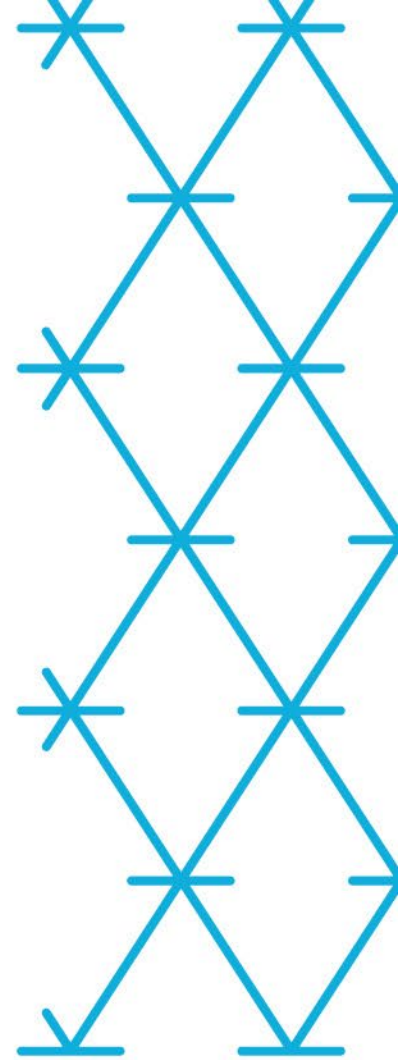


# Forestry in Kymenlaakso (and in Finland in general)

Kaisa Leino

Environmental Planner

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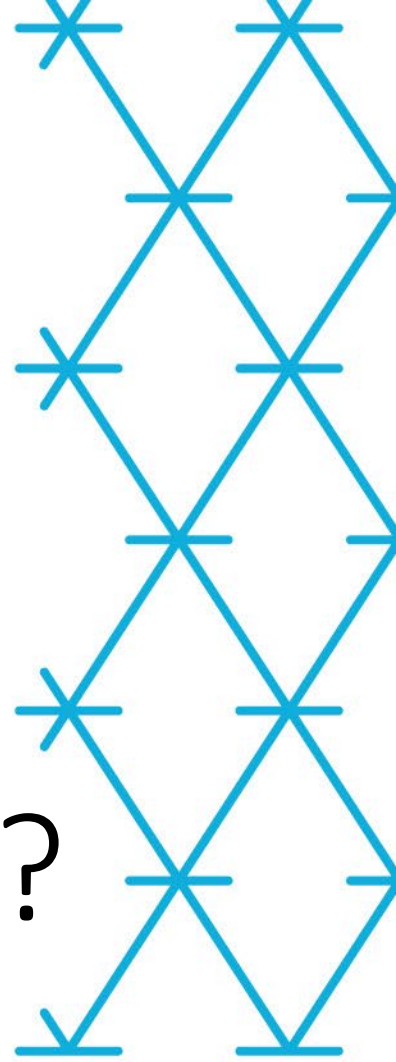


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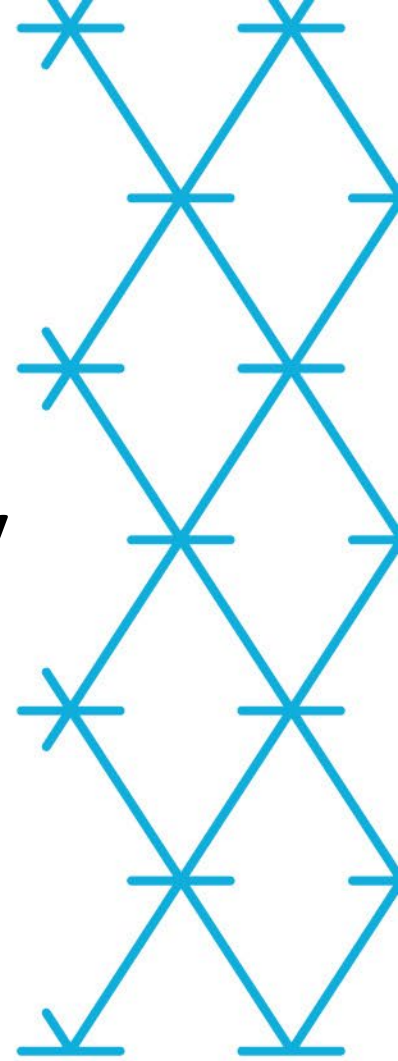
# Outline of the presentation

- Forestry and economy
- Forestry and biodiversity
- Forestry and climate
- Conclusions

Finns have a 'special relationship' to forests?



