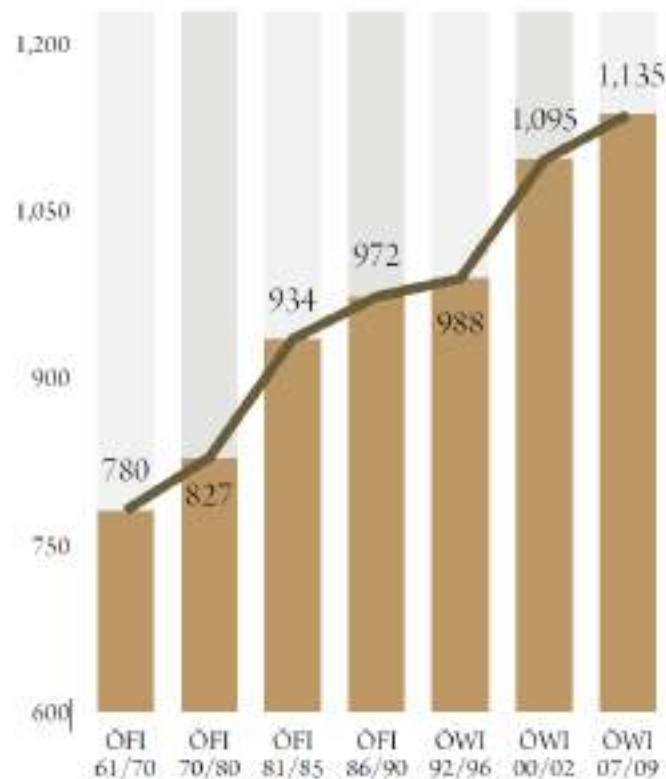# THE SUSTAINABILITY-BASELINE
Growing Stock

Development of growing stock (in million m³ o.b.) since 1961
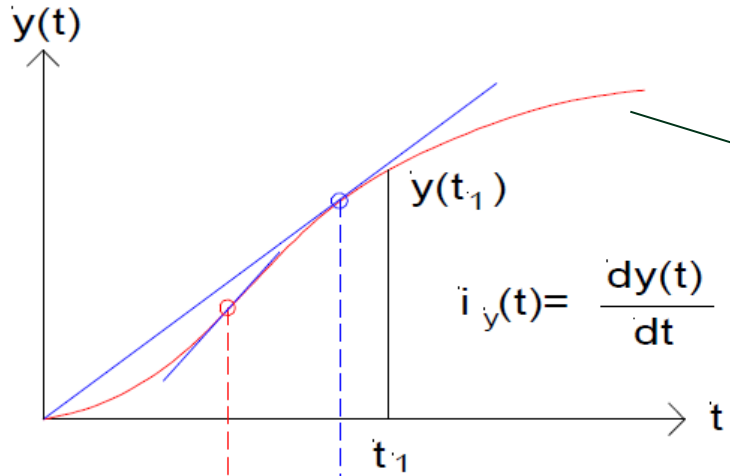
Source: ÖWI 2007/09, BFW 2014
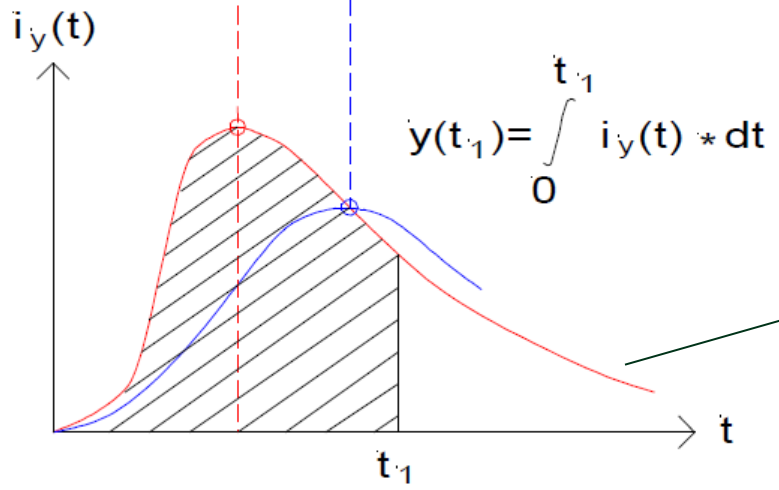
- Upward Trend - Increasing growing stock: +13m³/ha in 40 years
- Average per-hectare stock amounts to 337 m³ /ha in Austria
- Higher numbers of stems: less stable stands and higher mortality
- New forest owners
- Timber Mobilization ?
- Market Developments

