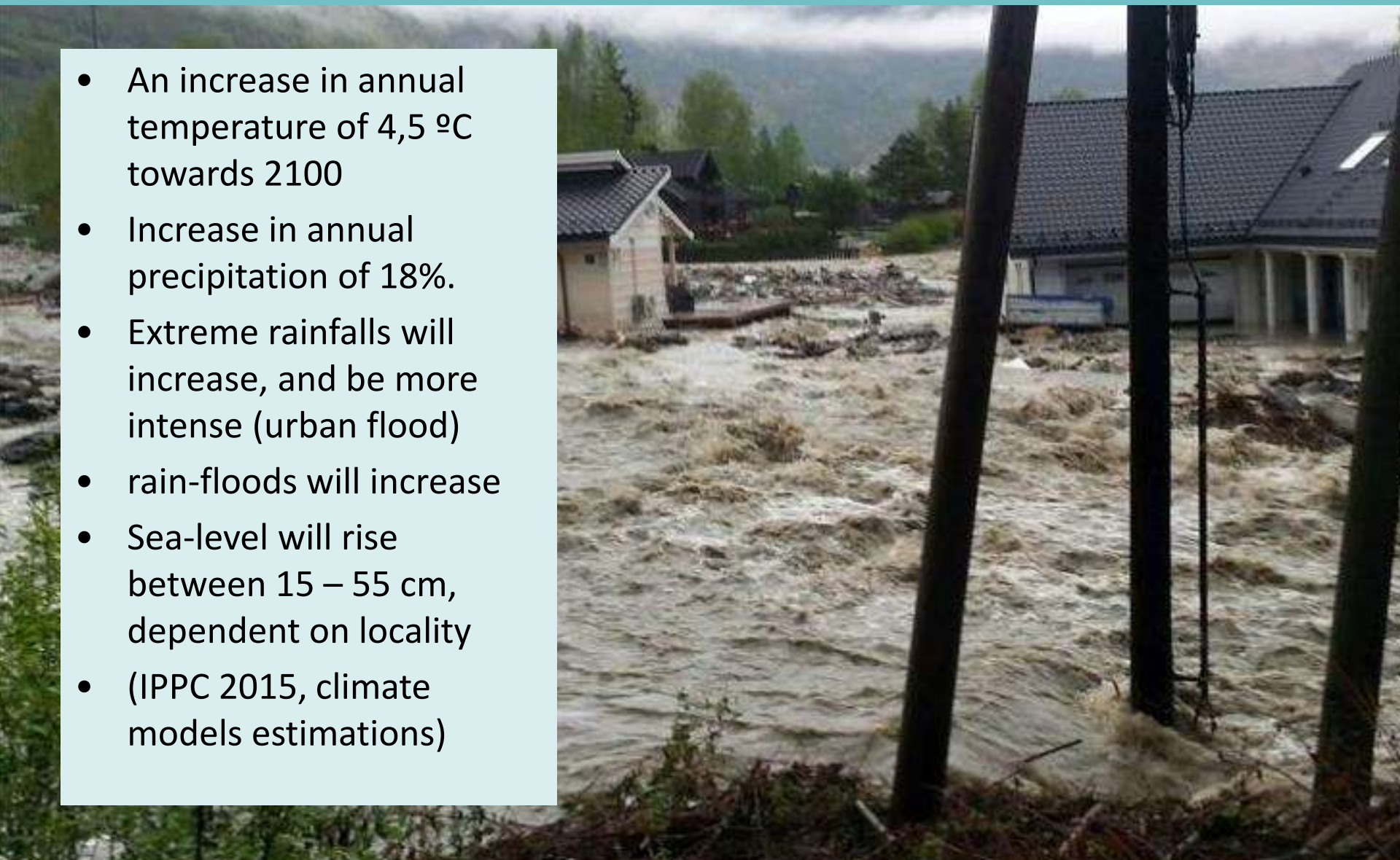
Řízení rizikové společnosti: Zvyšování lokální schopnosti adaptace na změny klimatu