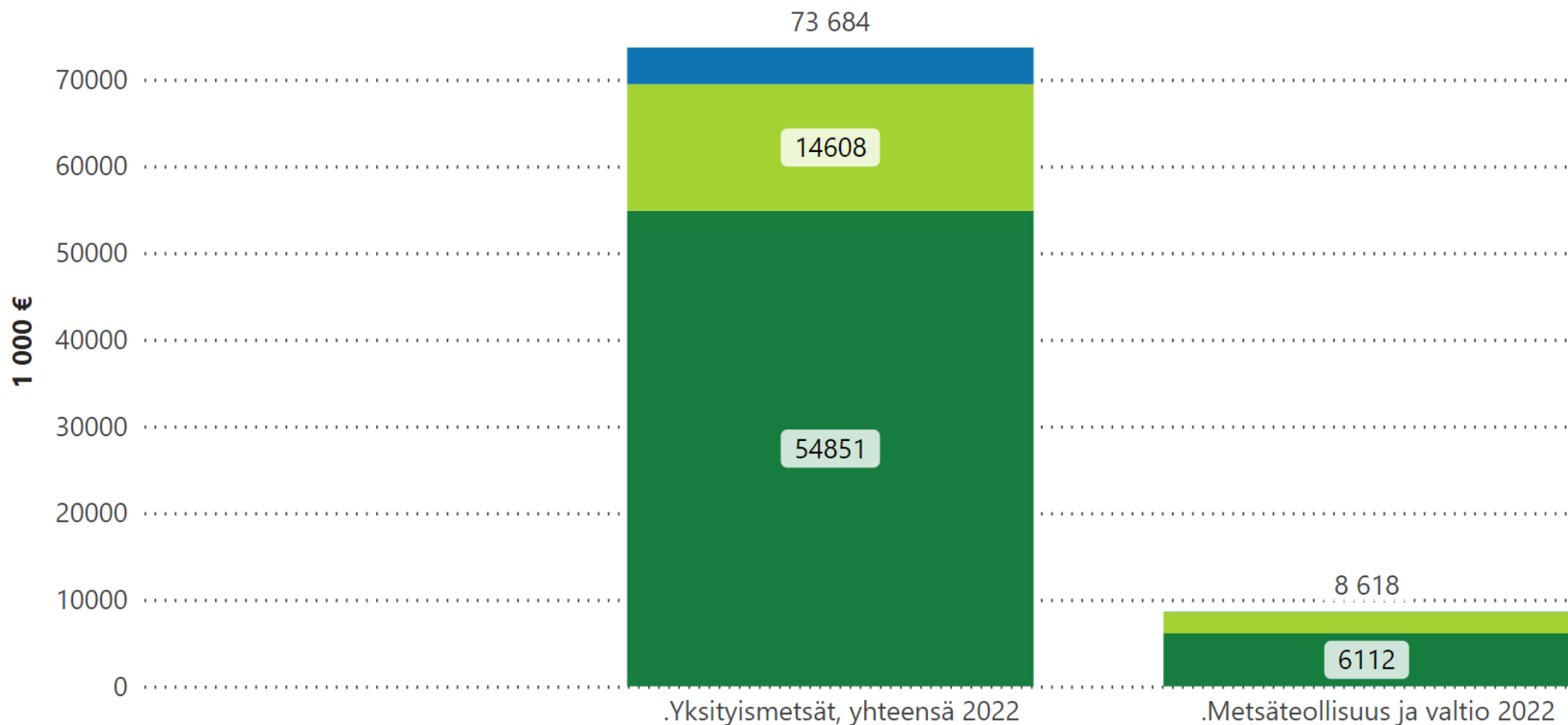
# Forestry and economy



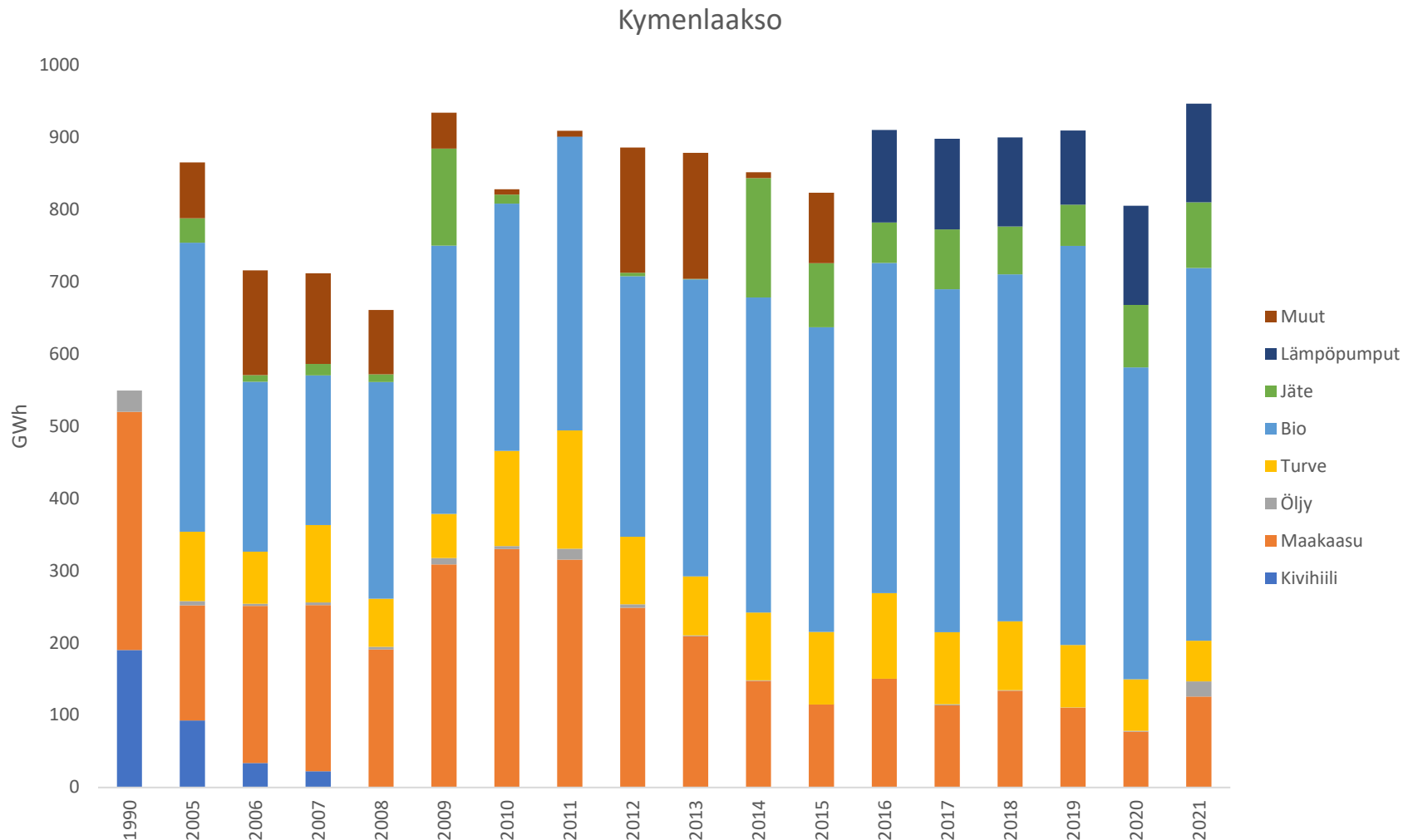
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# Income from selling wood in Kymenlaakso

**Puutavaralaji** ● tukkipuu\_yhteensa ● kuitupuu\_yhteensa ● energiapuu



# Forestry and central district heating

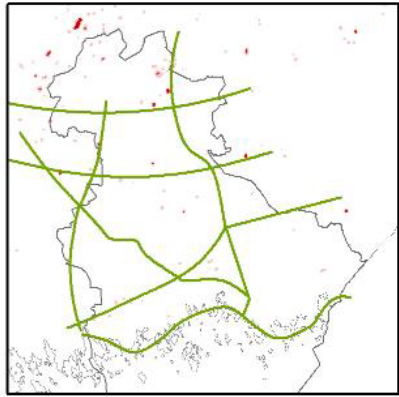
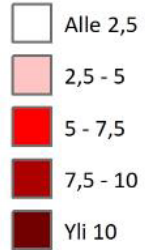