ÖSTERREICHISCHE BUNDESFORSTE AG / *Roland Kautz*

THE PERIODICAL ANNUAL INCREMENT
WHAT TO DO ?

$$y(t)$$

$$i_y(t)= \frac{dy(t)}{dt}$$

$$y(t_1)= \int_{0}^{t_1} i_y(t) * dt$$

Periodical annual increment

Permanent annual increment

THE AGREED DEFINITION of „SUSTAINABLE FOREST MANAGEMENT"

"The stewardship and use of forets and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems."

FOREST EUROPE (1993)

# Assuring „Sustainable Forest Management" in AUSTRIA

1. A widely recognised commitment to comprehensive sustainability in forests.

2. A sound legal framework.

3. An efficient institutional architecture.

4. A well-balanced financial system.

5. Systematic public participation in policy development and implementation.

Sustainability indicators follow the whole value chain

Source: S. LINSER (2016)
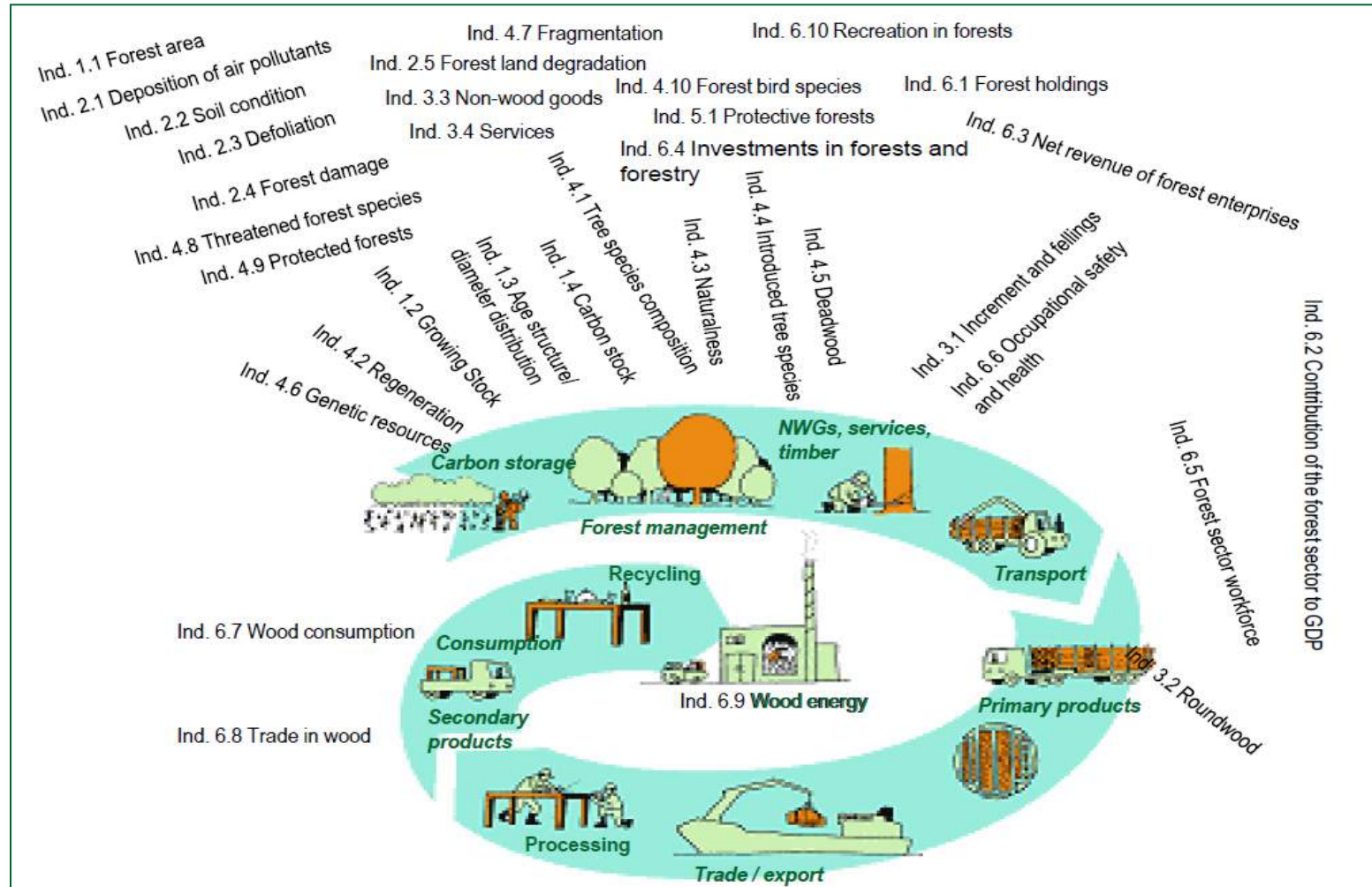
The challange

Nationale Berichte	Internationale Berichte
Waldbericht, 2015, 2008, 2004	FOREST EUROPE/UNECE State of Europe's Forests Report, 2015, 2011, 2007, 2003
Grüner Bericht – jährlicher Bericht über die Situation der österreichischen Land- und Forstwirtschaft	FAO Global Forest Resources Assessment, 2015, 2010, 2000, 1990
Österreichischer Nachhaltigkeitsindikatorenbericht MONE, 2013, 2011, 2008	EUROSTAT IEEAF (Annual Integrated Environmental and Economic Accounting for Forests)
Umweltkontrollbericht, 2013, 2010, 2007, 2004	EEA Umweltindikatoren und div. Berichte
National Inventory Report (NIR) für die UNFCCC	Verschiedene OECD Berichte
Österreichischer Bericht gemäß Artikel 17 FFH-Richtlinie, 2013, 2007	ETFAG Bericht, 2015
Berichte der Statistik Austria (z.B. Österreich.Zahlen.Daten.Fakten) (jährlich)	

Source: S. Linser (2016), EFICEEC-EFISEE

PAN-EUROPEAN INDICATORS ON SFM - Overview

Forest policy and governance
- **National Forest Programmes or equivalent**
- **Institutional frameworks**
- **Legal/regulatory framework: National and International**
- **Financial and economic instruments**
- **Information and communication**

1. Forest Resources
- Policies, institutions & instruments
- **Forest area**
- **Growing stock**
- **Age structure/ Diameter distribution**
- Forest carbon

2. Forest Health
- Policies, institutions & instruments
- Deposition & concent air pollutants
- **Soil condition**
- **Defoliation**
- Forest damage
- Forest land degradation

3. Productive Functions
- Policies, institutions & instruments
- **Increment and fellings**
- Roundwood
