



COP24·KATOWICE 2018
KONFERENCJA NARODÓW ZJEDNOCZONYCH
W SPRAWIE ZMIAN KLIMATU

Forest Carbon Farms project



The presentation is based on materials from the State Forests and Project Team



Forests in Poland

- total area **9.2 million hectares**
- forest cover **29.4%**
- dominant species: **pine** (spruce, fir and beech in the mountains)
- forest ownership:
 - **77.1% publicly-owned, administrated by the State Forests**
 - 17.9% individual ownership
 - 5.0% other (including national parks)
- **The State Forests National Forest Holding** (7.5 million hectares)
 - organization protecting, utilizing, and shaping Poland's forests for over ninety years
 - the Polish forestry model is **highly appreciated in whole Europe, promoting non-productive forest functions** (among others role of forests in total carbon balance in nature)



Forest management as a tool for mitigating CO₂ growth in the Earth's atmosphere

The United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992 in Rio de Janeiro (“Rio Convention”)

The Kyoto Protocol adopted in 1997

The Paris Agreement 2015 (inclusion of forests in climate policy)

- common, legally binding global climate agreement (adopted by 195 countries)
- the role of **forests in the absorption of CO₂ has been emphasized**; representatives of Poland discussed the project of forest carbon farms, which stimulates the absorption of CO₂ while increasing biodiversity and intensifying wood production
- conference participants have acclaimed promoting forests, as a natural carbon sink; as a conclusion forests has been included into the Paris Agreement

Art. 5 PA

Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases (...) including forests



Forest Carbon Farms Project (FCF Project)

- **Directive no 2 of the Director–General of the State Forests’ 2018** regarding the realisation of a developmental project called Forest Carbon Farms, implemented as a joint venture of the State Forest organisational units.
- Goals and directions:
 - ✓ expression of the role of **forest areas** in mitigating the negative effects of climate change in the context of international agreements;
 - ✓ **storage** of additional organic carbon in separated parts of the forest;
 - ✓ **verification** of the effectiveness of additional measures to increase CO₂ retention;
 - ✓ creating a CO₂ absorption **model** by Polish forests;
 - ✓ introduction of the **trading system** for CO₂ units to the economic practice
 - ✓ **a research program** constituting an integral part of the FCF Project
- Project implementation - the first quarter 2017
- Costs of Project – The State Forests Forest Fund.
- Pilot Project, including both additional activities in forest areas and **scientific research**



The project

„Remote sensing based assessment of woody biomass and carbon storage in forests”
(REMBIOFOR)

Years: 2014-2019

founded by the National Centre for Research and Development within the program
„Natural environment, agriculture and forestry” BIOSTRATEG, under the agreement no.
BIOSTRATEG1/267755/4/NCBR/2015.



REMOTE sensing
based assessment
of woody **BIOMASS**
and carbon storage
in **FORESTS**

