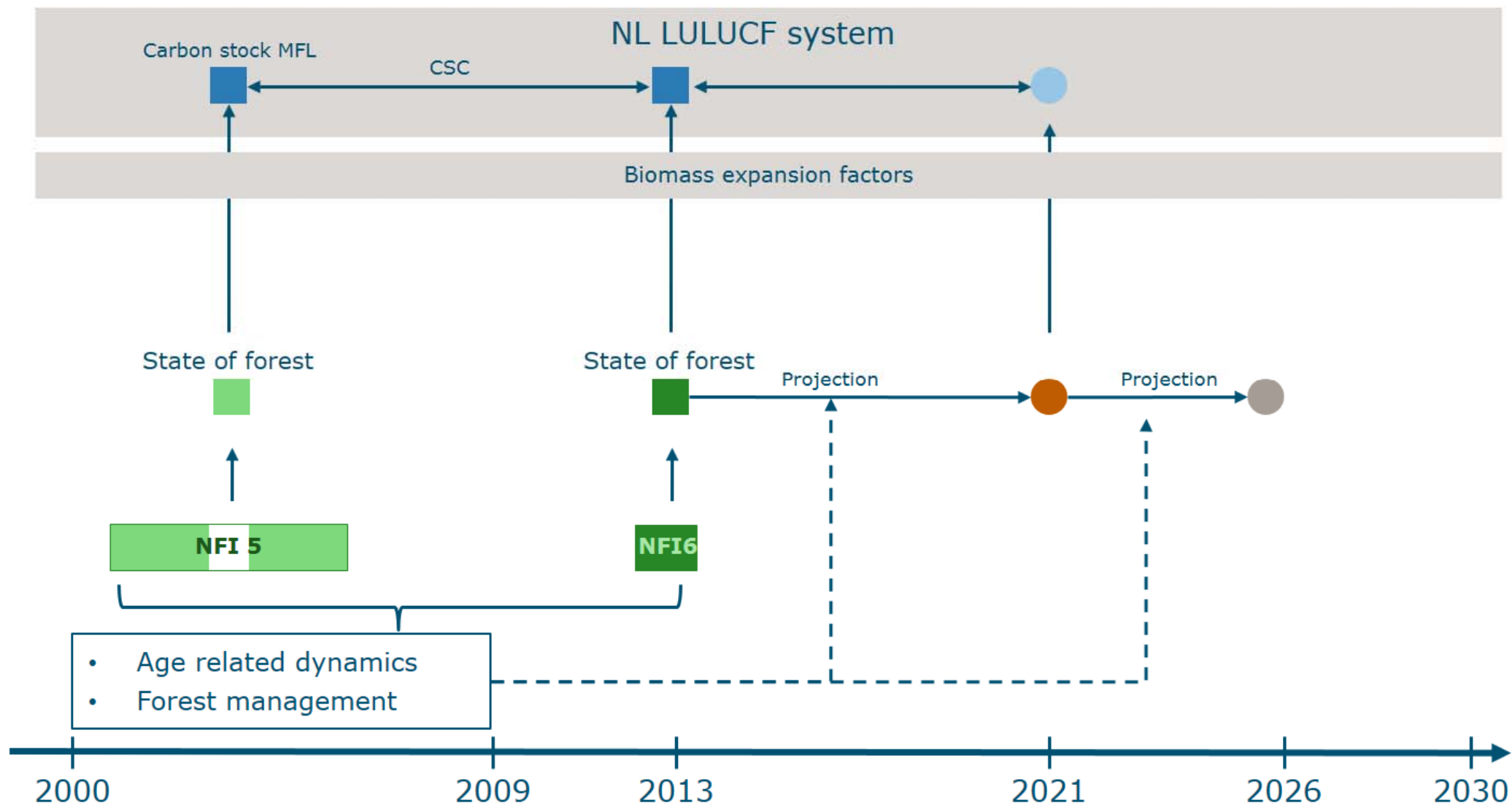
Link to LULUCF system



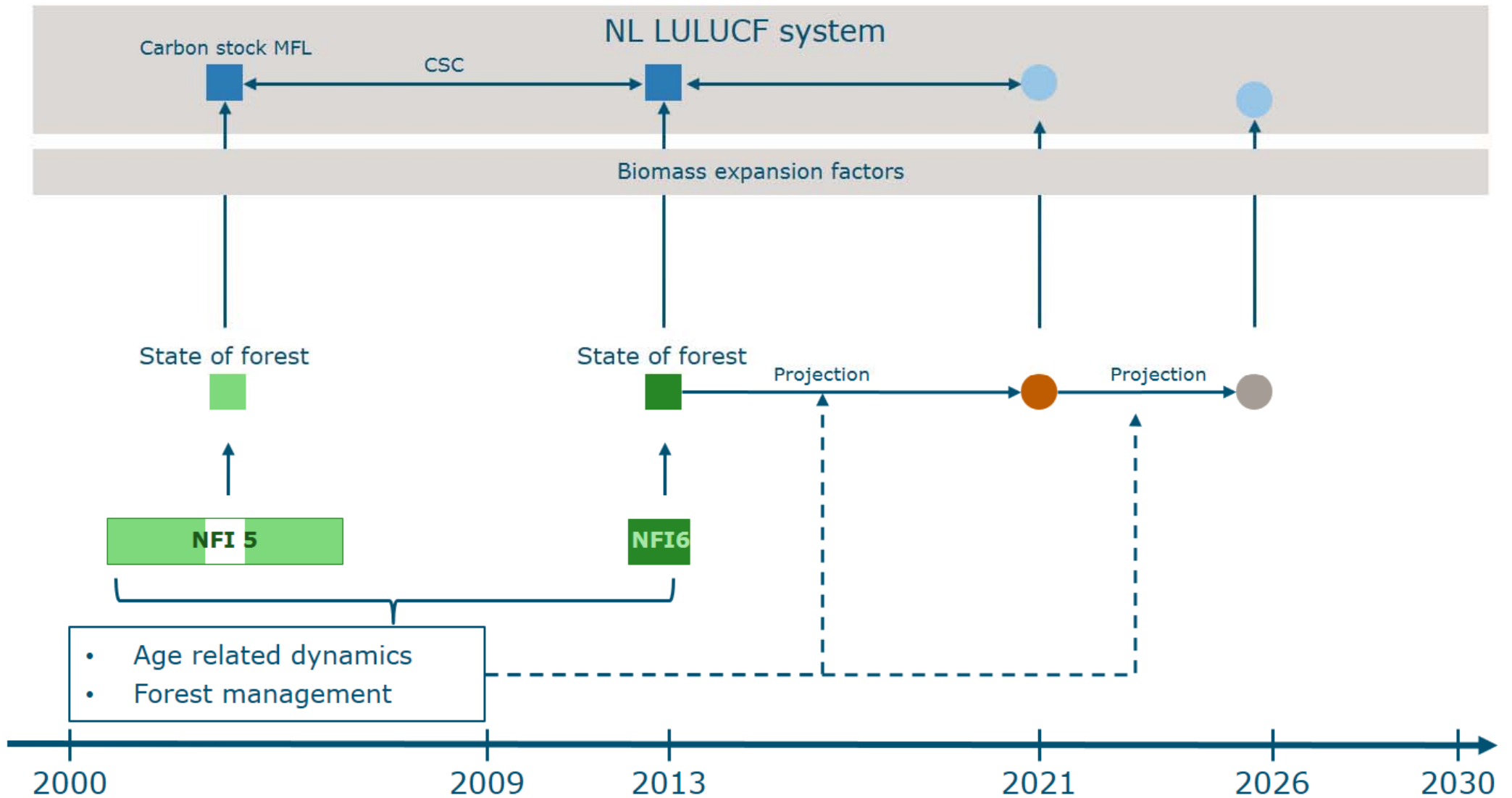
Link to LULUCF system



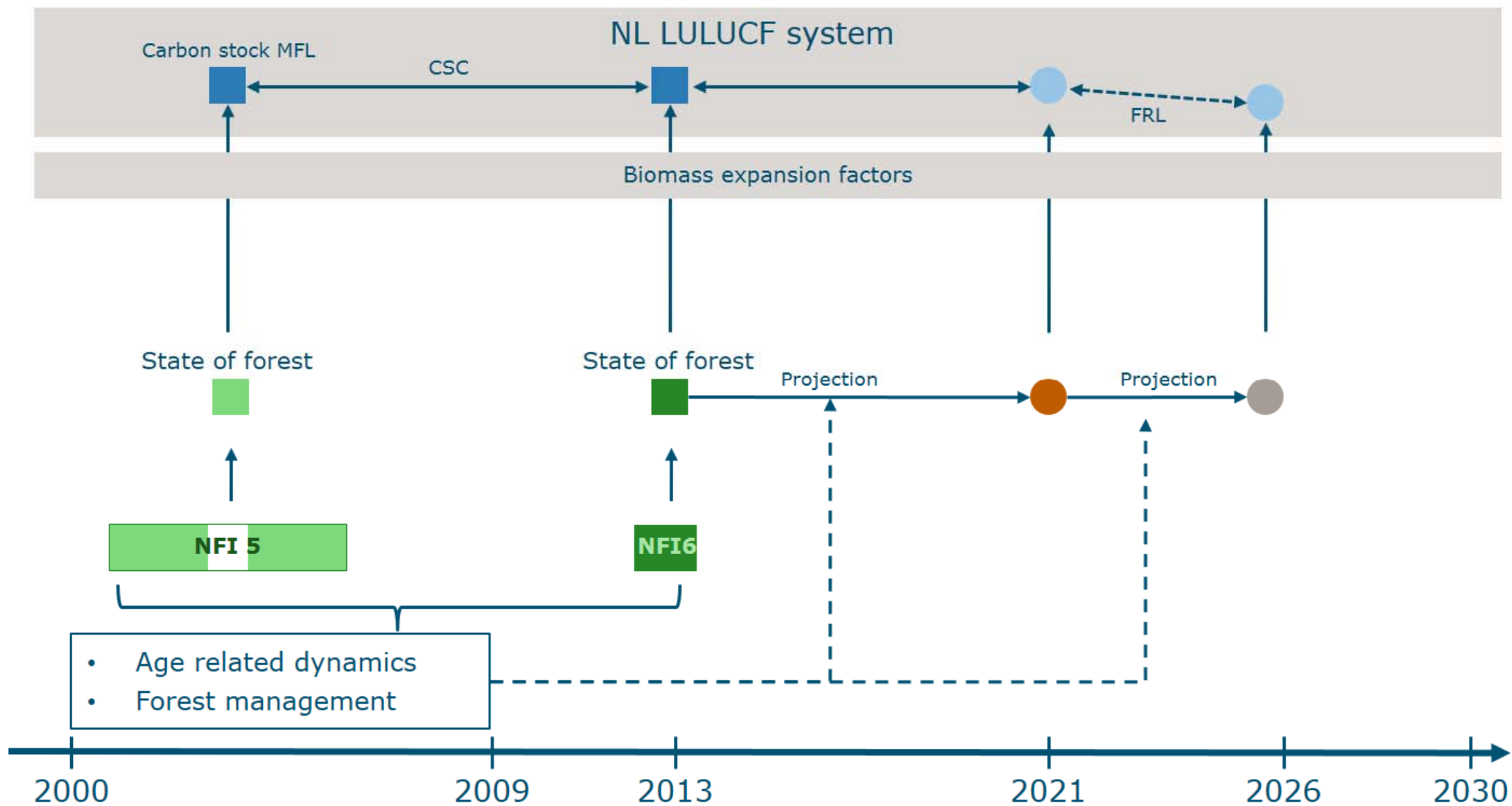
