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Short tracks – high refinement-degree – more value

Added Value Chains of domestic timber in South Tyrol

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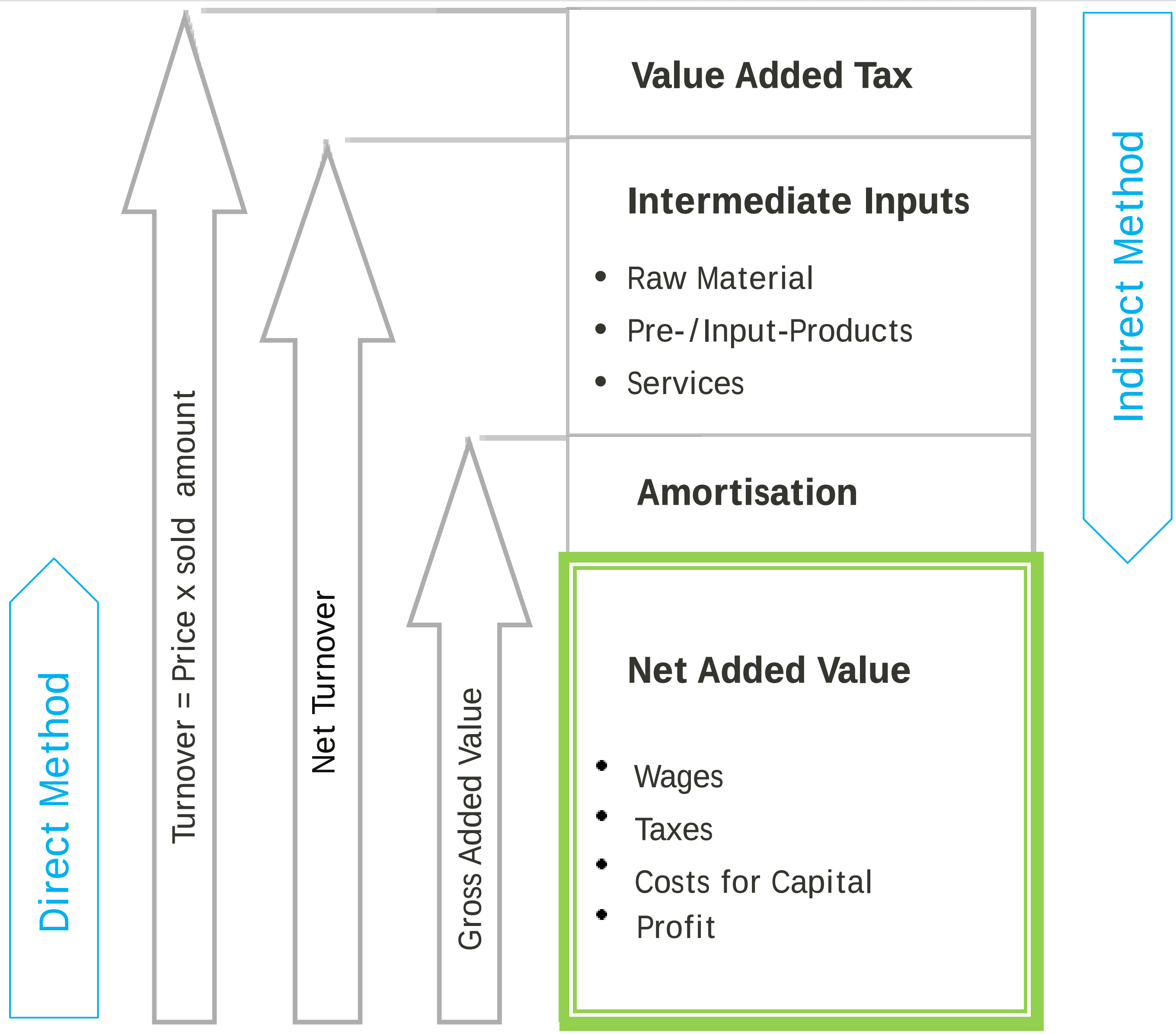
Increased value per players



Source: own depiction
after Haller (1997)

Added Value?