- Non-wood goods
- **Services**

6.Socio-economic
- Policies, institutions & instruments
- **Forest holdings**
- **Contribution forest sector to GDP**
- **Net revenue**
- Investment in forests and forestry
- **Forest sector workforce**
- **Occupational safety and health**
- **Wood consumption**
- **Trade in wood**
- Wood energy
- Recreation in forests

34 QUANTITATIVE INDICATORS & 11 DESCRIPTIVE INDICATORS

5. Protective Functions
- Policies, institutions and instruments
- Protective forests – soil, water – infrastructure

4. Biological Diversity
- Policies, institutions & instruments
- Diversity of tree species
- **Regeneration**
- **Naturalness**
- **Introduced tree species**
- **Deadwood**
- Genetic resources
- Forest fragmentation
- **Threatened forest species**
- **Protected forests**
- Common forest bird species

ÖSTERREICHISCHE BUNDESFORSTE AG / Roland Kautz

Source: S. LINSER (2016)

PAN-EUROPEAN INDICATORS ON SFM (1/4)

Criteria	No.	Indicator	Full text
Criterion 1: Maintenance and Appropriate Enhancement of Forest Resources and their Contribution to Global Carbon Cycles	C.1	Policies, institutions and instruments to maintain and appropriately enhance forest resources and their contribution to global carbon cycles	
	1.1	Forest area	Area of forest and other wooded land, classified by forest type and by availability for wood supply, and share of forest and other wooded land in total land area
	1.2	Growing stock	Growing stock on forest and other wooded land, classified by forest type and by availability for wood supply
	1.3	Age structure and/or diameter distribution	Age structure and/or diameter distribution of forest and other wooded land, classified by availability for wood supply
	1.4	Forest carbon	Carbon stock and carbon stock changes in forest biomass, forest soils and in harvested wood products
Criterion 2: Maintenance of Forest Ecosystem Health and Vitality	C.2	Policies, institutions and instruments to maintain forest ecosystem health and vitality	
	2.1	Deposition and concentration of air pollutants	Deposition and concentration of air pollutants on forest and other wooded land
	2.2	Soil condition	Chemical soil properties (pH, CEC, C/N, organic C, base saturation) on forest and other wooded land related to soil acidity and eutrophication, classified by main soil types
	2.3	Defoliation	Defoliation of one or more main tree species on forest and other wooded land in each of the defoliation classes