Governing risk society: Increasing local adaptive capacity to climate changes

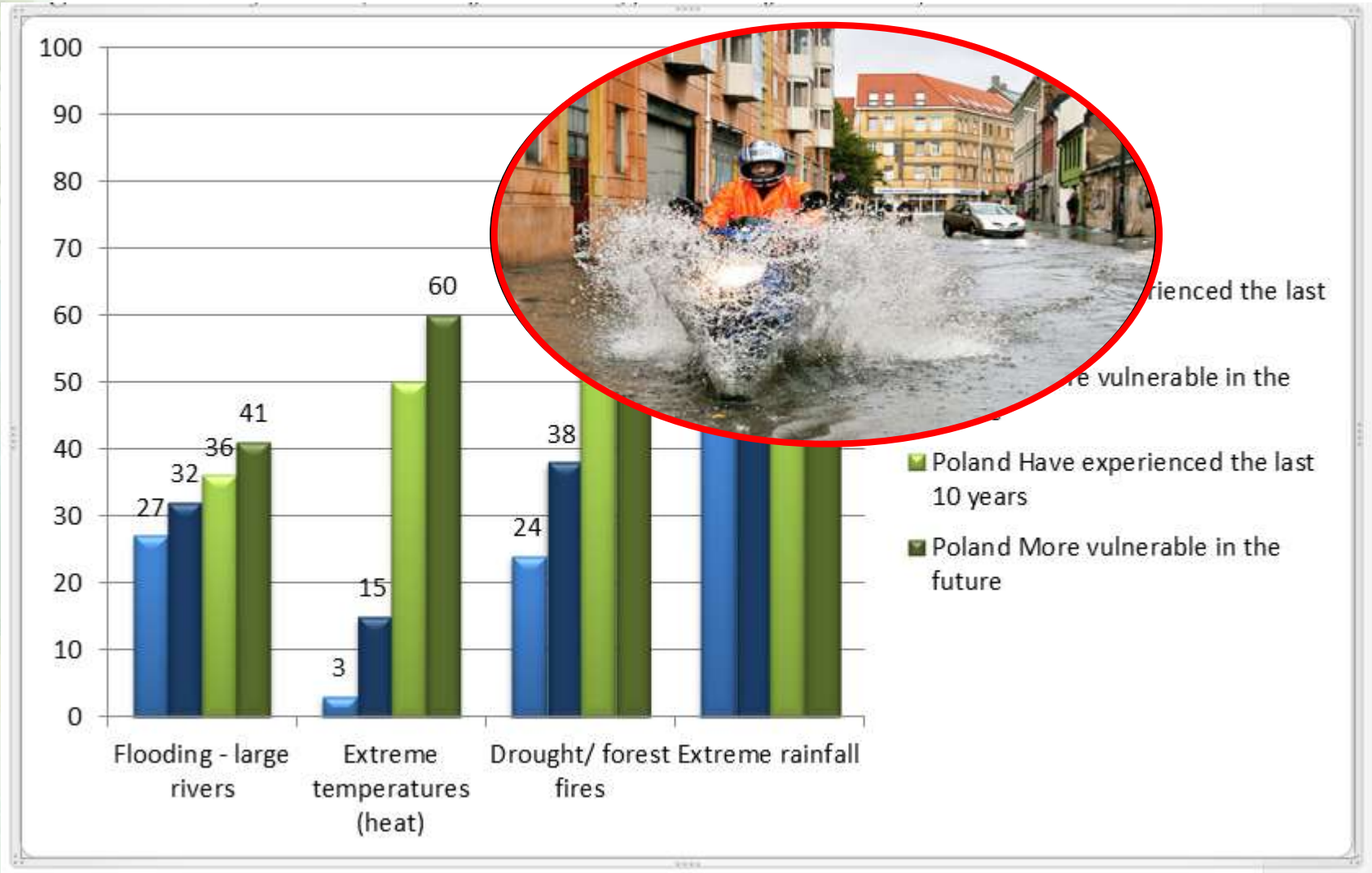
Gro Sandkjær Hanssen and Jørn Holm-Hansen
Norwegian Institute for Urban and Regional Research (NIBR)

Climate change – consequenses for Norway



- An increase in annual temperature of 4,5 ºC towards 2100
- Increase in annual precipitation of 18%.
- Extreme rainfalls will increase, and be more intense (urban flood)
- rain-floods will increase
- Sea-level will rise between 15 – 55 cm, dependent on locality
- (IPPC 2015, climate models estimations)

The municipalities' perceptions of future vulnerability of natural hazards caused by climate change: Norway and Poland