Target of analysing added value chains:

- **Added value** for the region through processing & refinement or for indicating the **loss of added value** by not using endogenous potentials;
- The added value is not just a single „figure“ – it shows the **„multiplying effects”** and underlines the **vitality** of a region.
- **Obstacles?**
  - Lack of competitiveness;
  - Lacking comparative advantages;
  - Availability of substitutes, etc.

Added Value Chains

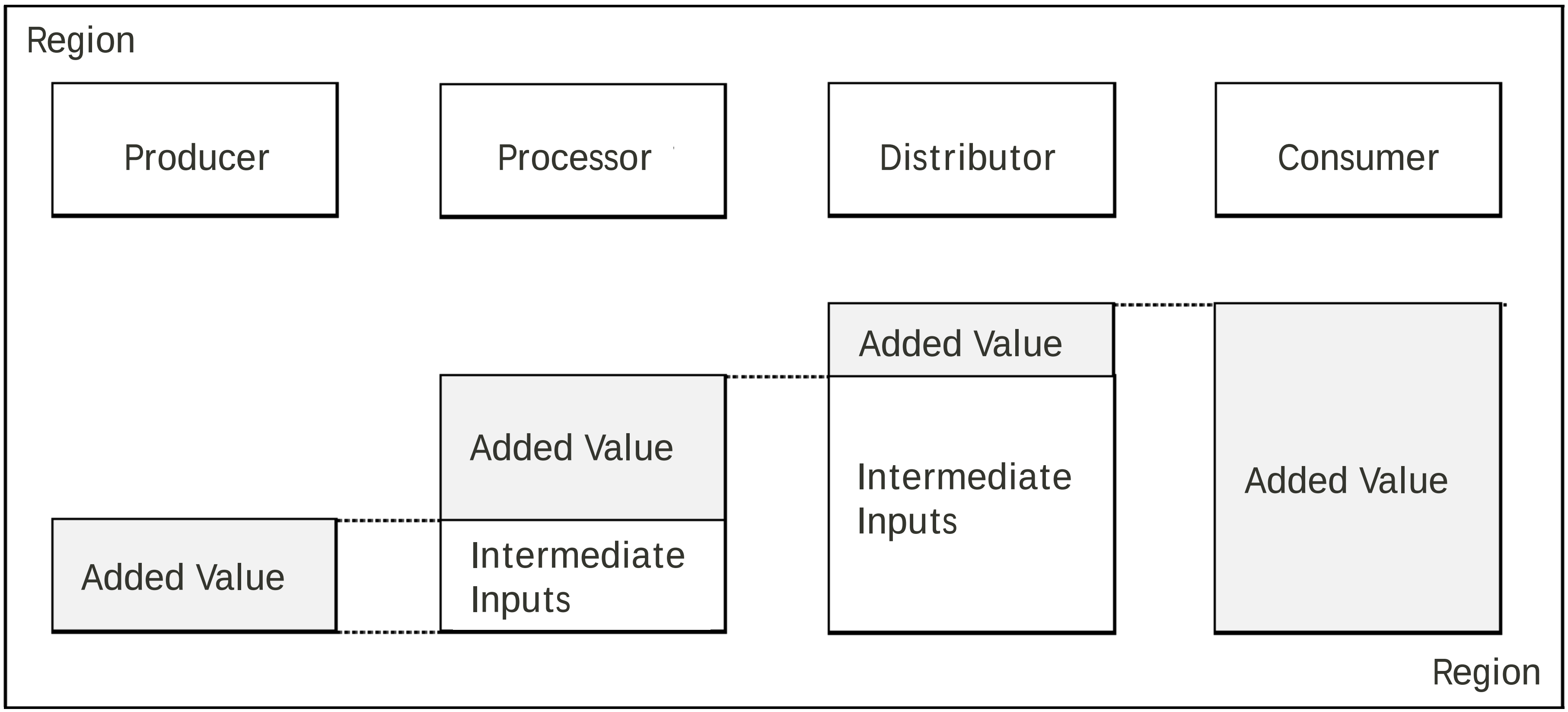
(1) Timber Chips

(2) Timber-House

(3) Bedroom-Suite

- Raw materials are from the region
- Local & regional actors (multiplier – effects)