Source: FOREST EUROPE Expert Level Meeting (2015)

Criteria	No.	Indicator	Full text
	2.4	Forest damage	Forest and other wooded land with damage, classified by primary damaging agent (abiotic, biotic and human induced)
	2.5	Forest land degradation[2]	Trends in forest land degradation
Criterion 3: Maintenance and Encouragement of Productive Functions of Forests (Wood and Non-Wood)	C.3	Policies, institutions and instruments to maintain and encourage the productive functions of forests	
	3.1	Increment and fellings	Balance between net annual increment and annual fellings of wood on forest available for wood supply
	3.2	Roundwood	Quantity and market value of roundwood
	3.3	Non-wood goods	Quantity and market value of non-wood goods from forest and other wooded land
	3.4	Services	Value of marketed services on forest and other wooded land
Criterion 4: Maintenance, Conservation and Appropriate Enhancement of Biological Diversity in Forest Ecosystems	C.4	Policies, institutions and instruments to maintain, conserve and appropriately enhance the biological diversity in forest ecosystems	
	4.1	Diversity of tree species	Area of forest and other wooded land, classified by number of tree species occurring
	4.2	Regeneration	Total forest area by stand origin and area of annual forest regeneration and expansion
	4.3	Naturalness	Area of forest and other wooded land by class of naturalness
	4.4	Introduced tree species	Area of forest and other wooded land dominated by introduced tree species
	4.5	Deadwood	Volume of standing deadwood and of lying deadwood on forest and other wooded land
	4.6	Genetic resources	Area managed for conservation and utilisation of forest tree genetic resources (in situ and ex situ genetic conservation) and area managed for seed production
	4.7	Forest fragmentation[3]	Area of continuous forest and of patches of forest separated by non-forest lands
	4.8	Threatened forest species	Number of threatened forest species, classified according to IUCN Red List categories in relation to total number of forest species

Source: FOREST EUROPE Expert Level Meeting (2015)

Criteria	No.	Indicator	Full text
	4.9	Protected forests	Area of forest and other wooded land protected to conserve biodiversity, landscapes and specific natural elements, according to MCPFE categories
	4.10	Common forest bird species[4]	Occurrence of common breeding bird species related to forest ecosystems
Criterion 5: Maintenance and Appropriate Enhancement of Protective Functions in Forest Management (notably soil and water)	C.5	Policies, institutions and instruments to maintain and appropriately enhance of the protective functions in forest management	
	5.1	Protective forests – soil, water and other ecosystem functions - infrastructure and managed natural resources	Area of forest and other wooded land designated to prevent soil erosion, preserve water resources, maintain other protective functions, protect infrastructure and managed natural resources against natural hazards
Criterion 6: Maintenance of other socioeconomic functions and conditions	C.6	Policies, institutions and instruments to maintain other socioeconomic functions and conditions	
	6.1	Forest holdings	Number of forest holdings, classified by ownership categories and size classes
	6.2	Contribution of forest sector to GDP	Contribution of forestry and manufacturing of wood and paper products to gross domestic product
	6.3	Net revenue	Net revenue of forest enterprises
	6.4	Investments in forests and forestry	Total public and private investments in forests and forestry
	6.5	Forest sector workforce	Number of persons employed and labour input in the forest sector, classified by gender and age group, education and job characteristics
	6.6	Occupational safety and health	Frequency of occupational accidents and occupational diseases in forestry

PAN-EUROPEAN INDICATORS ON SFM (4/4)

Criteria	No.	Indicator	Full text
	6.7	Wood consumption	Consumption per head of wood and products derived from wood
	6.8	Trade in wood	Imports and exports of wood and products derived from wood
	6.9	Wood energy	Share of wood energy in total primary energy supply, classified by origin of wood
	6.10	Recreation in forests	The use of forests and other wooded land for recreation in terms of right of access, provision of facilities and intensity of use