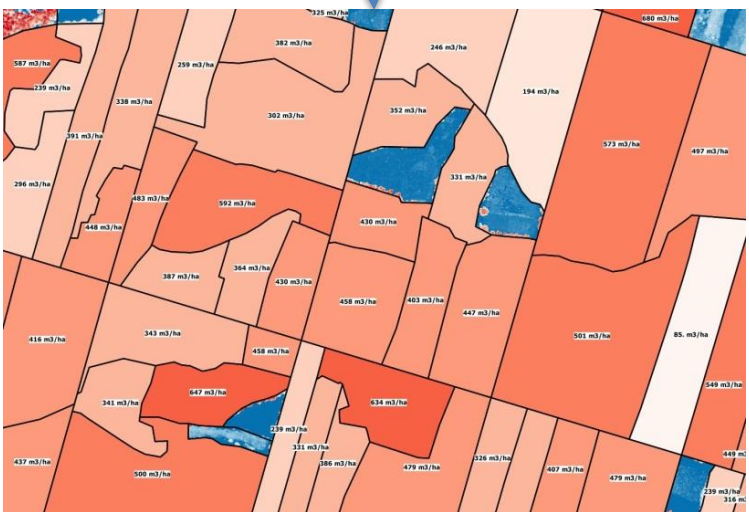
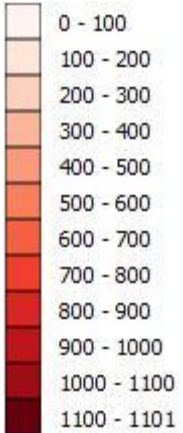
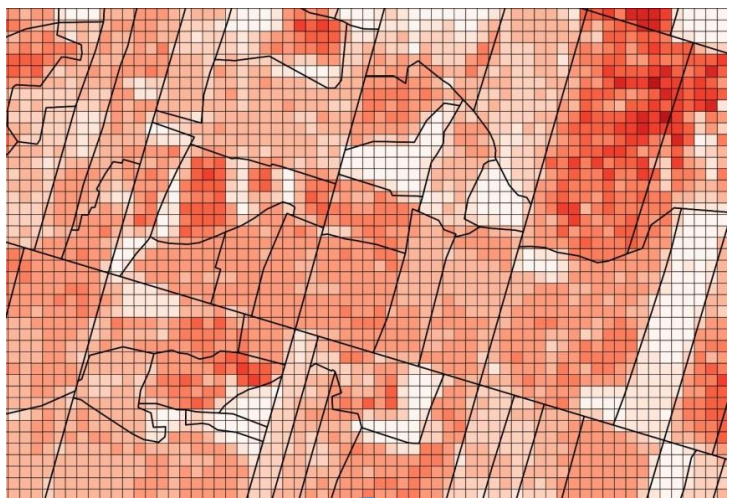
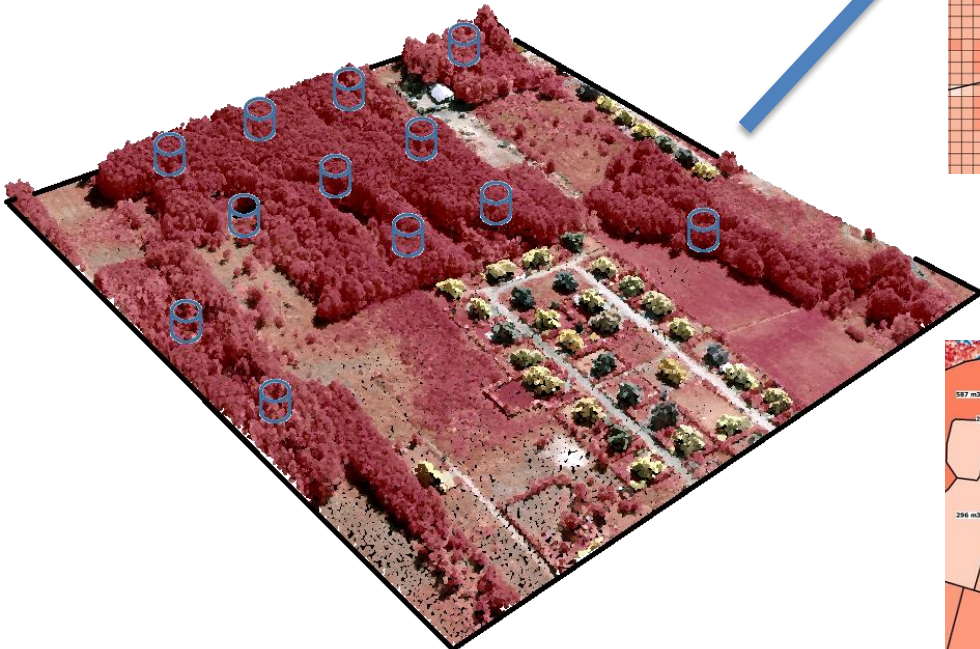


Narodowe Centrum
Badań i Rozwoju



BIOSTRATEG







***Only AGB,
3500 trees of
8 species***



Developmental project in forest areas – (years: 2017-2026)

- preparation of list and special scope of activities for Forest Carbon Farms project
- inventory of carbon in Polish forests
- creating a carbon balance model for Polish forests,
- assessment of effectiveness of additional activities with regard to absorption
- granting marketing authorization for carbon dioxide units

after 2026:

- establishing another areas within FCF project
- the settlement of generation process and the sales of units of the absorbed CO²