Increasing local adaptive capacity by overcoming three major challenges

1. The **translation** challenge
2. The **coordination** challenge
3. The **anchoring** challenge

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1. The translation challe

Link these two knowledge types

1. GLOBAL WARMING

2. REGIONAL EFFECTS

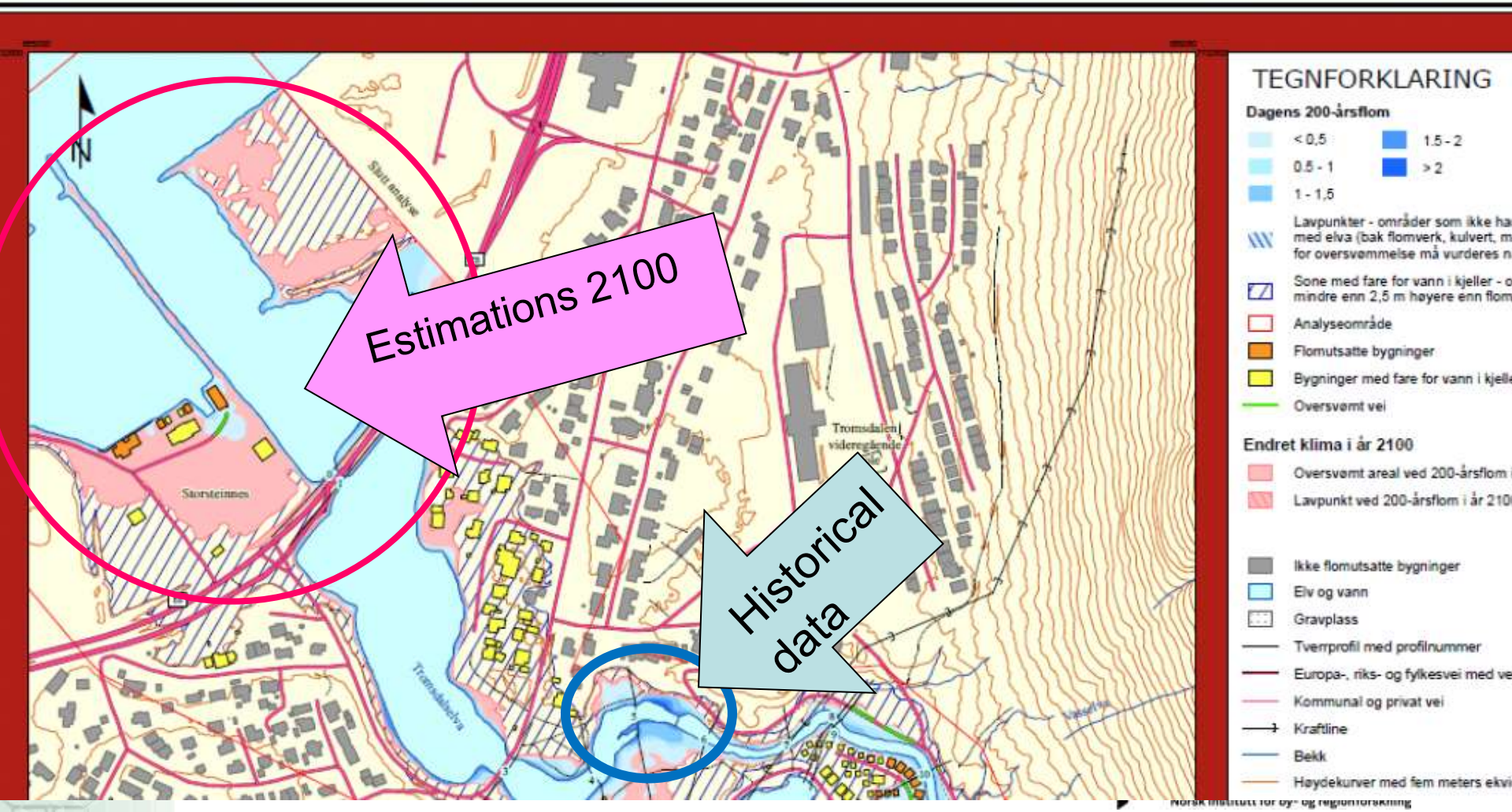
. CONSEQUENSES FOR HYDROLOGY, NATURE, BUILT STRUCTURES

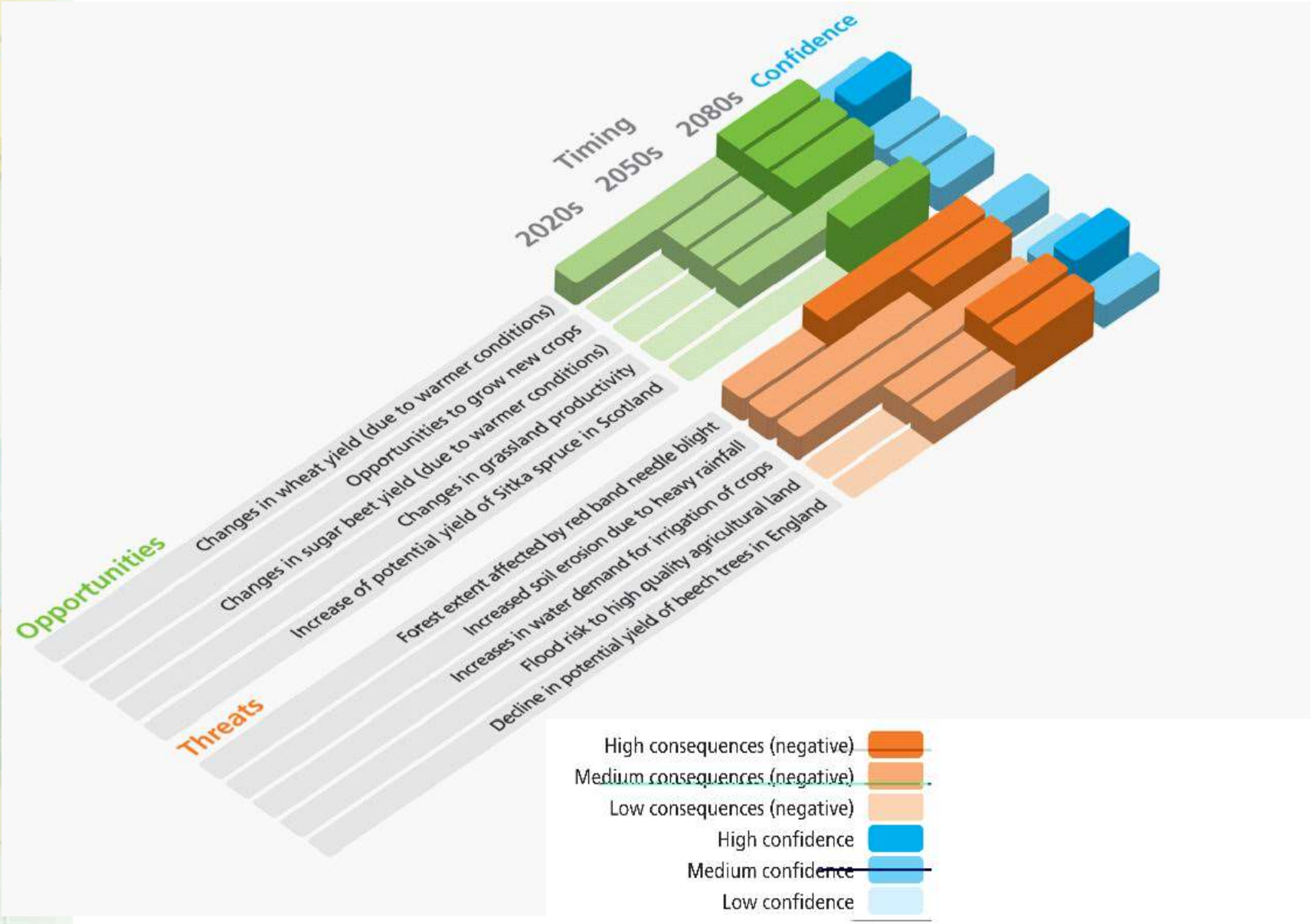
4. CONSEQUENSES (DIRECT AND INDIRECT) ON ECOLOGICAL STATUS OF WATER