∑ = 34 quantitative indicators + 11 qualitative indicators (total 45 indicators)

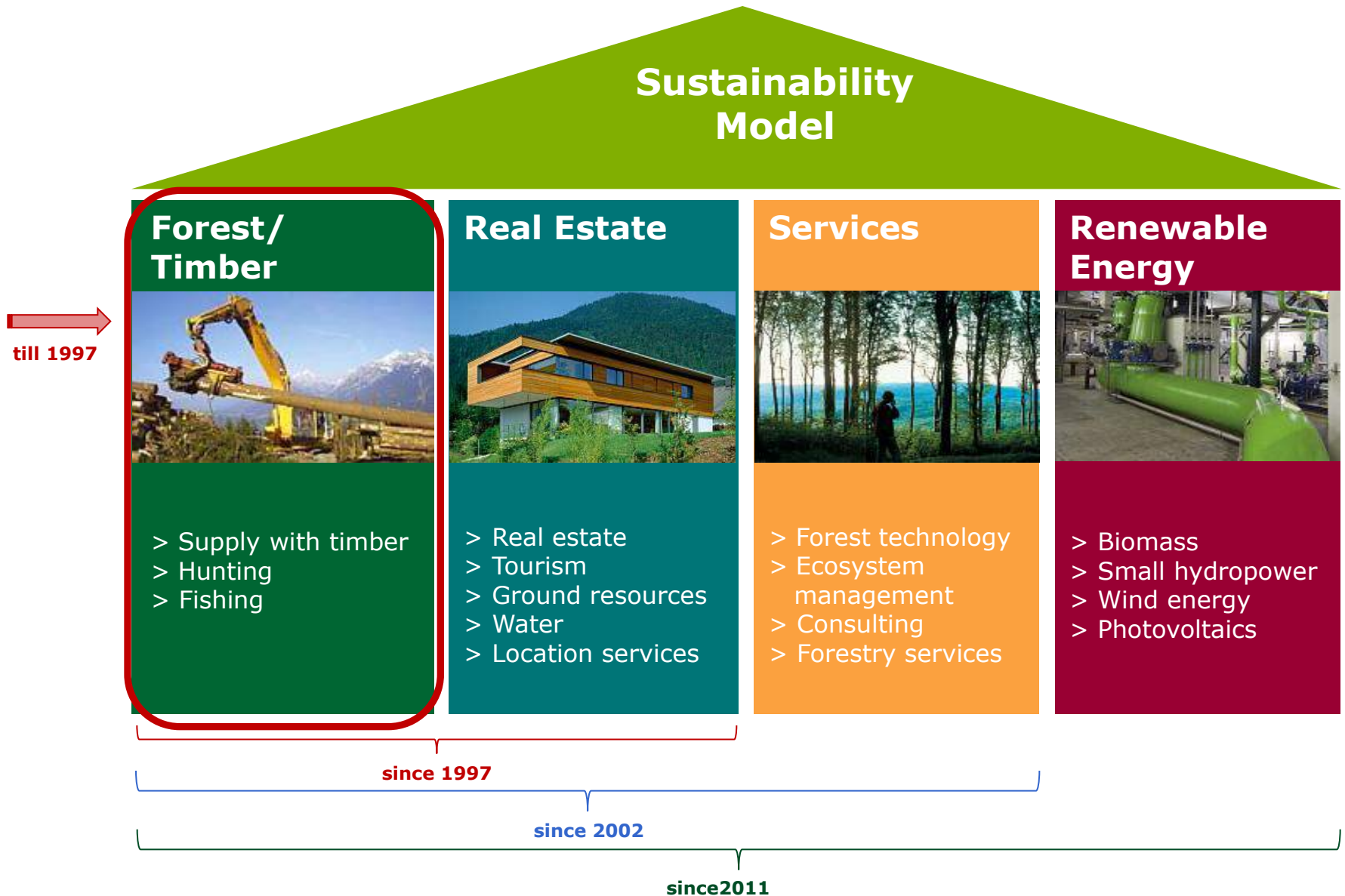Source: FOREST EUROPE Expert Level Meeting (2015)

ÖSTERREICHISCHE BUNDESFORSTE AG / *Roland Kautz*

INTERESTS OVER INTERESTS

THE DEVELOPMENT OF ÖBf AG
A dynamic process

Sustainability Model

Forest/ Timber
> Supply with timber
> Hunting
> Fishing

Real Estate
> Real estate
> Tourism
> Ground resources
> Water
> Location services