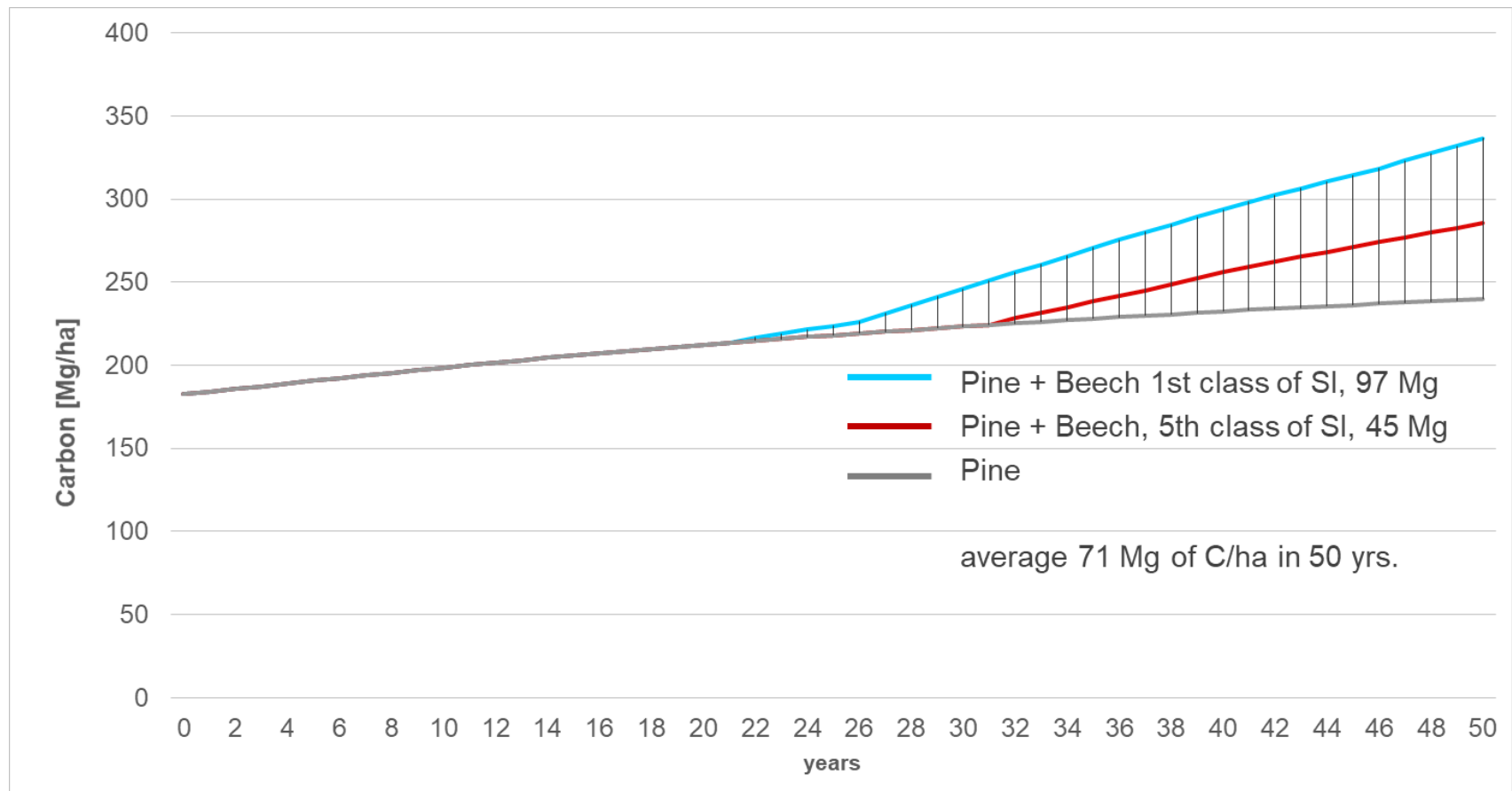
Calculating carbon resources

Operational-Scale Carbon Budget Model of the Canadian Forest Sector (CBM-CFS3)

- a stand- and landscape- level modeling framework that can be used to simulate the dynamics of all forest carbon stocks
- Polish algorithms and equations
- Research and model improvement
(adjusting for Polish tree species, soils, forest management model and silvicultural treatments, and additional activities in forestry)