Link to LULUCF system



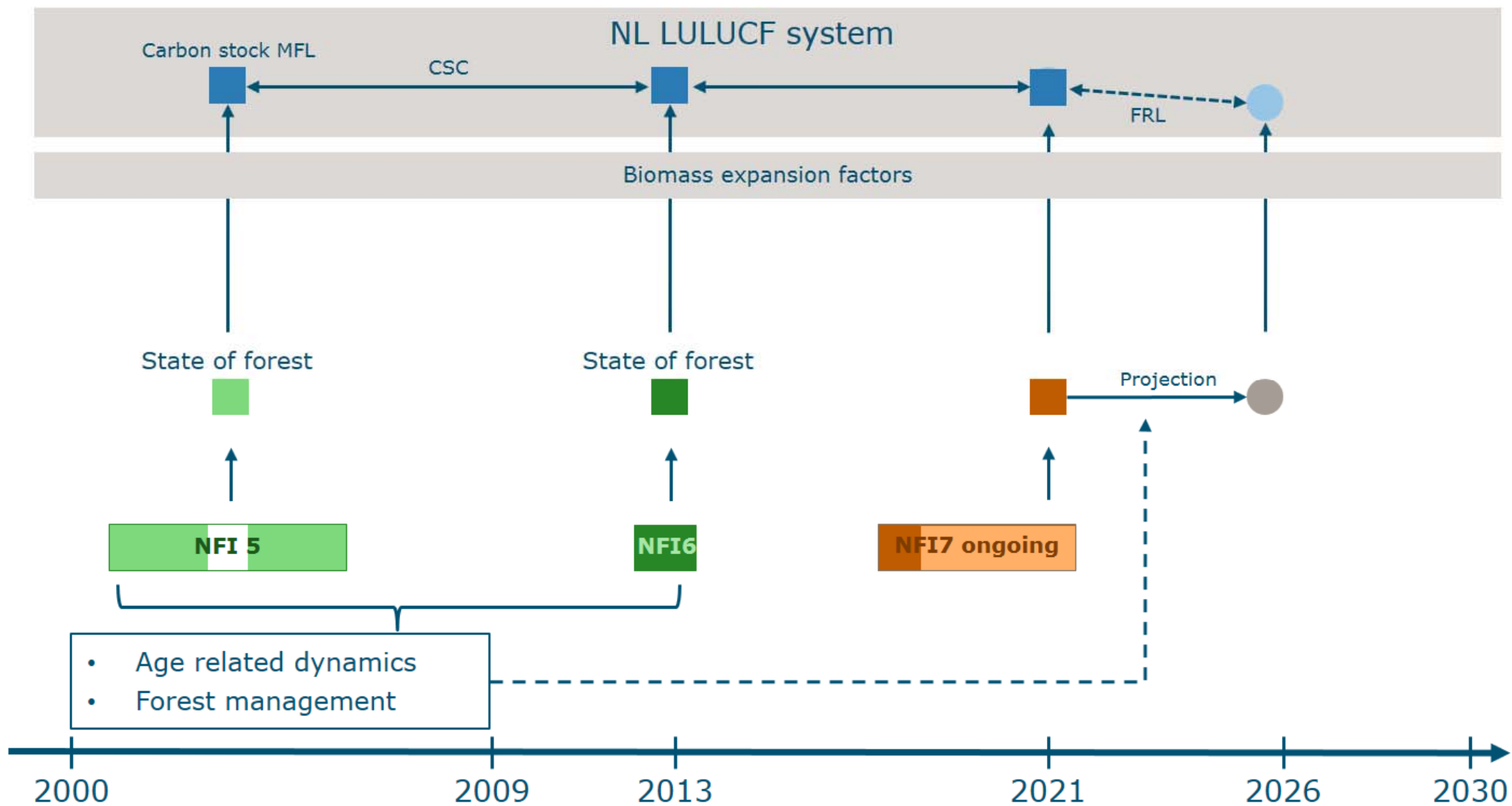
Link to LULUCF system



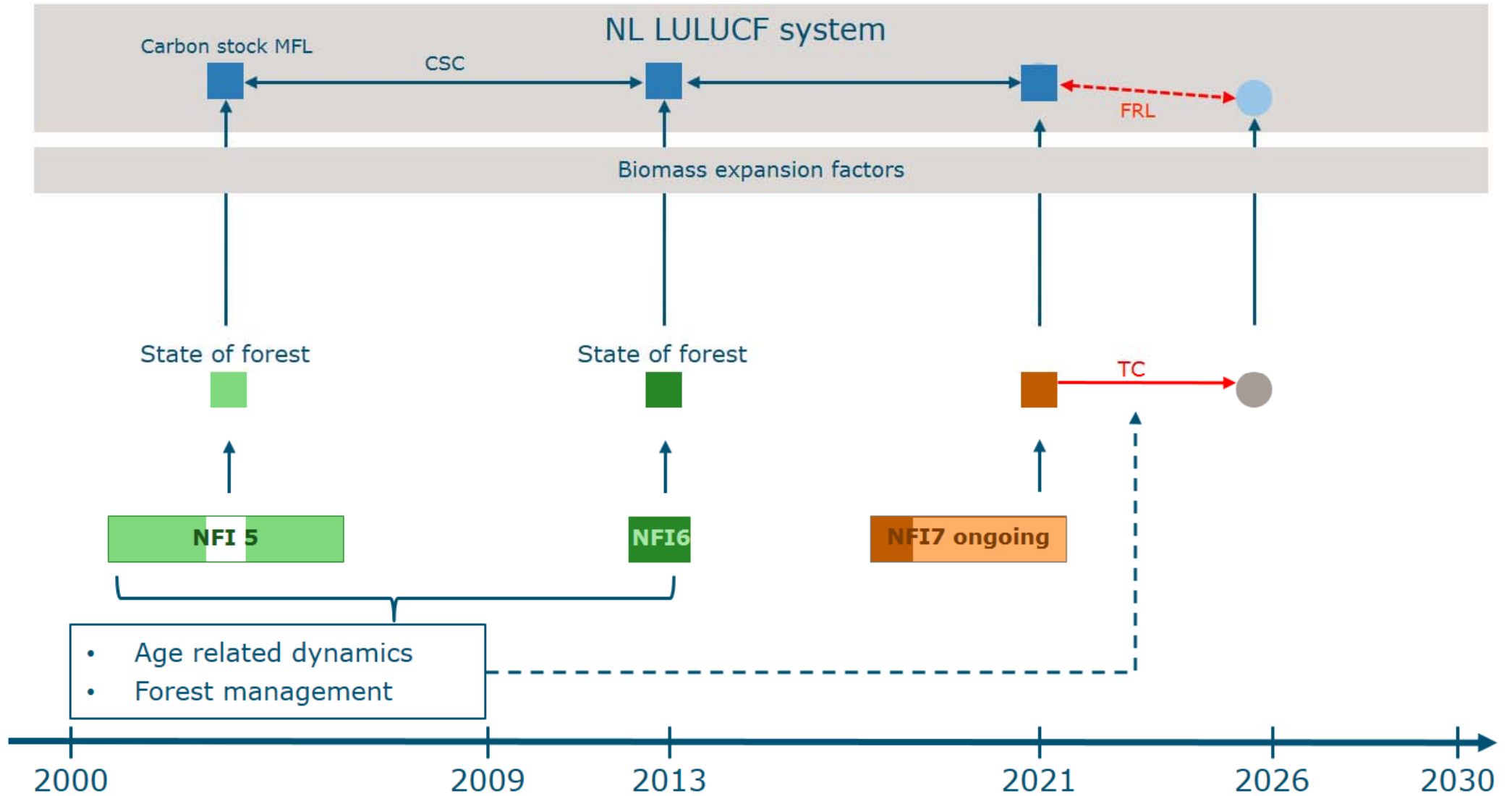
Link to LULUCF system