# Forestry and biodiversity

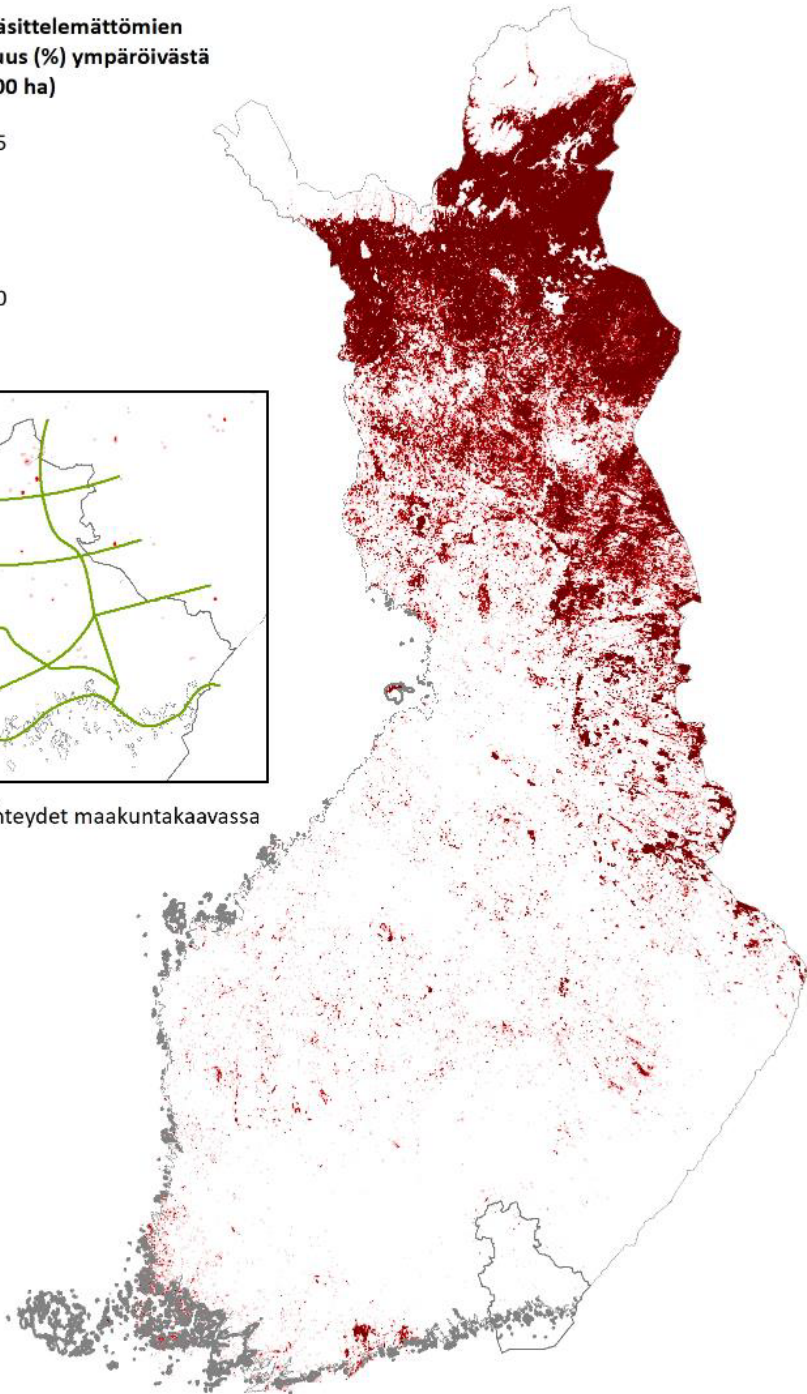


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Vanhon käsittämättömien  
metsien osuus (%) ympäröivästä  
alueesta (100 ha)



— viheryhteydet maakuntakaavassa

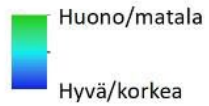


# Old natural forests in Finland

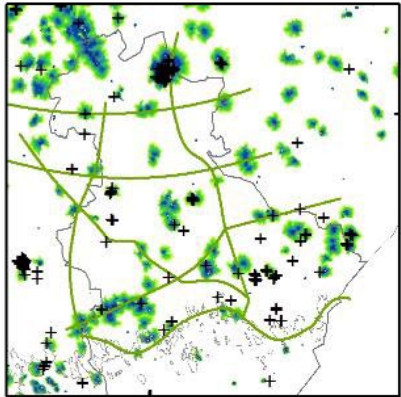
- Hardly any left in Southern Finland
- Practically none left in Kymenlaakso



## Vanhojen metsien kytkeytyneisyys



Boreaaliset luonnonmetsät (suoj.)



+ Kääpäindikaattorit (vanhat kuusikot)

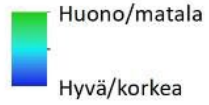
— viheryhteydet maakuntakaavassa

© Syke (lähteet: Corine- maanpeiteaineisto 2018, Monilähde-VMI 2019, Global Forest Change 2022, SAKTI 2022, Metsänkayttöilmoitukset 2023, Kymenlaakson maakuntakaava 2023)

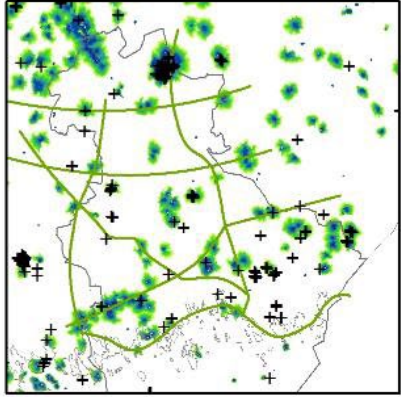
# Connectivity of (oldish) forests

- Based on the core areas of boreal forests and species that need old forests for their habitats

**Vanhojen metsien  
kytkeytyneisyys**



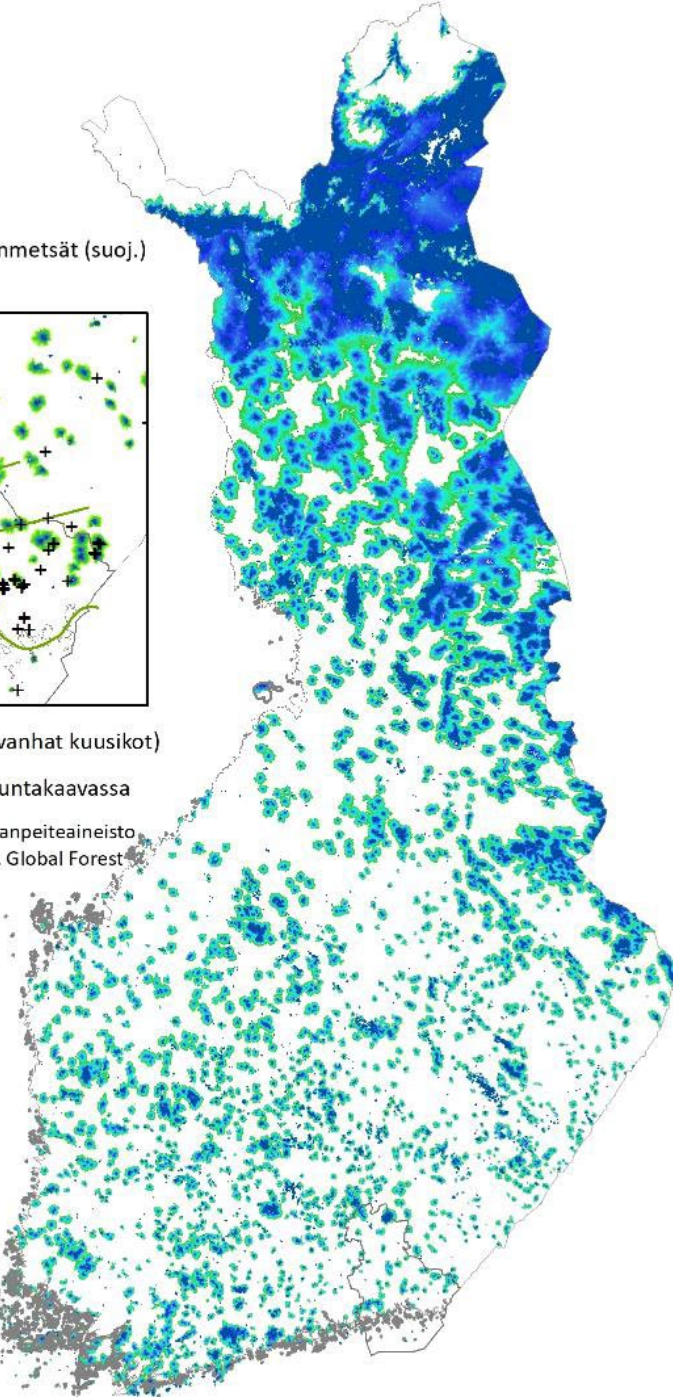
Boreaaliset luonnonmetsät (suoj.)



+ Kääpäindikaattorit (vanhat kuusikot)