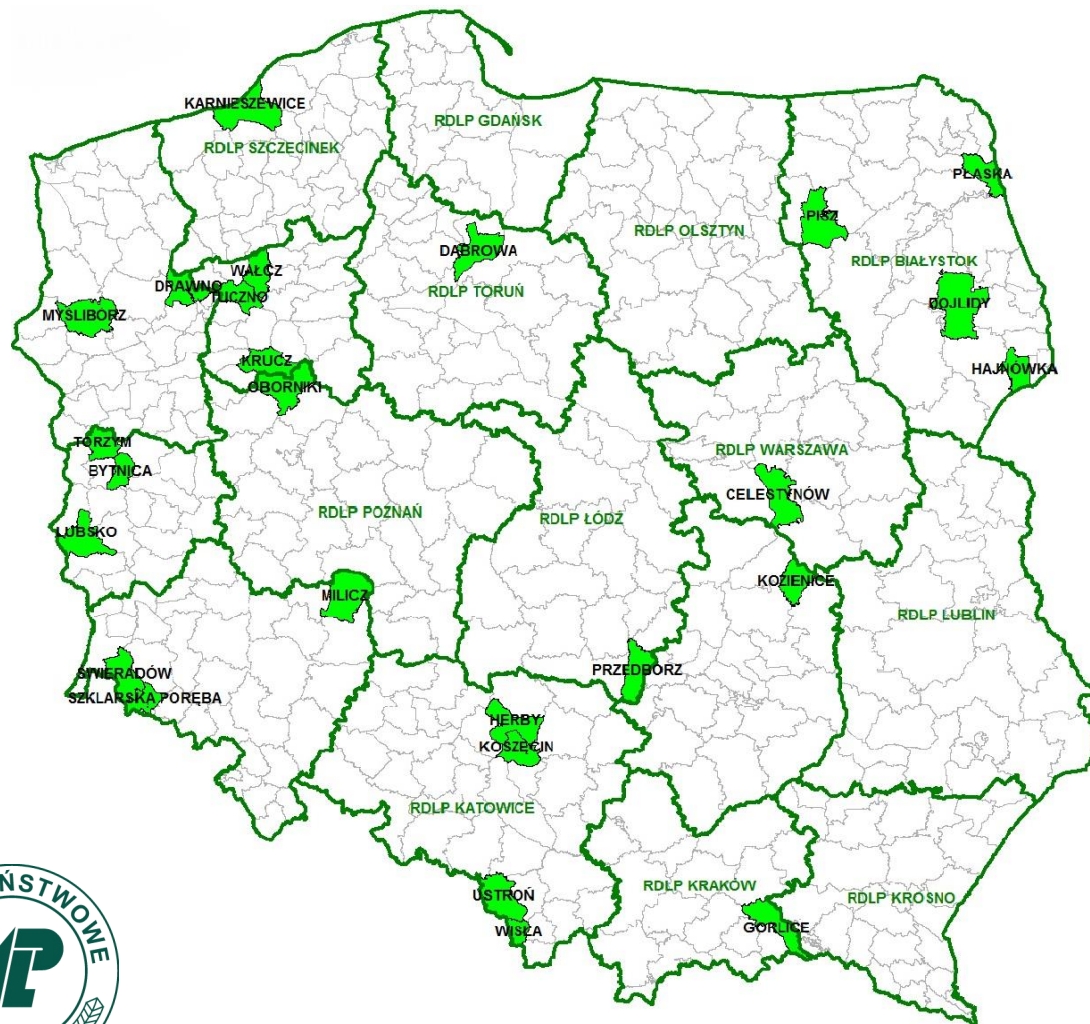
Simulation examples showing the effect of additional activities using the CBM for Celestynów Forest District - underplanting of beech: variant „maximum” and „minimum”

– Scots pine 100%, 54 years, site index II, underplanting of beech in 1st year of FCF