Services
> Forest technology
> Ecosystem management
> Consulting
> Forestry services

Renewable Energy
> Biomass
> Small hydropower
> Wind energy
> Photovoltaics

till 1997

since 1997

since 2002

since2011

RENEWABLE ENERGY: POWER GENERATION INCRESED BY 33% (2014 → 2015)

> Increasing Power Generation from Small Hydro Power Plants and Forest Biomass by 33 % - from von 158 Gigawatthours (GWh) to 210 GWh

> 7 Small Hydro Power Plants in full operation

> Forest Biomass Power Plant Wien-Simmering: more than 8.000 Operating hours

> Operating performances as of biomass and hydro power about 22,5 Mio. Euro
(plus 26 % to 2014 with 17,8 Mio.)

> Supply of 73.000 households with power and 12.000 households with heat

> Savings of 174.000 t CO_2- Emission/Year

ÖSTERREICHISCHE
BUNDESFORSTE

WINDPARK PRETUL – LARGEST INVESTMENT EVER IN THE COMPANY'S HISTORY

› Largest Investment of the company ever

› 14 Wind Energy Plants on Pretul (Styria)

› Construction Period 2015 - 2017

  › 2015 - Zuwegung, Fundaments und Cabling
  › 2016 – Assembling of Wind Energy Plants, Testing phase
  › 2017 - Operation

Eckdaten	
Total Investment	49 Mio. Euro
Total performance	42 MW
Per WEP	3 MW
Annual production	84 GWh
Supply	22.000 households
CO_2-Savings	74.000 t CO_2

ÖSTERREICHISCHE BUNDESFORSTE

FACTS & FIGURES

Total area	850,000 ha
Forest area	**510,000 ha**
Managed forest	341,000 ha
Protection forest	152,000 ha
Lakes > 1 ha	**74**
Running waters approx.	over 2,000 km
Buildings approx.	**4,200**
Hunting areas approx.	**1,000**
Fishing areas approx.	**550**

Overall performance ÖBf AG	EUR 231.2m
Contribution to federal budget thereof dividends thereof usufruct compensation	**EUR 29.9m** EUR 21m EUR 8.9m
Employees (FTE, annual average)	**1,096**

Status: 31 December 2015

Stand 31.12.2015

ÖSTERREICHISCHE BUNDESFORSTE

FOREST MANAGEMENT PRINCIPLES BY ÖBF:

- › Overall objective: Maintaining forest ecosystems and their productive capacity

- › Existing requirements and limits to apply day-by day

- › Soil degradation is to be avoided

- › Balance of Extraction and production

- › Legal setting to follow sustainability principles

- › Product based sustainability criteria?

- › Examples for practical instruments

The example of ÖBf:
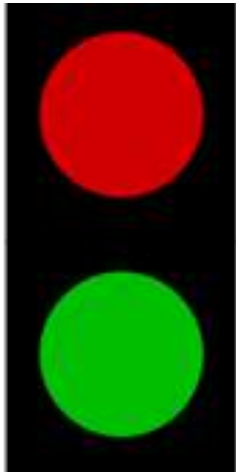
› Integrated in Forest inventory maps & database

› Visualization

GREEN: Use of Biomass possible (Wet sites, Clayey sites, Profound carbonate locations, profound clayley locations, hang locations)

RED: Use of Biomass is <u>NOT</u> possible (rocky to medium deep carbonate stands; rocky and slightly moist silicate stands)