5. LEGAL REQUIREMENTS – KNOWLEDGE, PLANNING

6. ADEQUATE MEASUREMENTS

New flooding-zone maps with estimated level for 2100



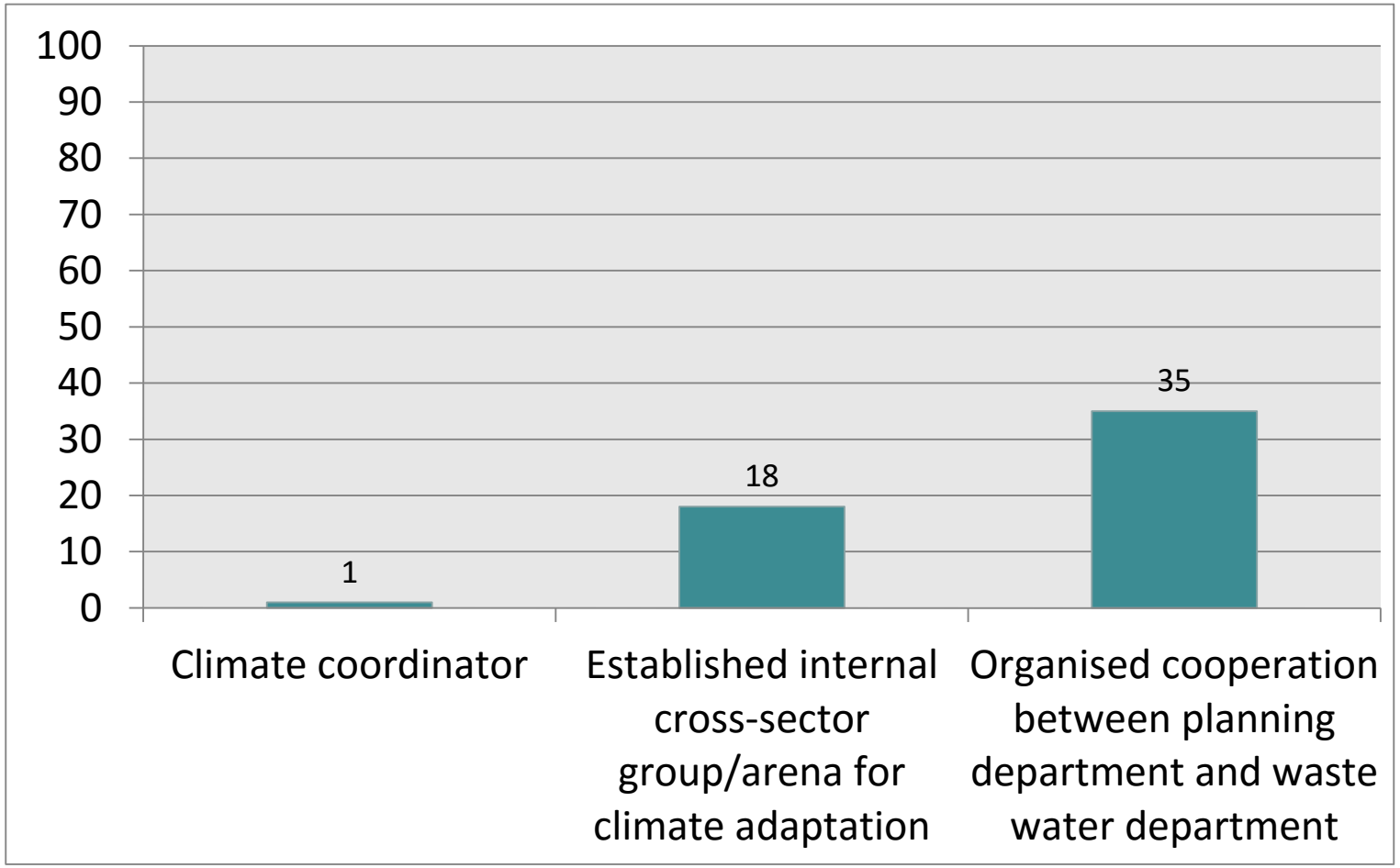


The figure gives indicative results from the agriculture and forestry sectors, and shows the timing and magnitude of a selection of the impacts analysed. It also shows the respective level of confidence. Such information exists for all the risks analysed, across all sectors.

2. The coordination challenge

- **Local government (428) has the main responsibility**
  - Planning (spatial planning, overall planning) and waste water
