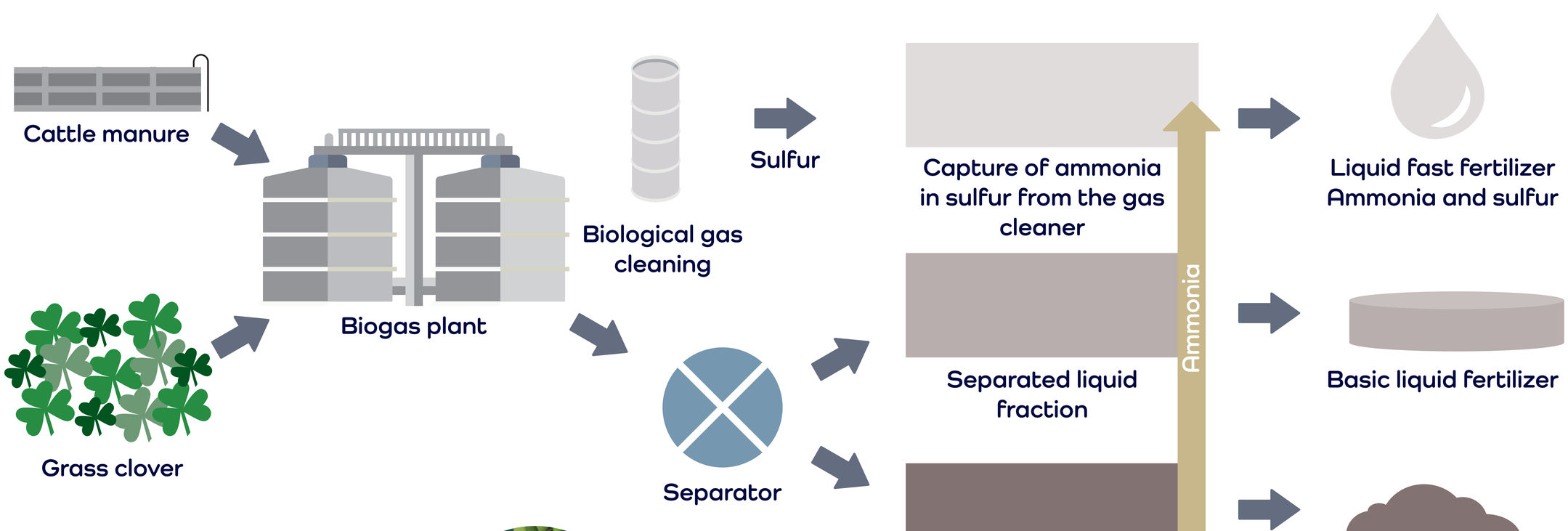
ClimOptic – Climate optimized organic fertilizers

Grass-clover and biogas fertilizers as a climate efficient nutrient supply

Post-treatment of digestate reduce emissions



High N-efficiency of liquid separated fraction and NS-biofilter solution*)

Dried fiber fraction immobilize nitrogen but is usable in legume crops

Nitrogen efficiency*) of different fractions

Spring barley (after injection of manures)			
Digestate	**Liquid fraction**	**NS-solution**	**Dried fiber**
78 %	79 %	98 %	-16 %
Winter wheat (surface-banding)			
44 %	60 %	88 %	

*) relative to mineral fertilizer N

Anaerobic digestion and separation reduced methane emissions from storage, and overall carbon footprint

Kg CO_2 eq/100 kg grain DM			
Digestate	**Liquid fraction**	**NS-solution**	**Cattle slurry**
17,1	8,5	24,3**)	44,4

**) High field emissions of N_2O due to high amount of liquid.

- Clover grass as a co-substrate in biogas production is an important source of biogenic nitrogen contributing to carbon sequestration and biodiversity
- Anaerobic digestion has a high potential for reduction of GHG emissions
- High nitrogen efficiency of ammonia-rich fractions
- Dried fiber fraction immobilizes nitrogen but is usable as phosphorus source for legume crops

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