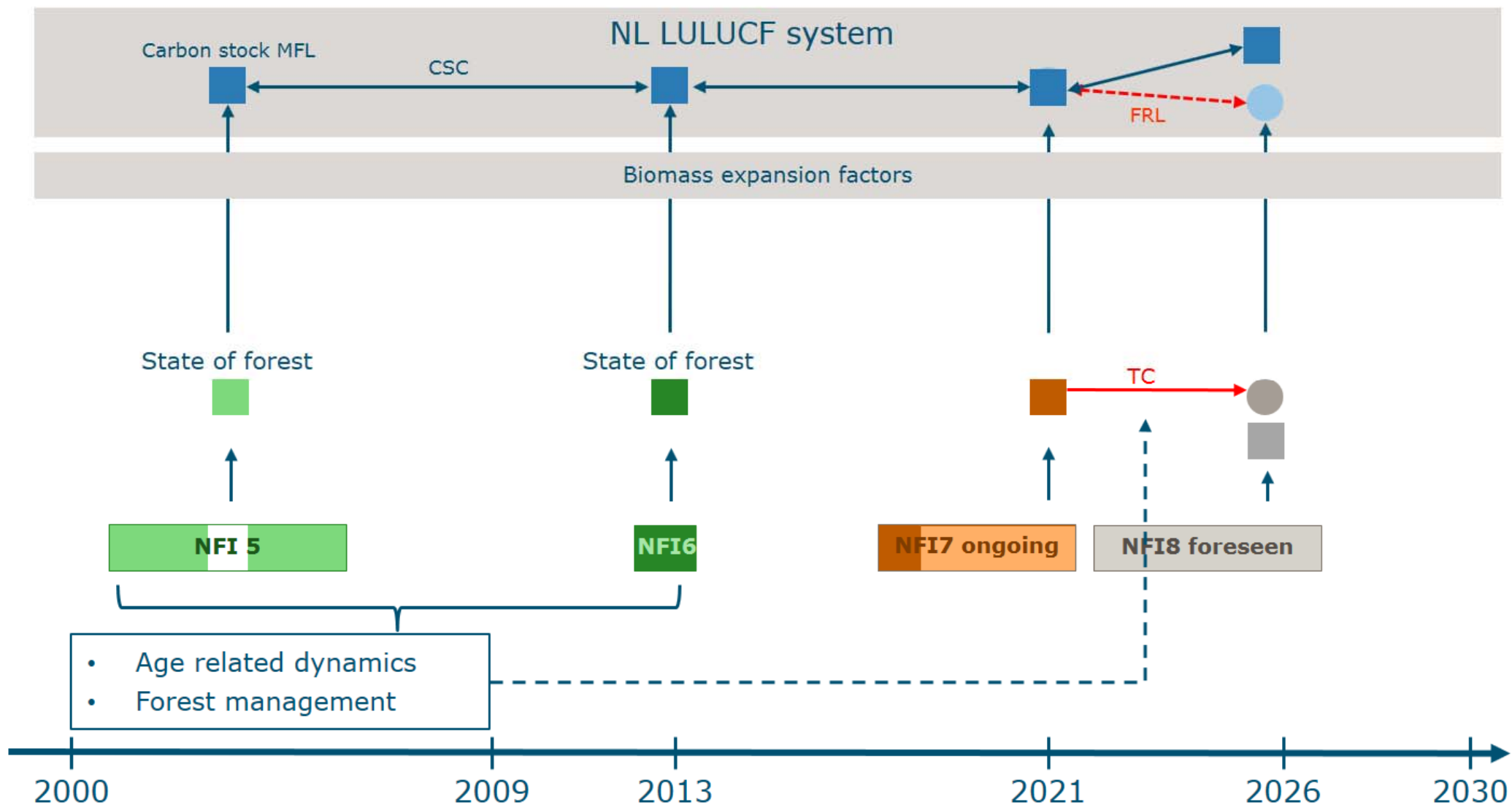
Link to LULUCF system



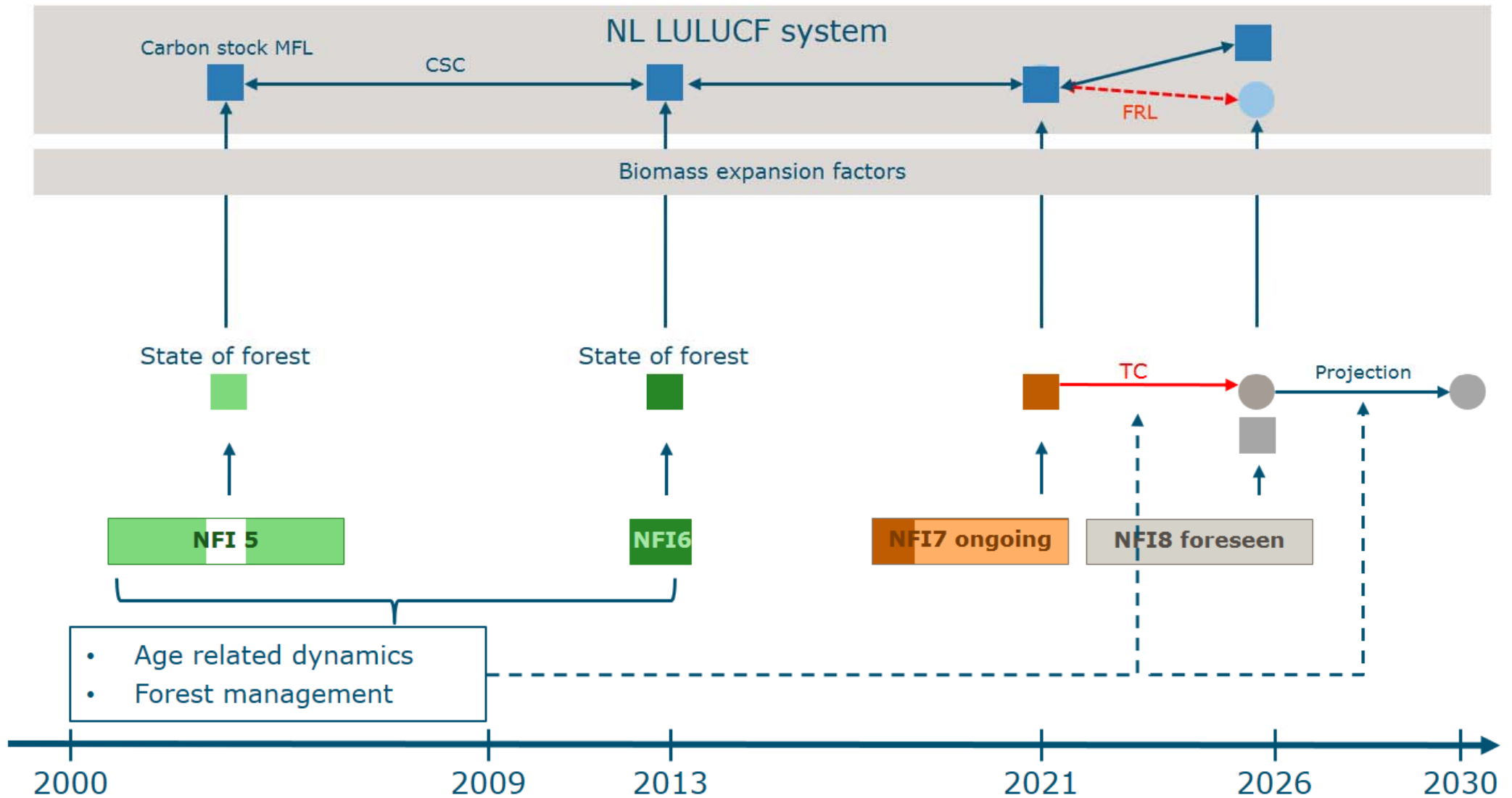
Link to LULUCF system



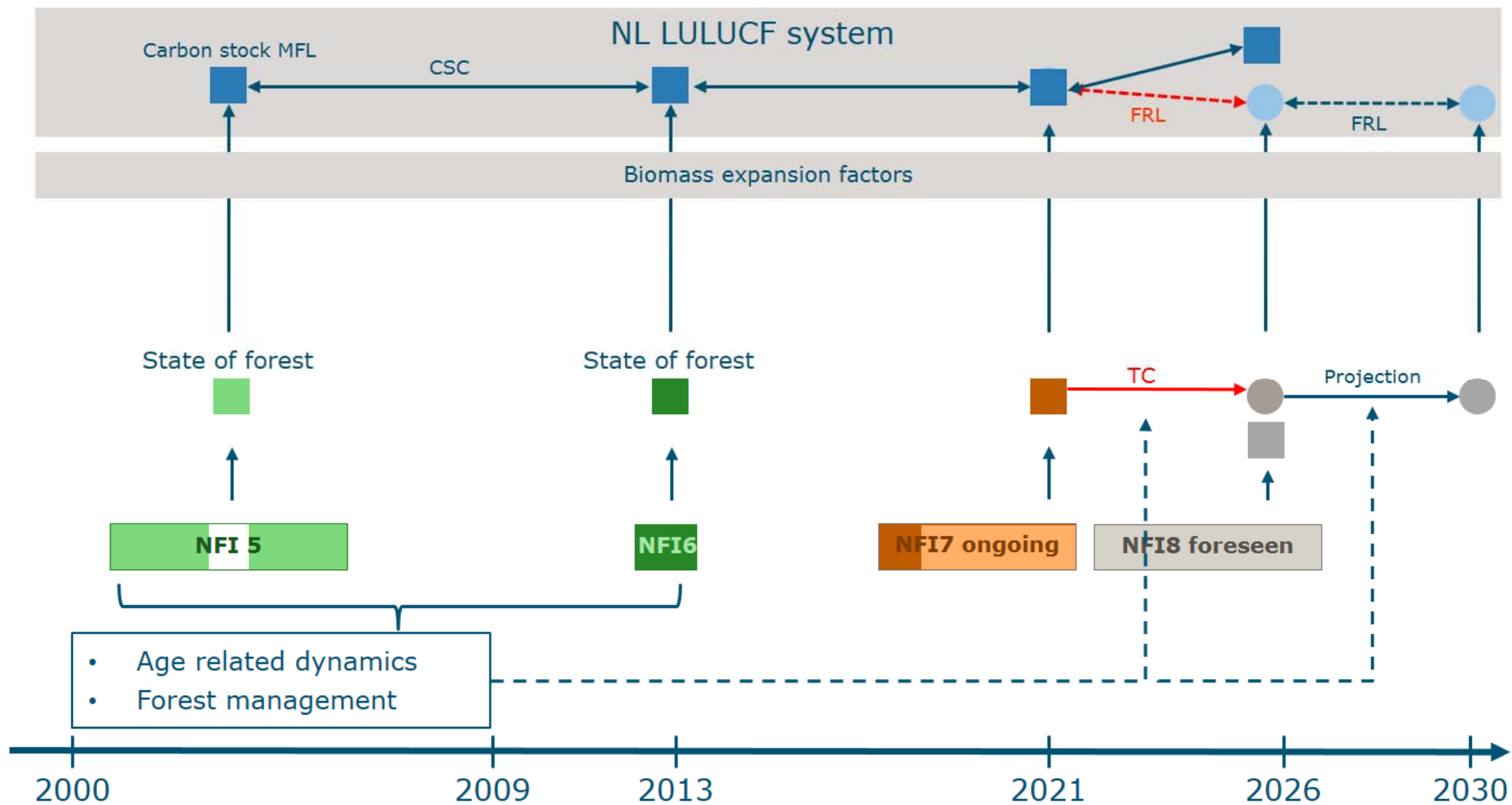