Regional Added Value Chain



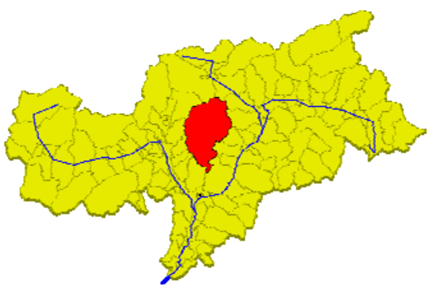
Source: Schubert und Bühler, 2008 (without considering multiplier effects from intermediate suppliers)

System - Borders

Target: Regional-economic impact (added value) of a meaningful production chain!

- Basis: Macro-Economic-Accounting – sharp system-borders;
- Added Value Network considers „intermediate“ Suppliers as well.
  Nodes in the AV Network: - horizontal actors along the chain;
  - intermediate (vertical) suppliers (> 5,000€).
- Territorial limits: South Tyrol (NUTS3);
- Definition of AV chains - according to the specific production, processing & refinement procedures.

Timber Chips



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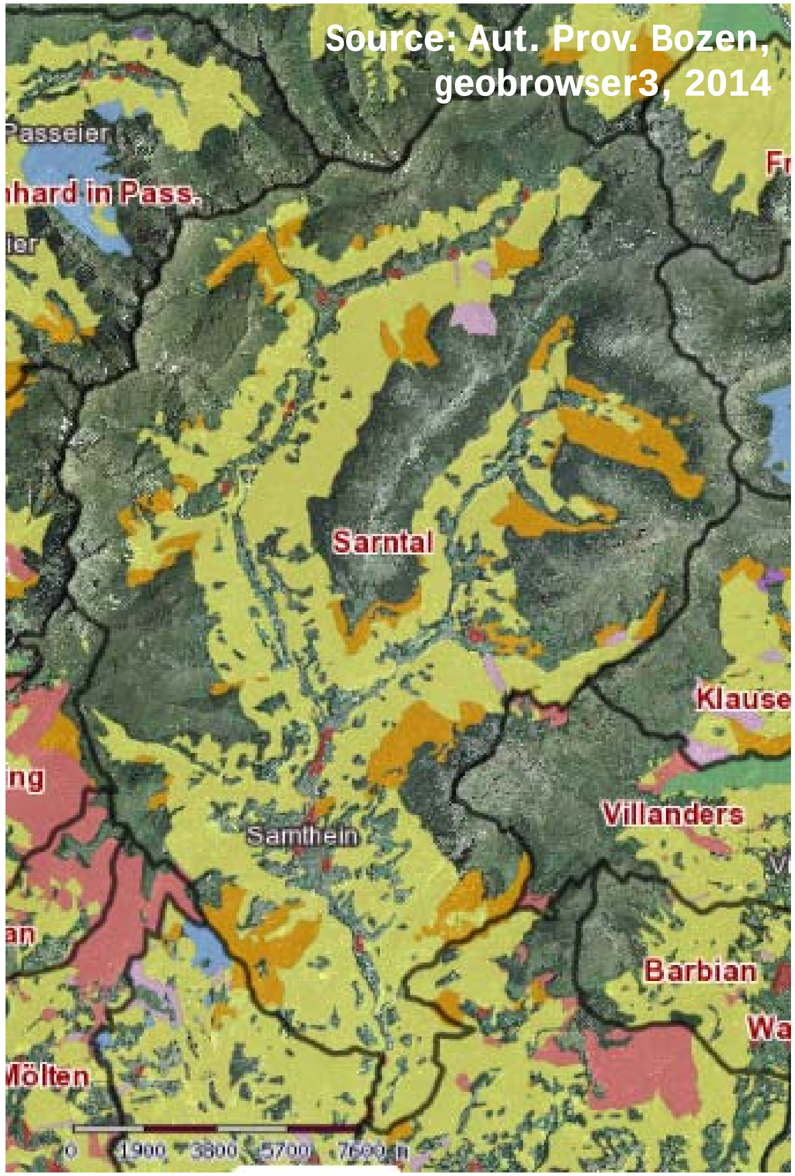