  - Difficult to ensure cross-sector cooperation
- **Fragmented national level**
  - Four Ministries and three National Agencies responsible for relevant policy instruments
  - But have not coordinated their instructions to local government

Need more cross-sector cooperation in municipalities!



Percentage of Norwegian municipalities 2015, N=219 (total number of municipalities 428)

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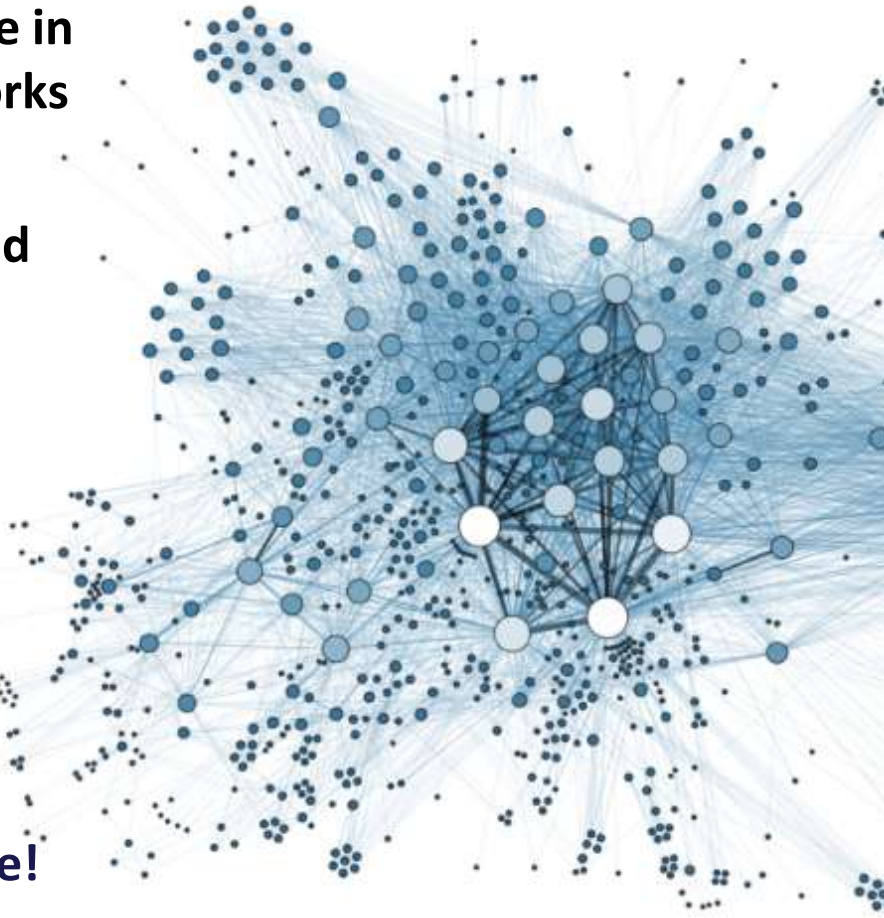
Inter-municipal networks important