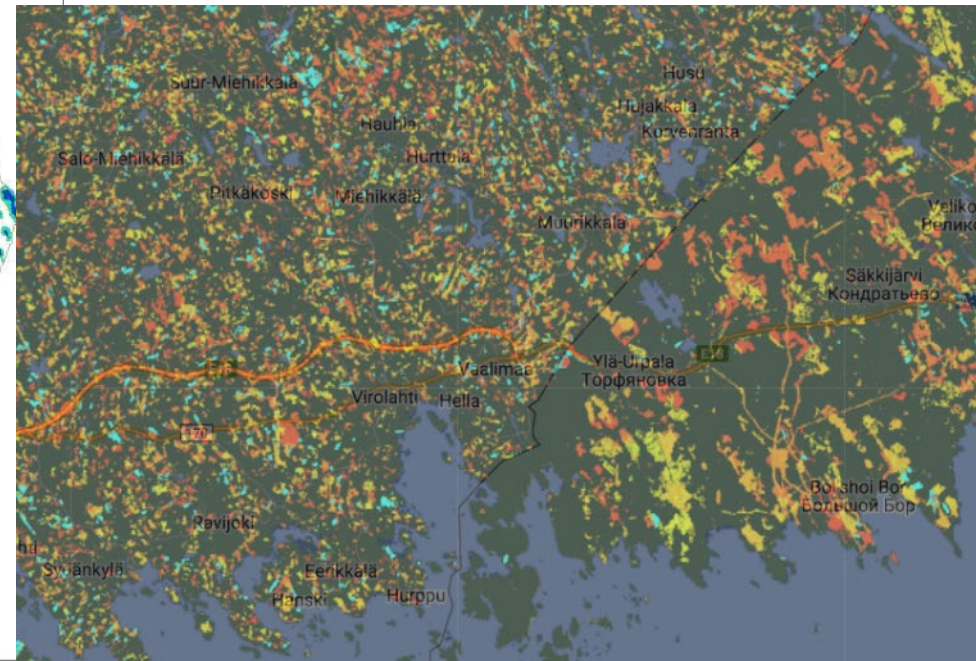
— viheryhteydet maakuntakaavassa

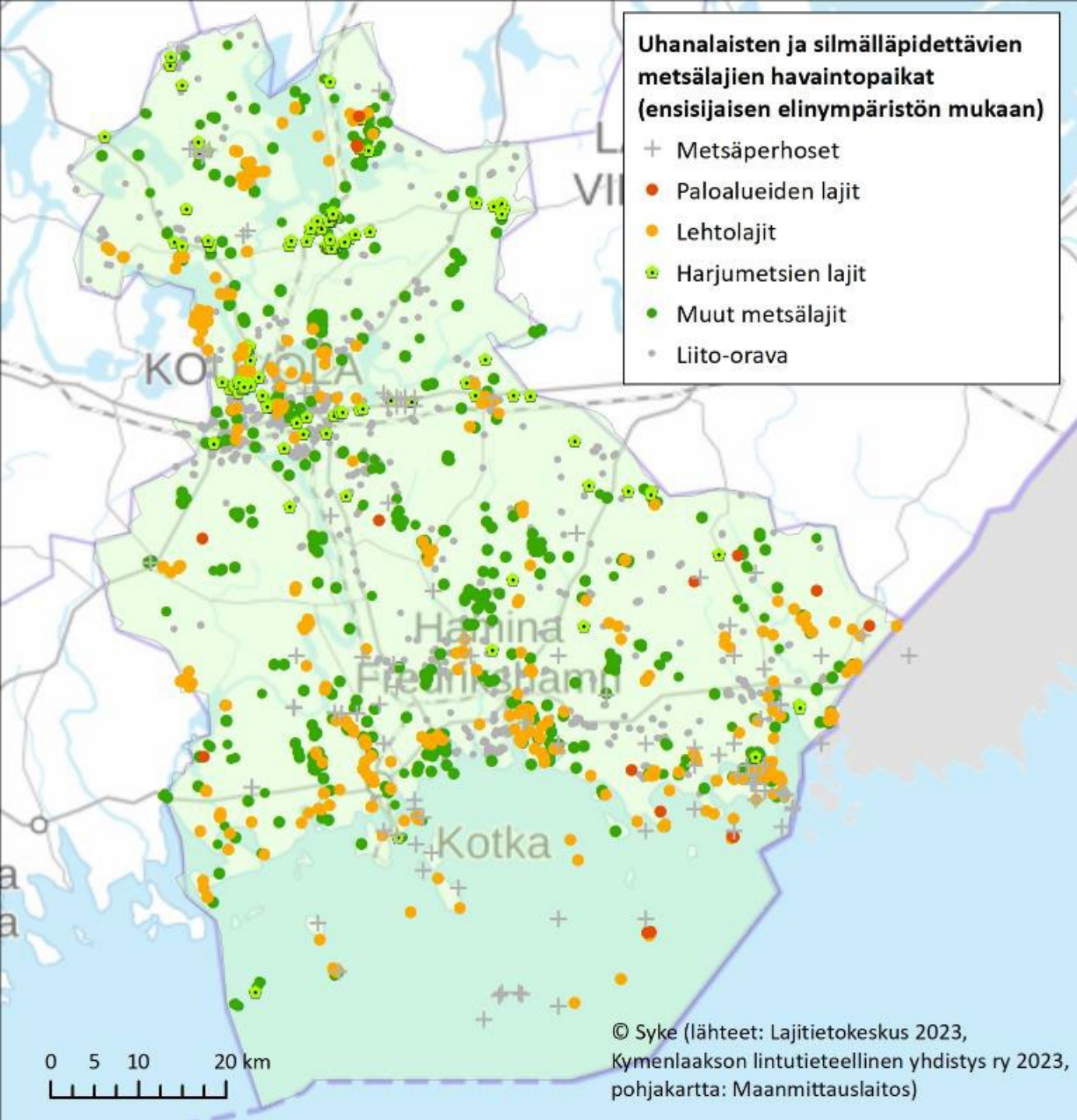
© Syke (lähteet: Corine- maanpeiteaineisto 2018, Monilähde-VMI 2019, Global Forest Change 2022, SAKTI 2022, Metsänkayttöilmoitukset 2023, Kymenlaakson maakuntakaava 2023)



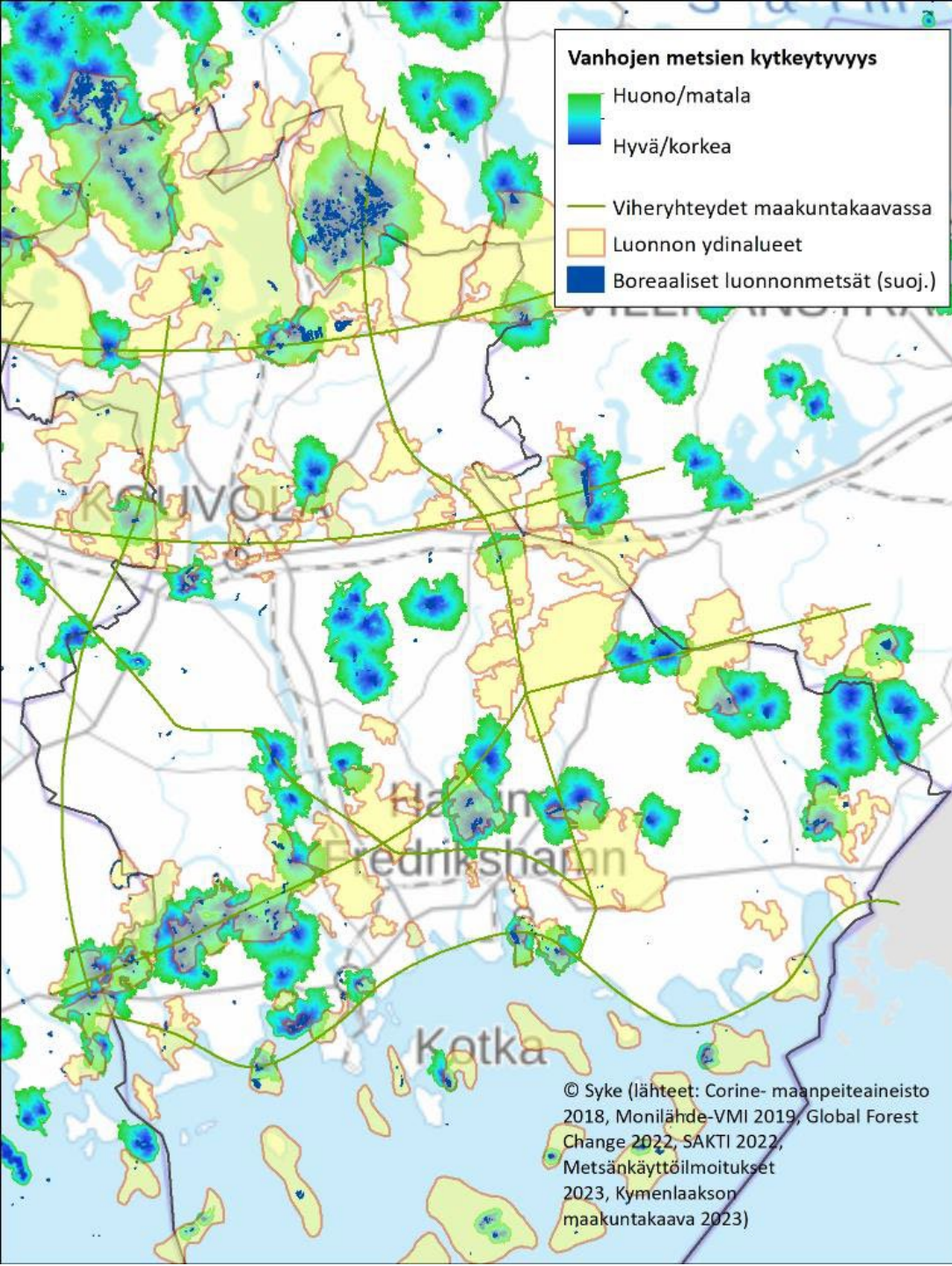
# Old forests in Finland and in Russian Carelia