Family farms:	**519**
Farms with forests:	**442**
Forest area:	**9.185 ha**
Ø Forest area:	**20,78 ha**

Source: Astat, 6-Agr. Census, 2013

District Heating Plant (DHP)

Suppliers:	**168**
Timberchips vm³ 2012:	**11.330**

Legend

Structures of forest owners
- Other corporations
- Internal consumption/Citizen usage
- Municipality
- Interested parties
- Church's-forests
- Province forests
- Private forest owners

municipalities
- Municipality Borders

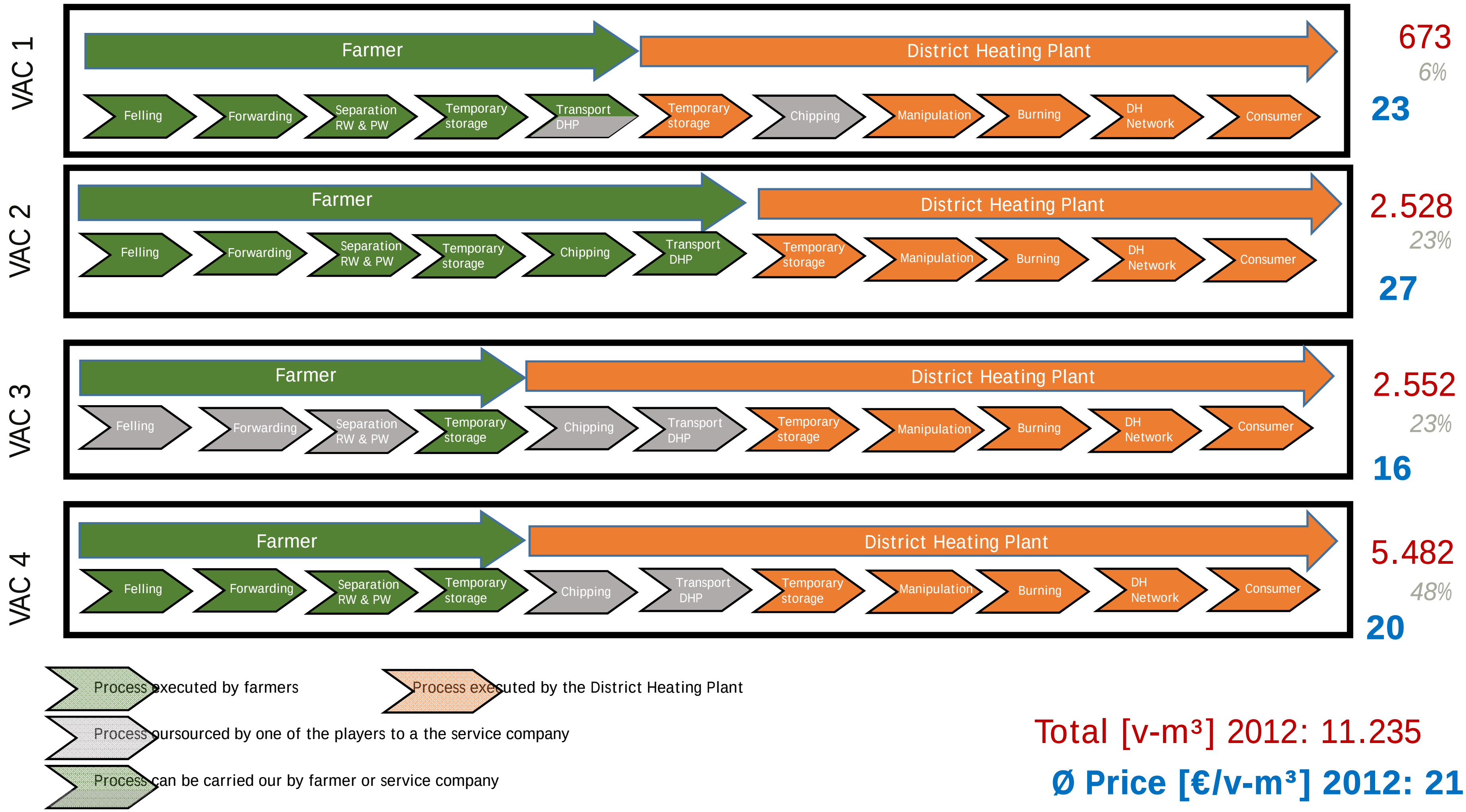
localities
- Provincial town

Method

- Definition of **representative AV chains** for the energetic use of biomass in Val Sarentino (4 chains).