- **30 % of Norwegian municipalities and 27% of the regions participate in climate change adaptation networks**

- **Regional actors are now instructed to establish multi-level networks**

→ **Important <u>learning networks</u>**

  - **Knowledge transfer**
  - **Multilevel, cross sector**
  - **Translation of natural science into effects for local planning**
  - **Here planners and water engineers meet and cooperate!**



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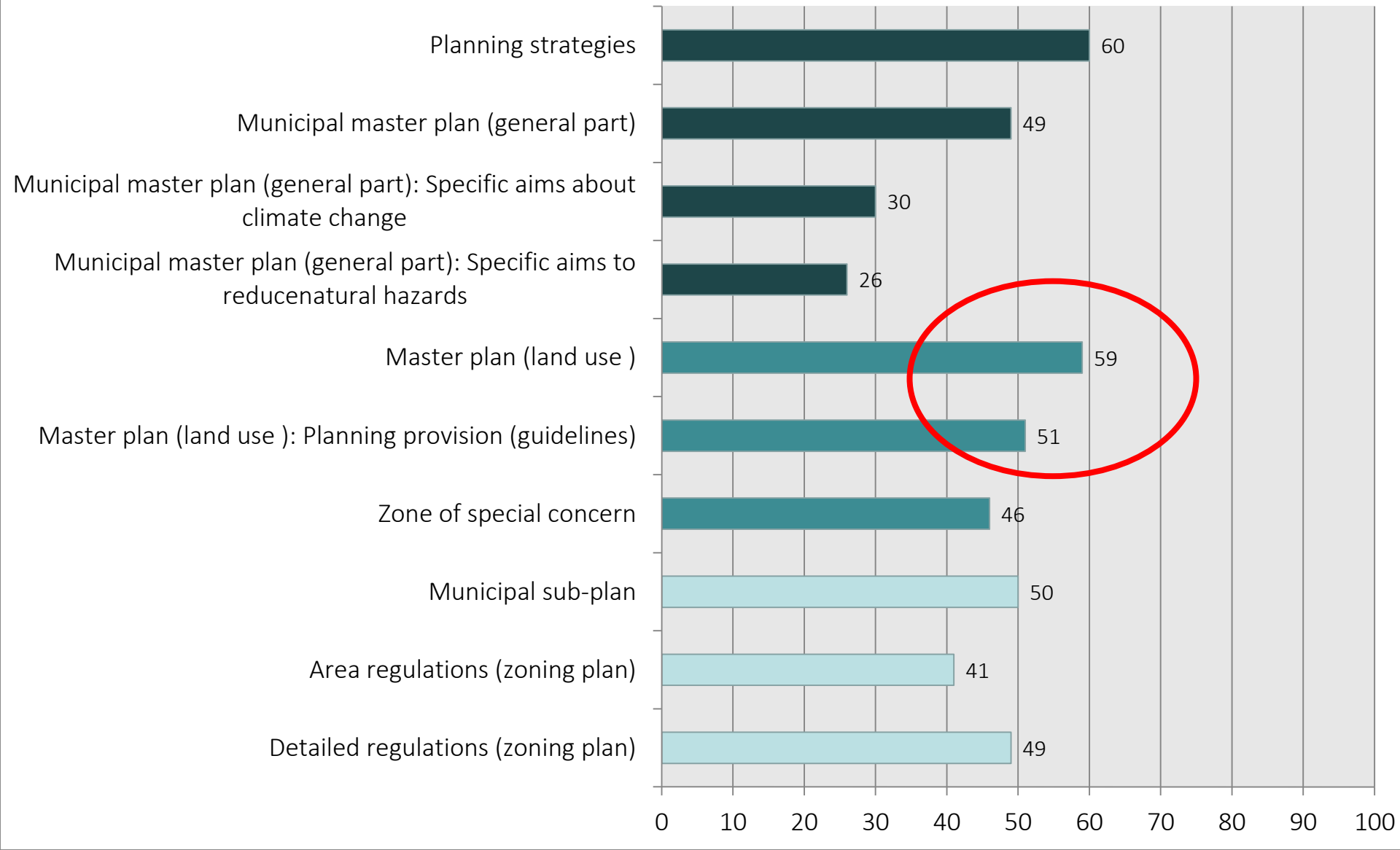
Overall plans are coordinating tools:

How is climate change adaptation integrated in local planning in Norway?