- If we want to *increase biodiversity* in Southern Finland, we need to enhance east-west connections to allow species to migrate across the border





Occurrences of endangered and vulnerable species that mainly live in forests

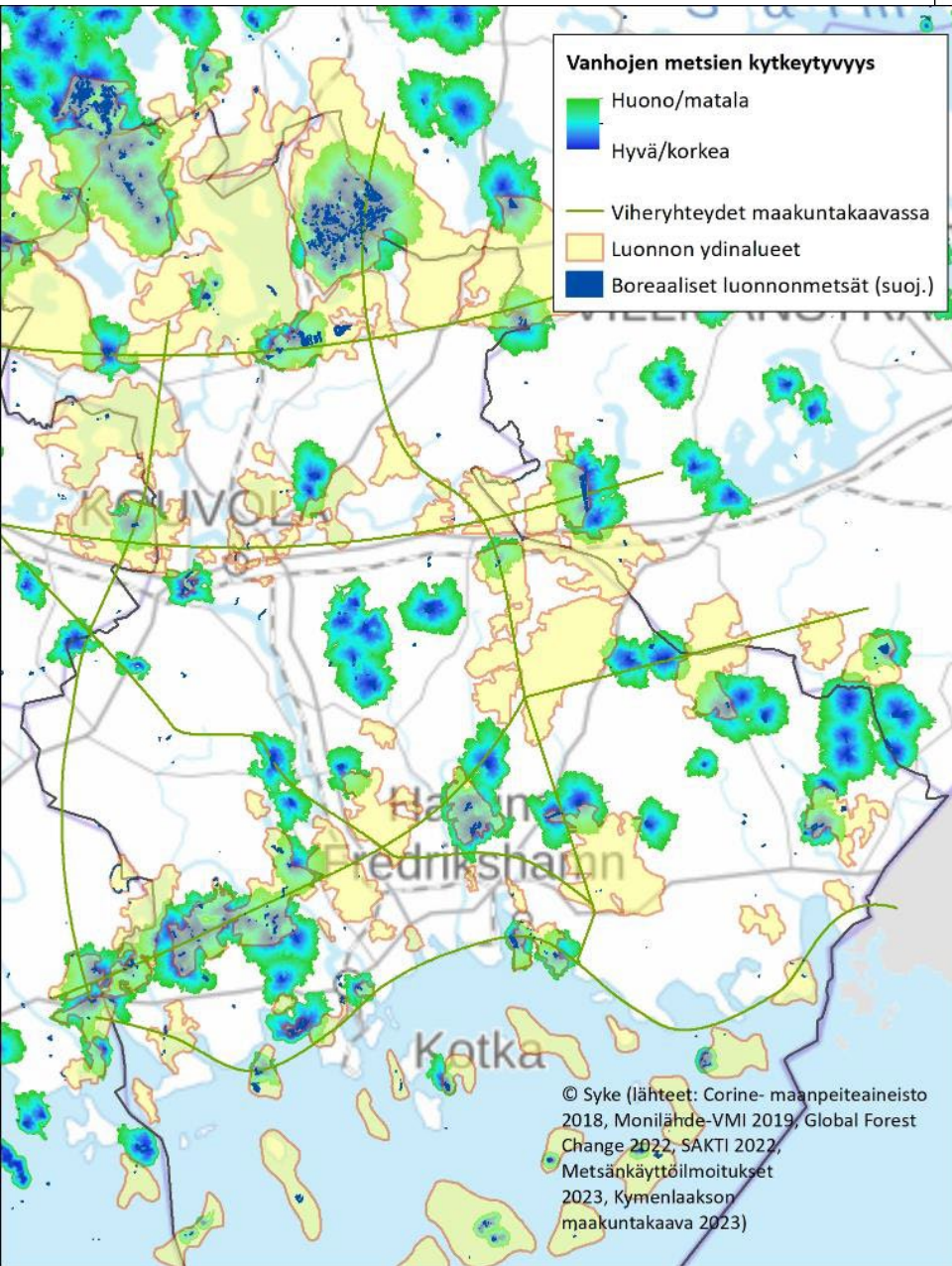


# Connectivity of old forests in Kymenlaakso

Blue: good connectivity

Green: poor connectivity

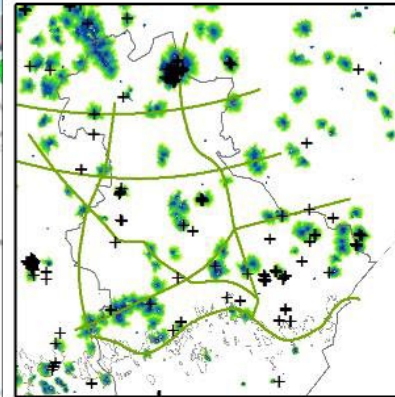
Yellow(ish): Nature hotspots



**Vanhojen metsien kytkeytyneisyys**

Huono/matala  
Hyvä/korkea

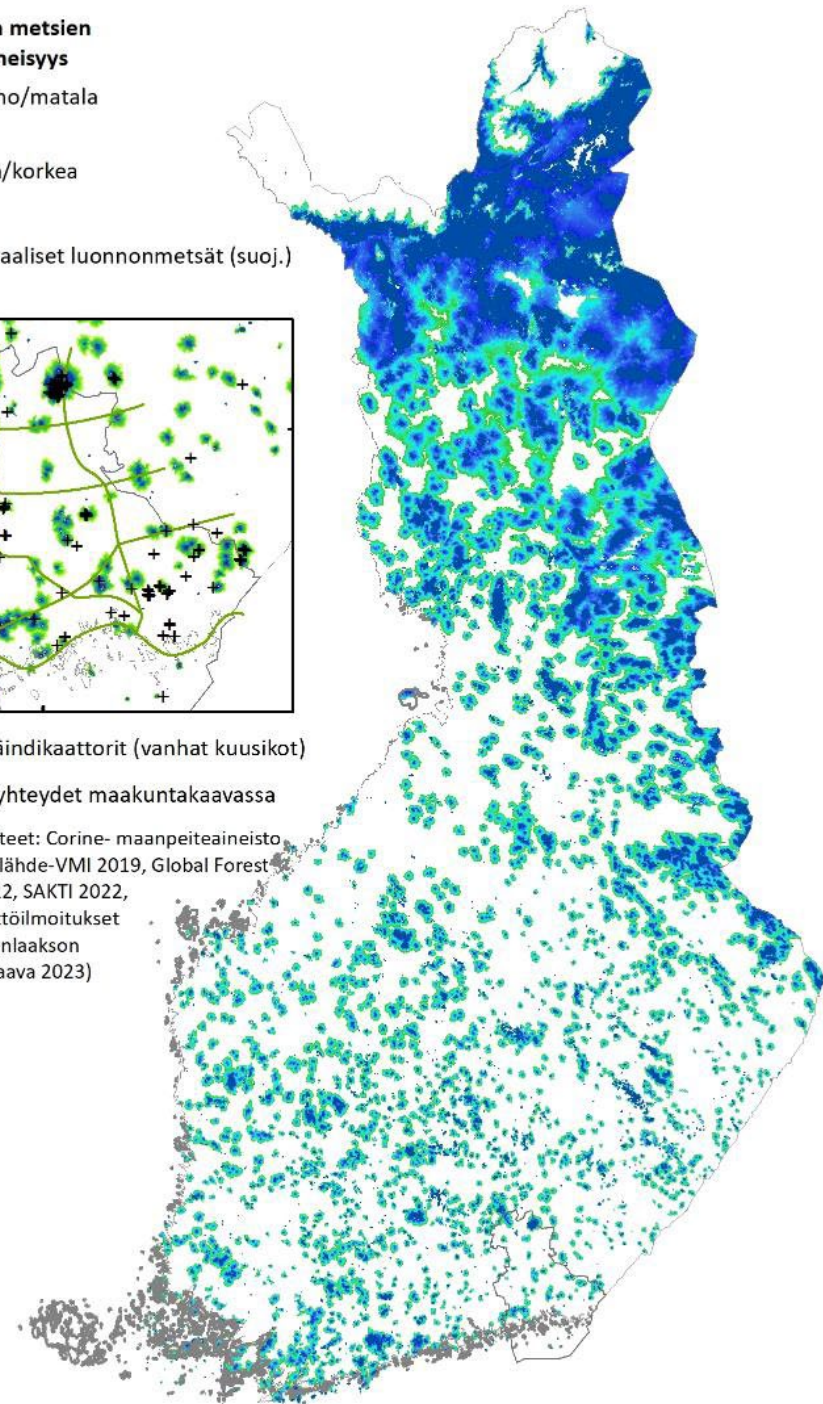
Boreaaliset luonnonmetsät (suoj.)



+ Kääpäindikaattorit (vanhat kuusikot)

viheryhteudet maakuntakaavassa

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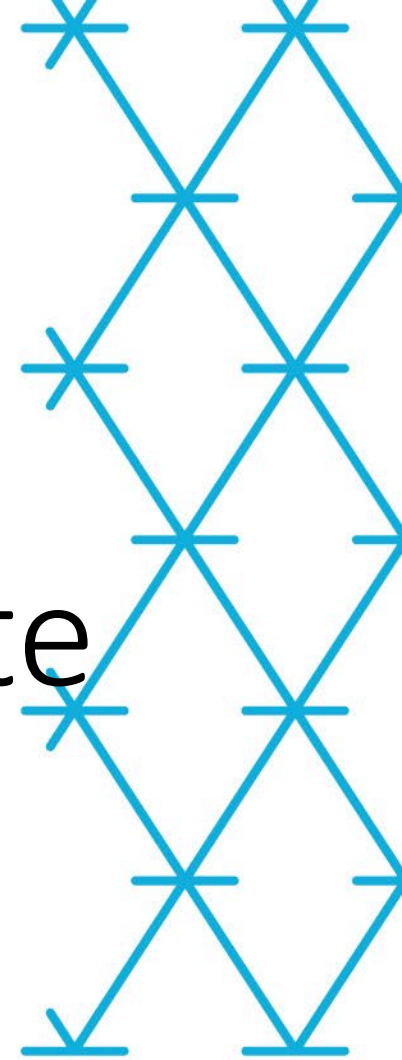


# Definition of old and natural forests

- Defined based on trees' age and the amount of dead wood present in a forest
- The required amount of deadwood unattainable in South Finland

Tarkasteltavat muuttujat	Metsäkasvillisuusvyöhyke			
	Hemi-eteläboreaalinen	Keskiboreaalinen	Pohjois-boreaalinen eteläosa (4a-4b)	Metsä- ja Tunturi-Lappi (4c-4d)
Ikäraajat, havupuu	120–140	120–140	140–160	160–250*
Ikäraajat, lehtipuu	80–100	80–100	100–140	100–140
Kuolleen puun tilavuus (m <sup>3</sup> /ha), kuusivaltaiset metsät	30–50	20–40	20–30	10–20
Kuolleen puun tilavuus (m <sup>3</sup> /ha), mäntyvaltaiset metsät	20–40	20–30	10–20	5–10

# Forestry and climate



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Effects of  
climate change  
on forestry and  
forests