- Empirical Part: 9 semi-open **interviews** with farmers - (standardized compilation schemes of Input- & Output-factors - indirect method).
- Data collection at the **District Heating Plant (DHP)**: interviews and balance data (direct method).
- AV of the **intermediate suppliers**: balance data (direct method).
- Upscaling and weighting of the data according to the supplied amount of biomass (timber chips) per defined chain (4).

AV – Chains in Detail

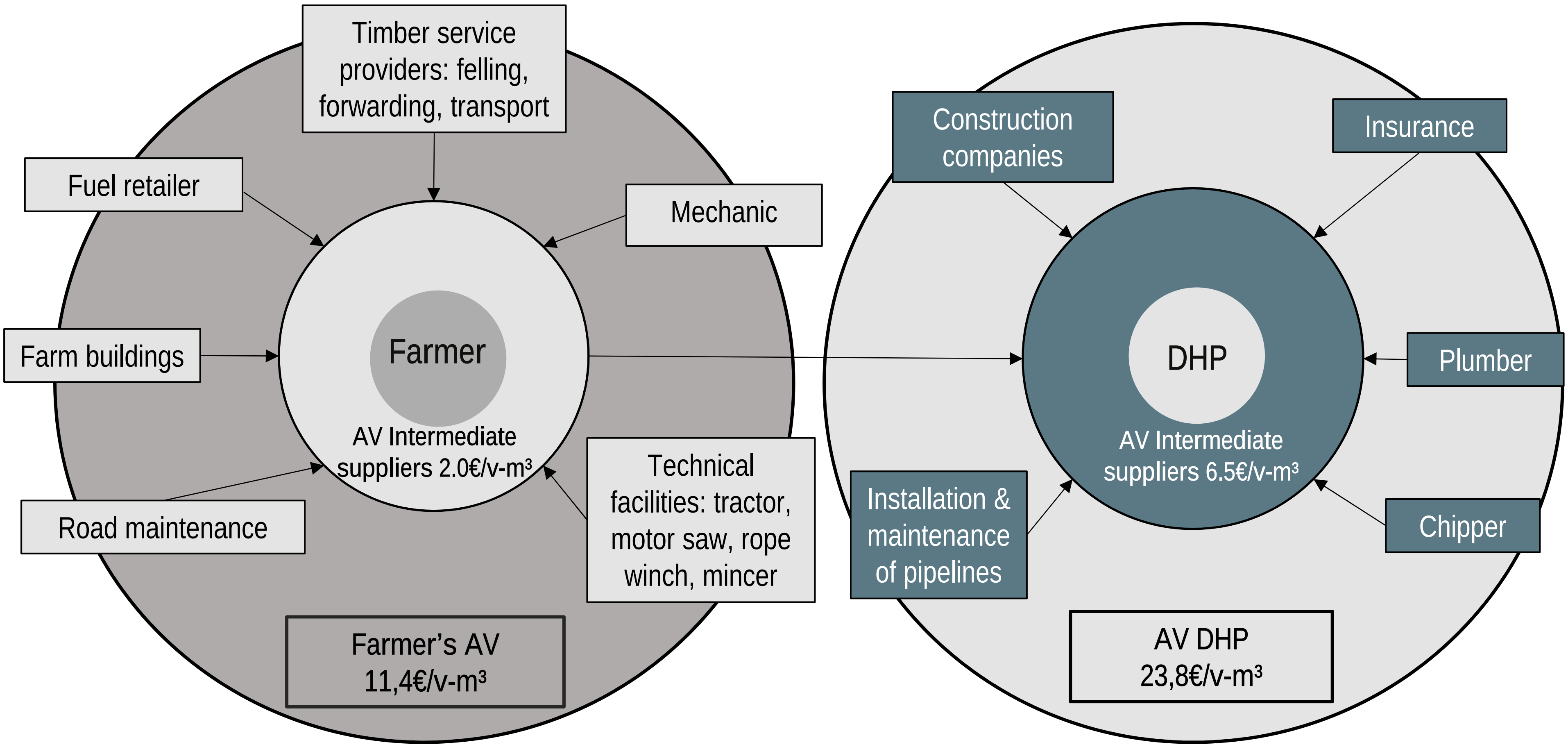
Delivered amount per chain [v-m³]
Average price per chain [€/v-m³ excl. IVA]