3. The challenge of anchoring local climate change adaptation measures in robust political decisions

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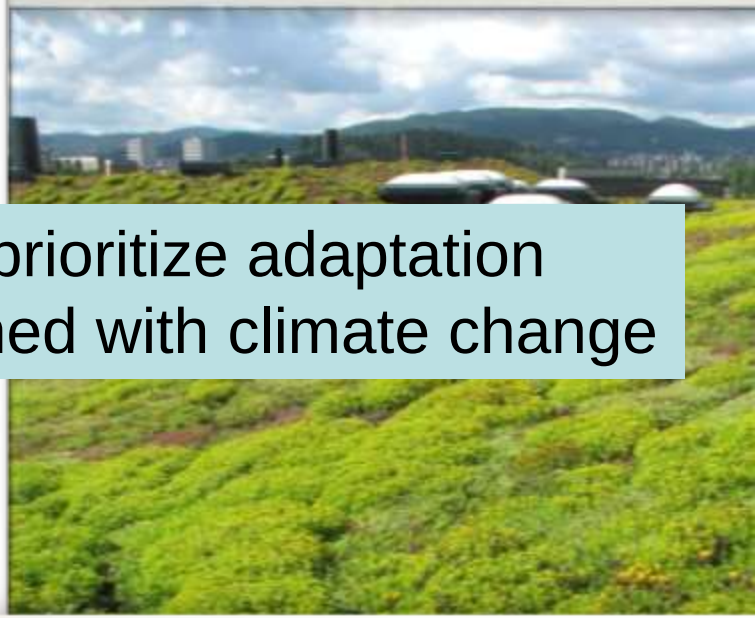
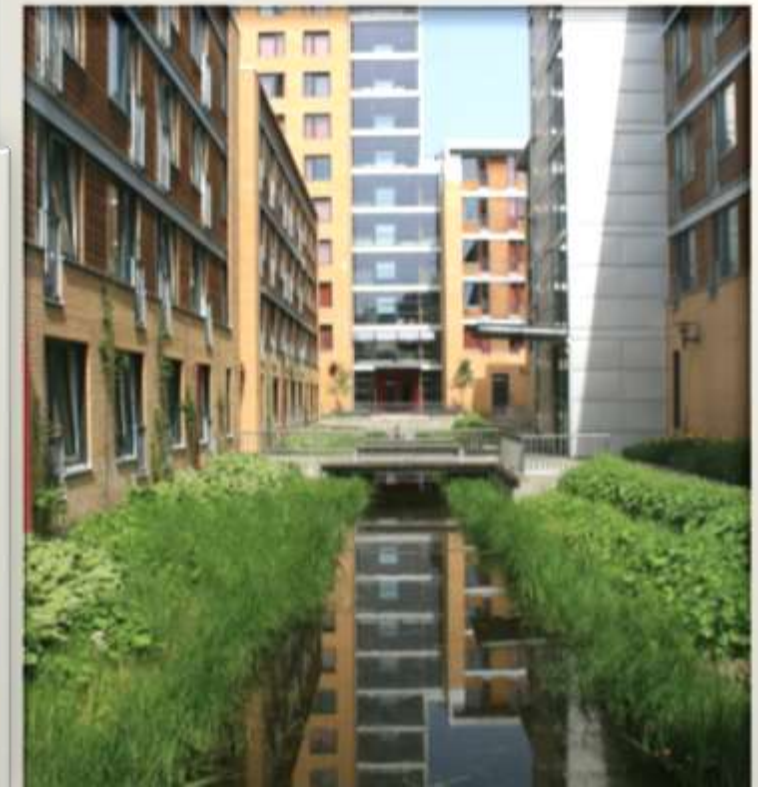
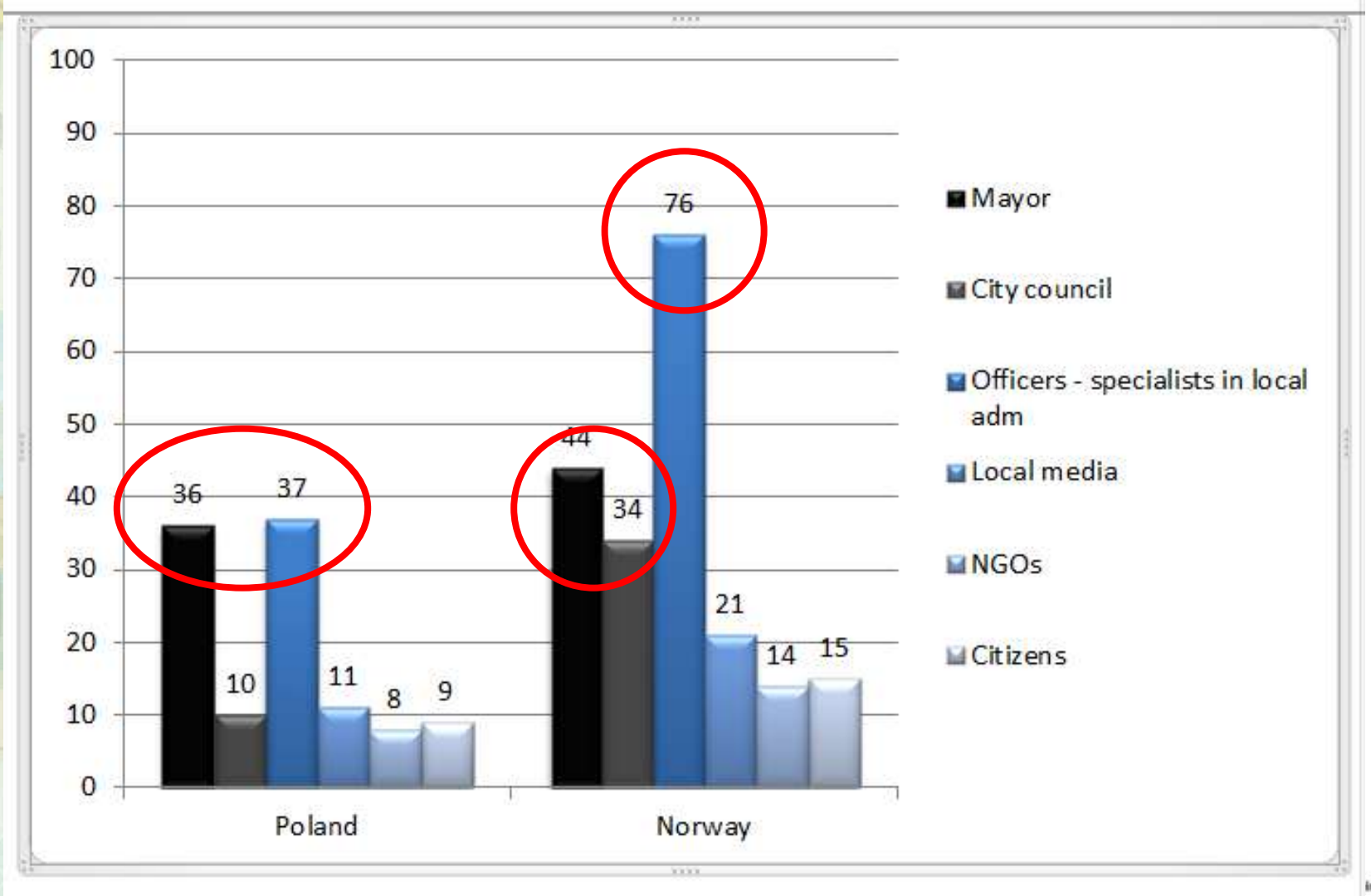
If the political leadership are to prioritize adaptation measures, they have to be concerned with climate change





To what extent are the following actors in your municipality concerned with climate change related questions?



How to ensure climate-robust new development projects? New tools for political steering

		1. BLÅGRØNNE FLATER
		ÅPENT PERMANENT VANNS FORDRØYER REGNVANN
0,3		DELVIS PERMEABLE FLATER SOM GRUS SINGEL OG GRESSARMERT DEKKE
0,2		IMPERMEABLE OVERFLATER MED AVRENNING TIL VEGETASJONSAREALER ELLER ÅPENT FORDRØYNINGSMAGASIN
0,1		IMPERMEABLE OVERFLATER MED AVRENNING TIL LOKALT OVERVANNSANLEGG UNDER TERRENG
1		OVERFLATER MED VEGETASJON FORBUNDET MED JORD ELLER NATURLI FJELL I DAGEN
0,8		OVERFLATE MED VEGETASJON, IKKE FORBUNDET MED JORD >80 cm
0,6		OVERFLATE MED VEGETASJON, IKKE FORBUNDET MED JORD 40-80 cm

Reduced costs for developer

Děkujeme
za Vaši pozornost!

gro.hanssen@nibr.hioa.no
jorn.holm-hansen@nibr.hioa.no

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