Climate-resilient  
Kymenlaakso plan

→ First regional  
adaptation plan in  
Finland

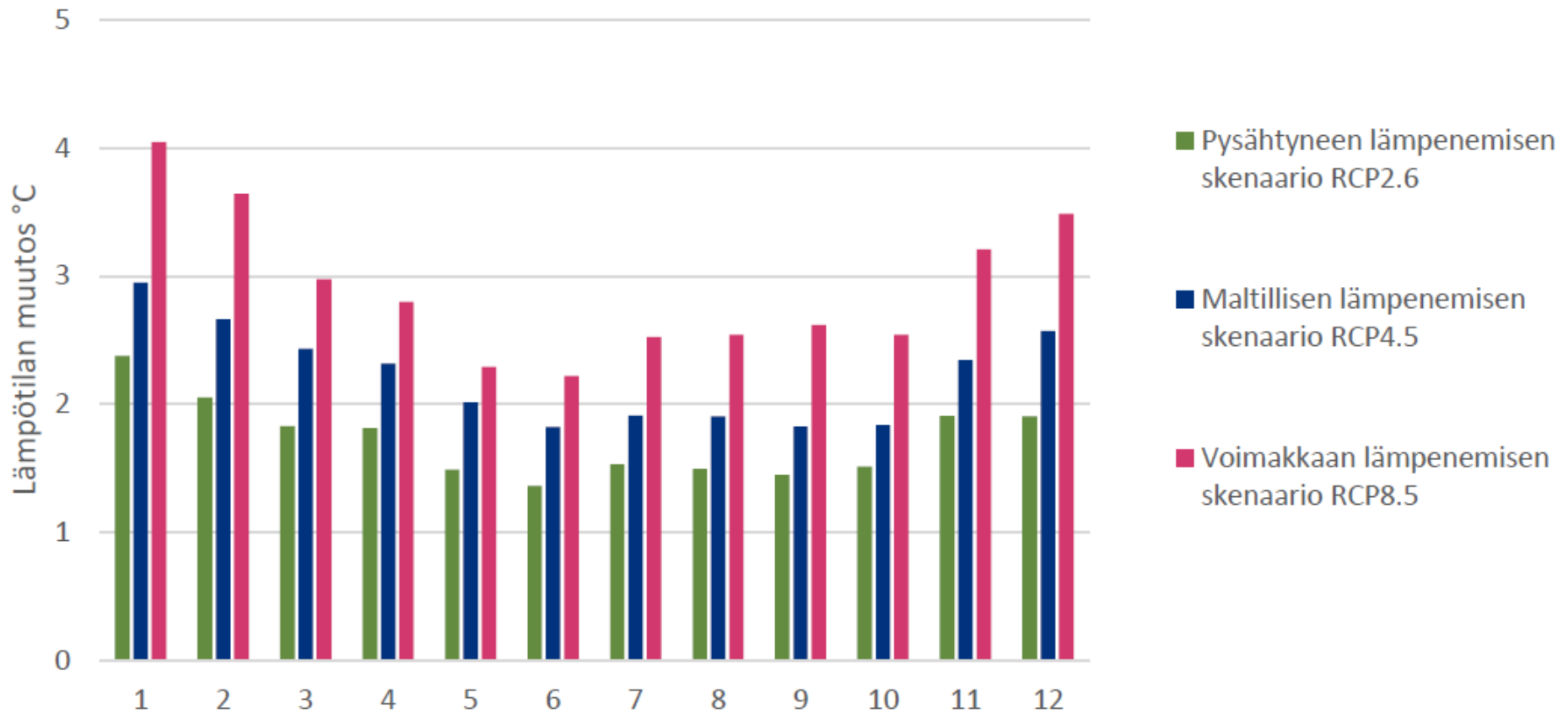
# ILMASTOKESTÄVÄ KYMENLAAKSO

Ilmastonmuutokseen sopeutumisen  