Total [v-m³] 2012: 11.235

Ø Price [€/v-m³] 2012: 21

Value Added Network



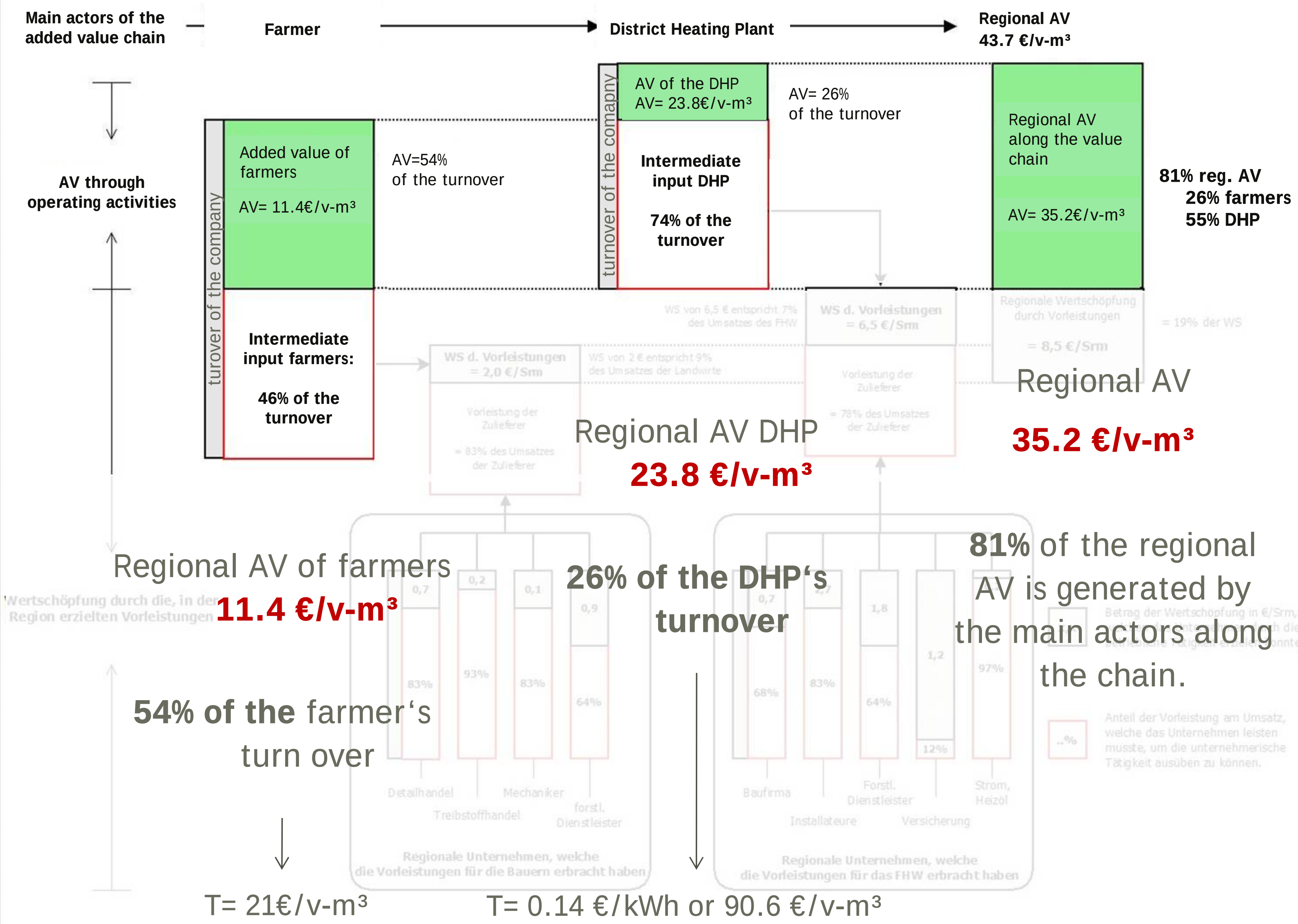
Suppliers 2012:	**168**	**Customer (households):**	**254**
Timber-chips (v-m³):	**11.235**	**Burnt timber-chips (v-m³):**	**13.400**
Ø Delivered (v-m³):	**67**	**Purchased heat (kWh) p.a.:**	**8,8 Mio**
Pay-out price (€/v-m³):	**21**	**Storage DHP (v-m³):**	**2.170**