PROTECTED AREA REGIEME ON ÖBF AREA
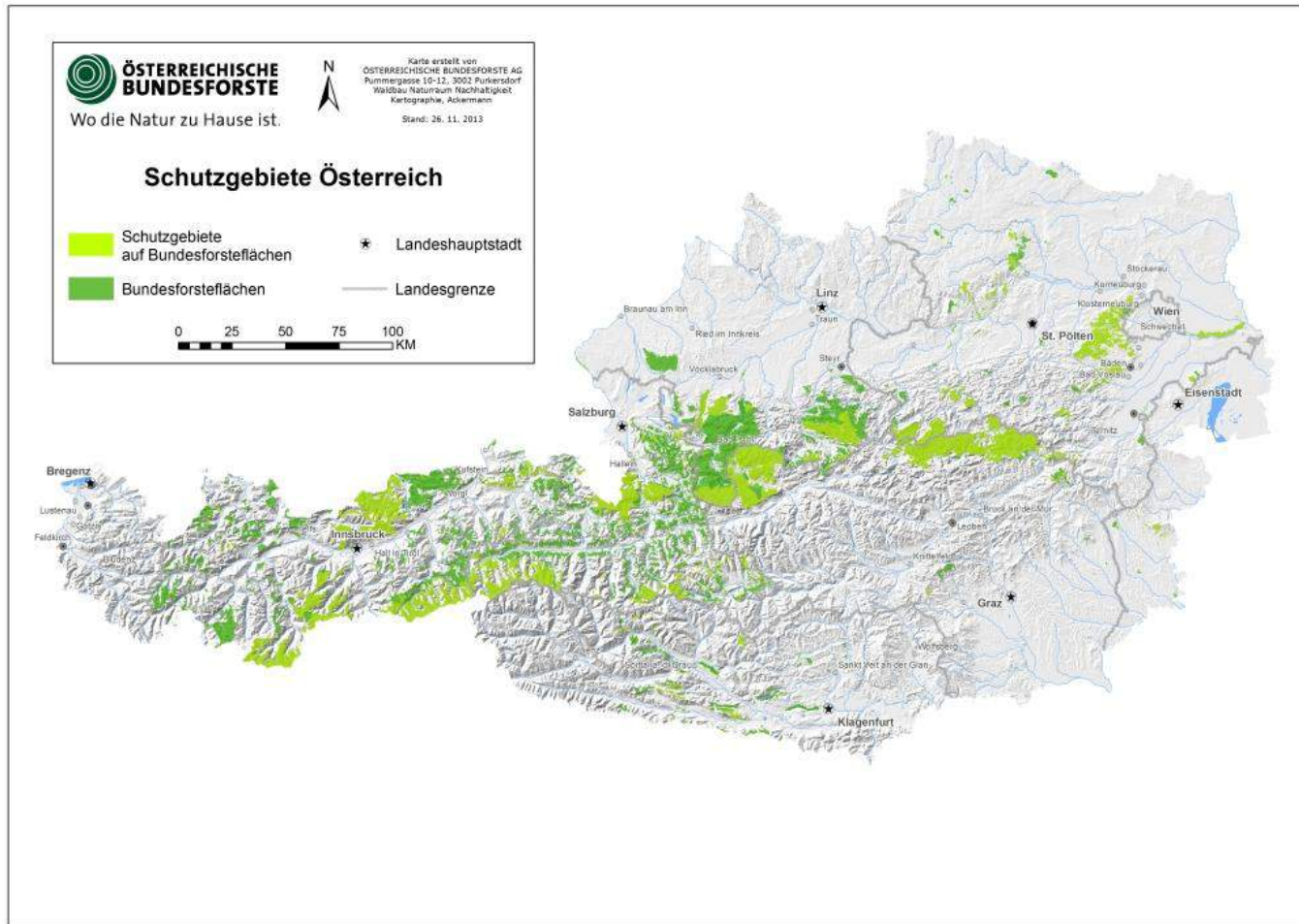
- **518** individual Protected Areas
- **431.738 ha** (as of 857.633 ha) protected area
- **50%** of total area under any protection regime
- **16** different protection regimes/categories

WE URGE POLITICAL DECEICION MAKERS...................

… to create an legal, political & economic environment where key enabler can make policies happen

… to use existing legal frameworks & limitations to guarantee Sustainable Forest Management

… to trust and follow – downstream - the subsidiarity principle for making Member States responsible to guarantee SFM within their Forest Strategies

… to use – upstream – existing and well working/developed processes such as FOREST EUROPE

… to get inspired and make Forestry and Forest Management a policy field in the European Union

… to make use of the European and Member State's "Criteria & Indicator processes

… do everything to avoid product based Sustainability Criteria

GET BACK AND EARN ....

C

Credibility

ÖSTERREICHISCHE BUNDESFORSTE AG

THANK YOU FOR YOUR INTEREST!

Roland KAUTZ

Österreichische Bundesforste AG
A-3002 Purkersdorf, Pummergasse 10-12
Phone: +43 (0) 2231 600-1500
Fax: +43 (0) 2231 600-1509
Mobile:+43 (0) 664 819 75 27

Roland.Kautz@bundesforste.at

www.bundesforste.at