suunnitelma

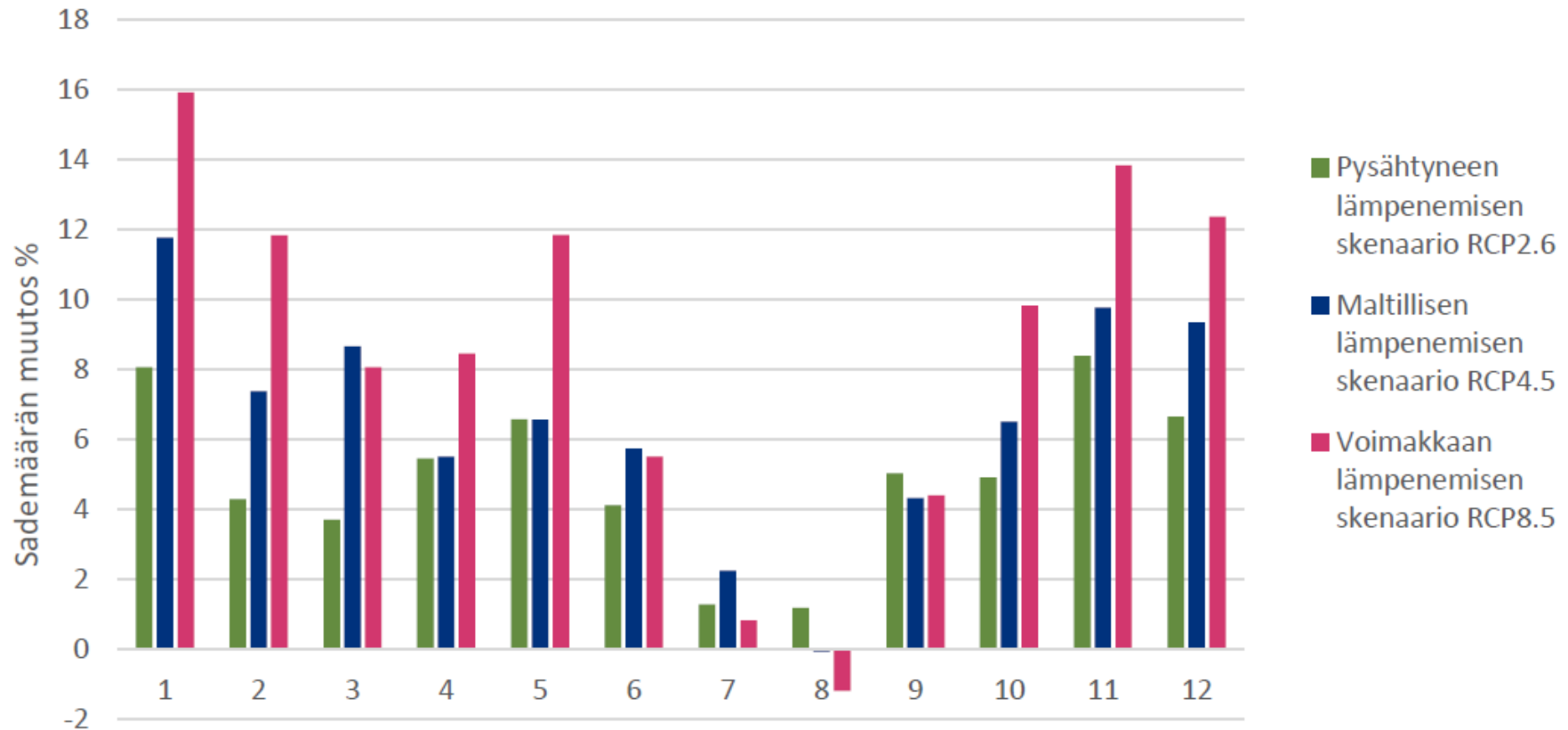




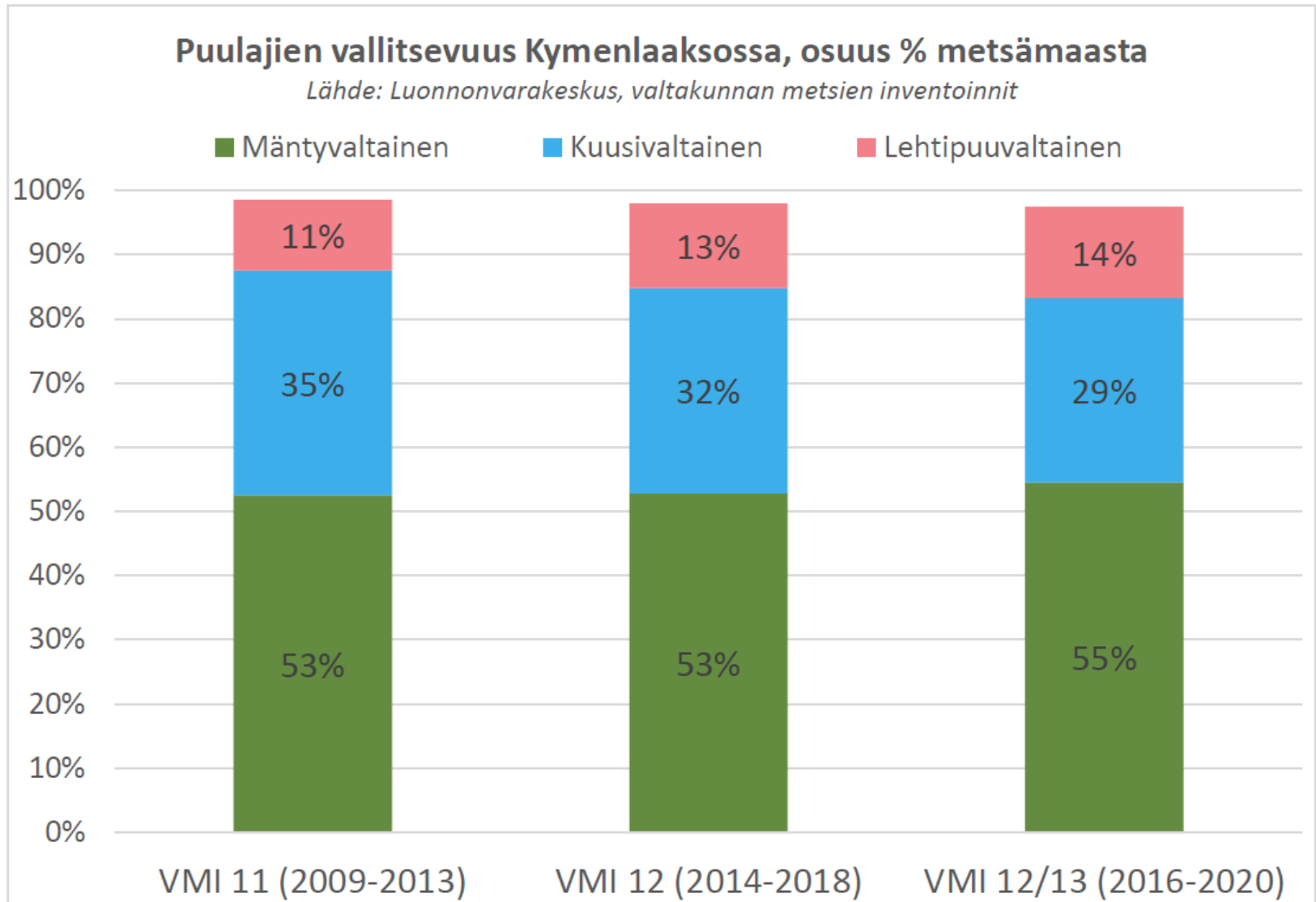
# Changes in temperature in 2050 according to different climate scenarios