Reference: R. Bałazy

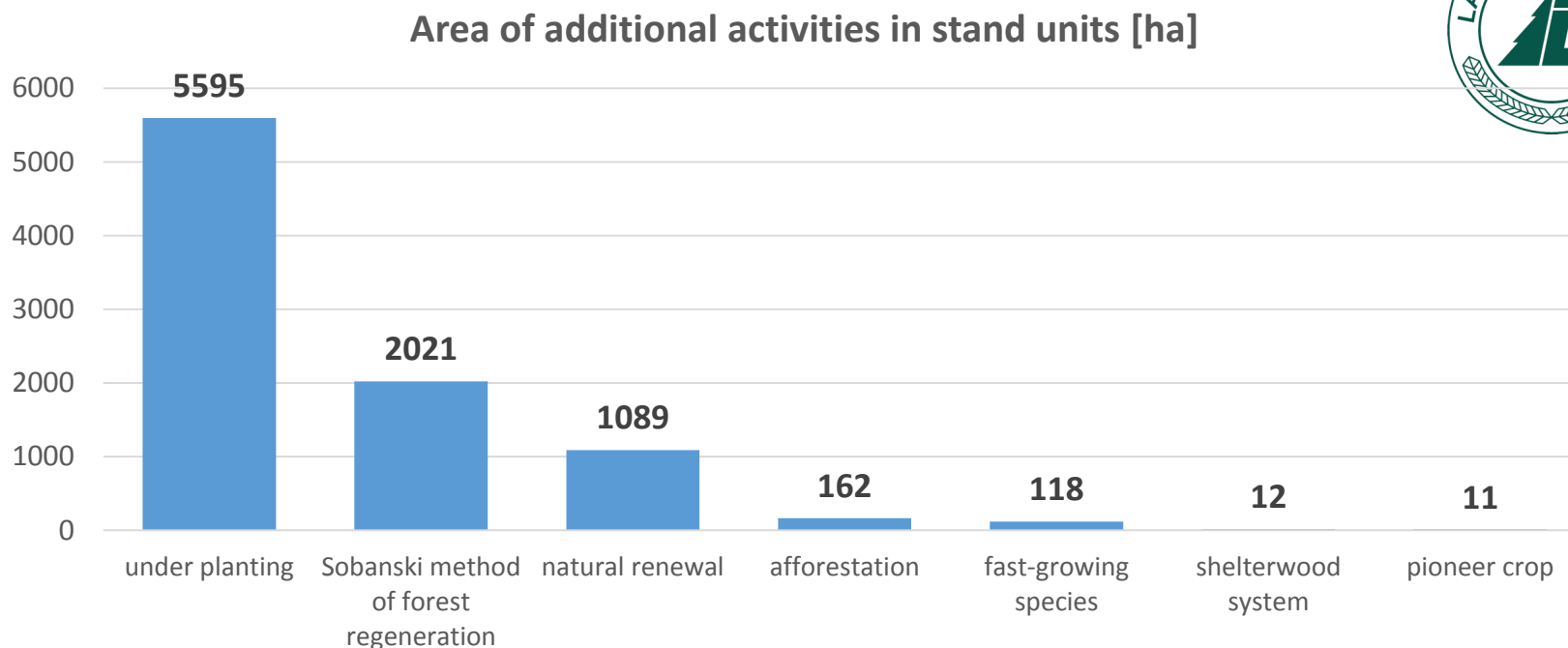
Forest districts participating in the Project



Forest district	Number of stand units	Area [ha]
Bytnica	423	1134,58
Celestynów	210	823,9
Dąbrowa	254	627,55
Dojlidy	145	517,14
Drawno	120	577,7
Gorlice	44	88,65
Herby	73	214
Karnieszewice	163	381,85
Koszęcin	107	318,75
Koźnice	82	333,38
Krucz	115	401,55
Lubsko	182	457,66
Milicz	97	356,64
Mysłibórz	48	91,78
Oborniki	126	431,22
Płaska	52	230,33
Przedbórz	148	323,07
Torzym	118	231,13
Tuczno	51	242,82
Ustroń	90	369,76
Wąlcz	127	588,86
Wiśła	66	265,52
TOTAL	2841	9007,84

Additional activities in stand units

Aiming at the accumulation of additional amounts of carbon in strictly defined layers of the forest



Revised list of area and activities in the units and estimated additional carbon sequestration results in the **Carbon Program** design.

Estimation of predicted extra-carbon (LGW and REF) absorbed quantities will be carried out using appropriate tools (CBM and others).

Activities related to the collection of research material

Sectional measurement of felled trees

Preparing trunks for weighting

Labeling discs



Reference: R. Bałazy.

Plan for today

- ✓ Launching a remaining research coverage
- ✓ Implementation of additional activities
- ✓ Implementation of the system for assessing amount of carbon in ecosystem (CBM);
- ✓ Creating a CO2 Portal;
- ✓ Preparation to launch parts regarding wetlands;
- ✓ Implementation of the system for monitoring works and support for units;
- ✓ Informative campaign.



Thank you for your attention