Findings: Added Value Farmers/DHP

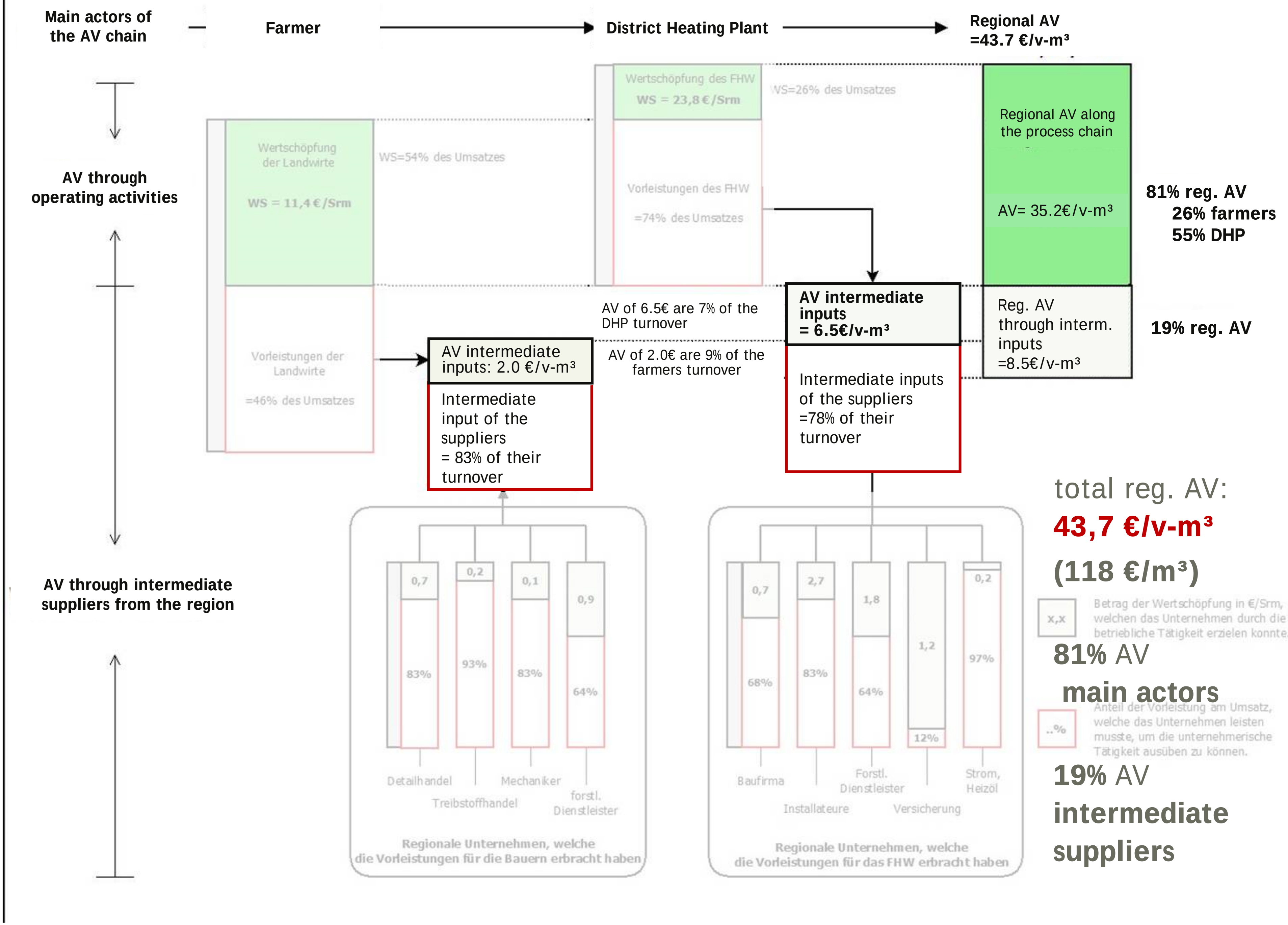
AVC	AV farmers [€/v-m³]	AV Interm. Suppliers [€/v-m³]	AV DHP [€/v-m³]	AV Interm. Suppliers [€/v-m³]	Reg. AV [€/v-m³]
1	**14.4**	*2.4*	23.2	*6.0*	**46.0**
2	**8.3**	*2.9*	22.8	*4.7*	**38.8**
3	**4.1**	*4.0*	26.5	*7.0*	**41.6**
4	**15.8**	*0.6*	23.2	*7.0*	**46.7**
€/v-m³	**11.4**	*2.0*	**23.8**	*6.5*	**43.7**
€/m³	*30.8*	*5.4*	*64.3*	*17.6*	**118.1**