# Changes in precipitation in 2050 according to different climate scenarios



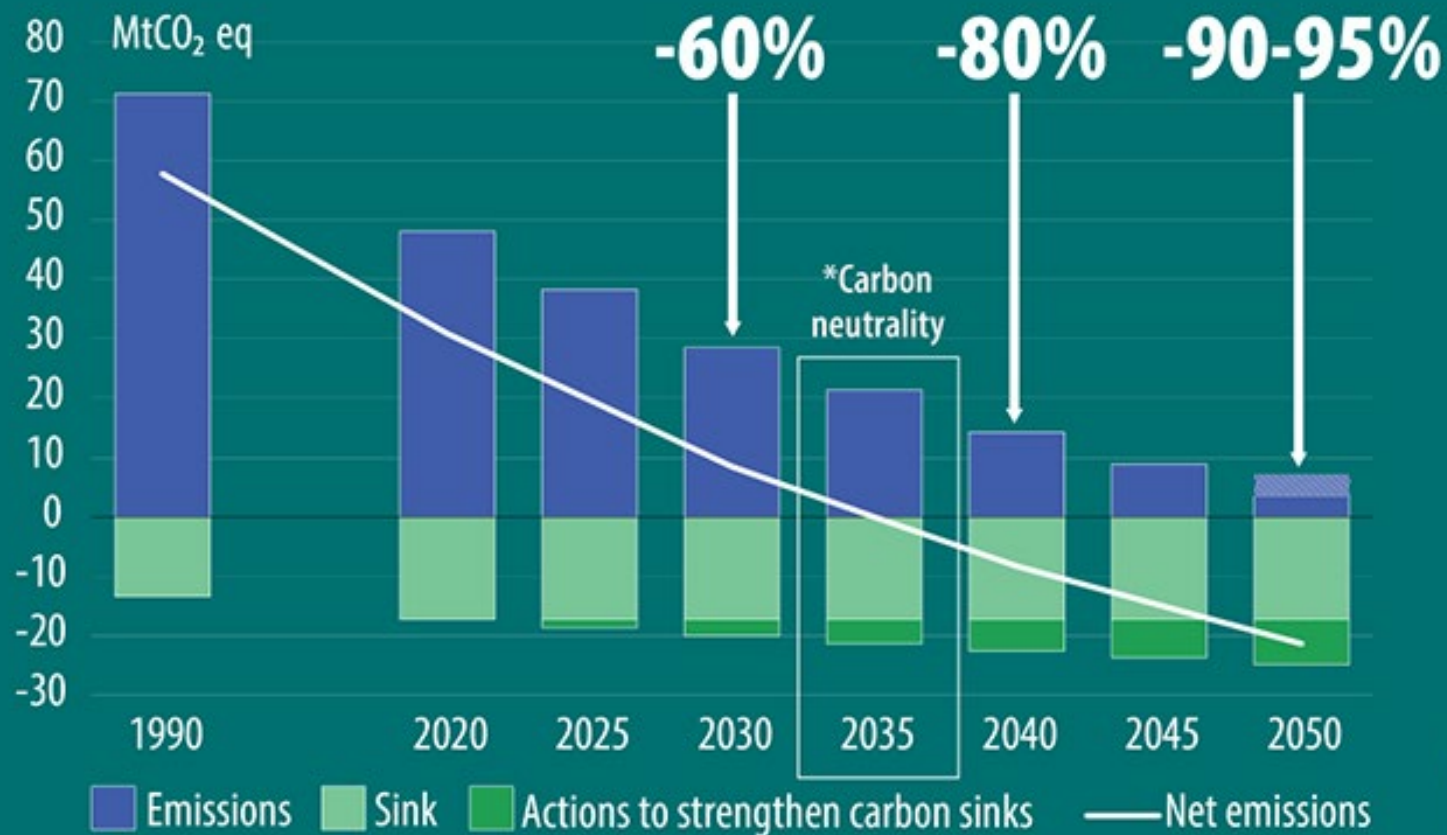
# Pine, spruce and deciduous trees



# Expected effects on forestry:

- Increase of invasive species → forest losses
- Intensifying storms → forest losses
  - Especially in winter when the soil will no longer freeze and support the roots
- Changes in precipitation and temperature:
  - may increase the growth of trees (together with increasing CO<sub>2</sub> concentration)
  - Drought and heat stress will harm tree growth
  - Will increase the runoff of nutrients and humus from soil
    - Darkening of water bodies
- Warm winters will affect forestry machines

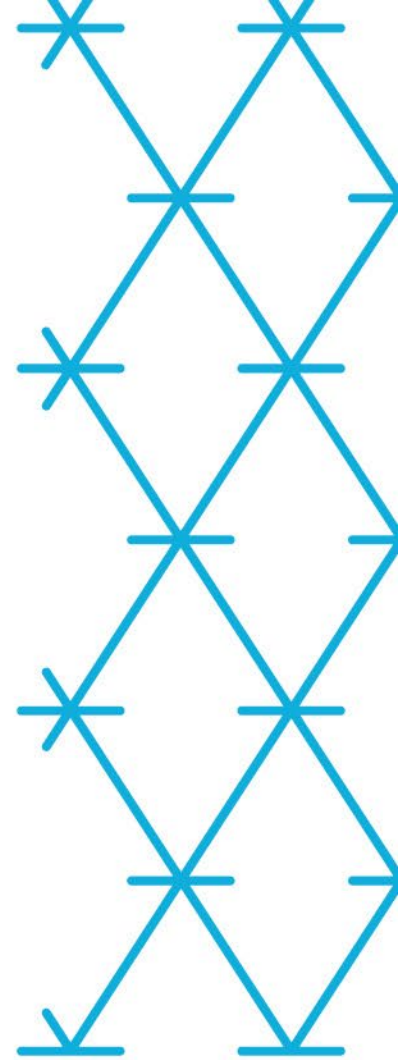
# Forests and CC mitigation



\*Based on the assumption that the carbon sink is -21 Mt CO<sub>2</sub> eq in 2035.

20  
35

# Conclusions



# Special relationship to forests?

- On a personal level, many would maybe say ‘yes’, but:
    - Rural-urban divide
  - On a more general level forests:
    - are an important source of tax revenue for the State
    - play key role in regional economic system
    - offer income to rural areas where job opportunities are few
    - need to be managed differently if Finland wants to achieve its BD targets
    - Are key carbon sinks that define whether Finland has a chance to achieve net zero by 2035
- If you define dependency as a special relation, then YES



Thank  
you!

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COUNCIL of  
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LAAKSO

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LAAKSON  
LIITTO