Link to LULUCF system



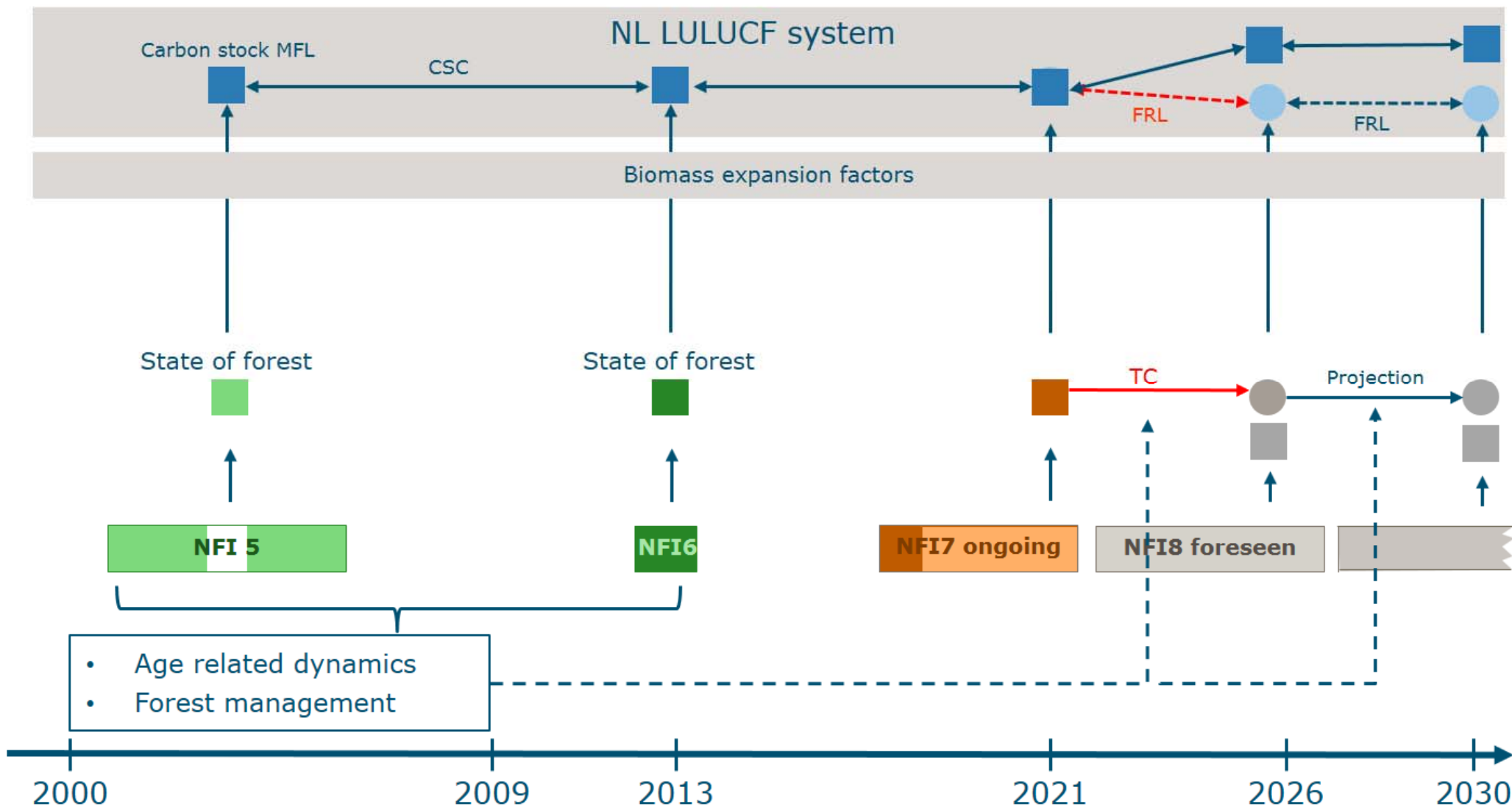
Link to LULUCF system



Link to LULUCF system



Link to LULUCF system



Same approach can be applied in other countries with repeated NFI data

- Examples removed in this modified ppt.
- Graphs showed very clear differences in harvesting patterns over diameter classes for the same species in different regions in the EU.

Other example: Picea abies in S Sweden and NRW, Germany

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Concluding

- Real management varies a lot between regions, owners, and of course tree species.
- Relying on standard yield table management (like in many models) is not realistic anymore
- Management regimes will be published this summer and can be made available to countries

Thanks for your attention!

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