- **3 times** more AV than without refinement
- Timber chips 2012: 13,404 v-m³ → reg. AV ca. 585,000 €

Regional AV through using biomass for producing thermal energy



Regional AV through using biomass for producing thermal energy



Findings: Timber-House

	Main Actors			Intermediate Suppliers		AV Total €/m³
	Turnover (T) €/m³	AV/T %	AV €/m³	AV/T %	AV €/m³	
Farmer	105€/m³	54%	57€/m³	5%	5€/m³	62€/m³
Sawmill	108€/m³	13%	14€/m³	11%	12€/m³	26€/m³
Joiner	759€/m³	28%	210€/m³	1%	7€/m³	217€/m³
Total			281€/m³		24€/m³	**305€/m³**

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Findings: AV Bedroom-Suite

	Main Actors			Intermediate Suppliers		AV Total €/m³
	Turnover (T) €/m³	AV/T %	AV €/m³	AV/T %	AV €/m³	
Farmer	130´/m³	54%	70€/m³	4%	5€/m³	75€/m³
Sawmill	240€/m³	13%	31€/m³	11%	26€/m³	57€/m³
Cabinet maker	1,485€/m³	43%	637€/m³	25%	378€/m³	1,015€/m³
Total			738€/m³		409€/m³	**1,147€/m³**

Comparing the Findings

Synapsis				
Reg. AV in €/m³				
Reg. AV Chains	**Main Actors**	**Interm. Suppliers**	**total**	Increase of AV
DHP	**95** *(81%)*	**23** *(19%)*	**118**	x 3
Timber-House	**281** *(92%)*	**24** *(8%)*	**305**	x 5
Bedroom-Suite	**738** *(64%)*	**409** *(36%)*	**1.147**	x 15

Regional Losses of AV, if round wood is exported, not processed or refined:

AVC	**AV DHP**		**AV Timber-House**		**AV Bedroom suite**
Losses	(**70%** of AV)		(**80%** of AV)		(**93%** of AV)
AV Relation	1	:	2,5	:	10

Discussion

Added Value Chains

- Gaining regional AV – is - regional development
- Comparative advantages of endogenous potentials
- Competitiveness under given market conditions
- Trade-offs according to other economic sectors

Tension between:

- Micro-economic interests and
- Macro-economic benefits

Cascade Usage:

- From high quality logs to low quality pulp-wood
- Material versus energetic utilization

Thank you!

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Cluster Wood & Technology

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