## Energiecampus Leeuwarden 12/04/2020

#### Traffic load

The calculation is based on the following assumptions:

- 1. Maximum load of the trucks is 40 tonnes.
- 2. Maximum volume capacity of the liquid delivery trucks is 36 m<sup>3</sup>.
- 3. The whole concentrate liquid digestate is collected using liquid substrate delivery trucks.
- 4. The whole ammonium sulfate solution is collected using liquid substrate delivery trucks. The trucks are cleared before collection of ammonium sulfate solution.
- 5. Only 50% of dried solid digestate is collected using solid substrate delivery trucks.

	Amount per year	Density in	Volume	Payload of the truck	Payload of the truck (max. 40 t)	NIIMDAY AT TYLICUS	
Feed Stock	[t/a]	t/m³	in m³	m <sup>3</sup>	t	per year	per day
Broiler dung	20,000	0.65	30,769	61	40	504	2
Pig slurry	25,000	1	25,000	36	36	694	3
Cows slurry	100,000	1	100,000	36	36	2,778	9
Glycerine	2,000	1.26	1,587	32	40	50	1
Fatty acids/0il	4,000	0.94	4,255	36	34	118	1
WLOM	4,000	1.2	3,333	33	40	101	1
Olivjenmargarine (Cake)	15,000	0.7	21,429	57	40	376	2
Graanpellet	5,000	0.7	7,143	57	40	125	1
Pet food	2,500	0.7	3,571	57	40	63	1
Other (niet in huidige menu, maar voor max van 200.000 ton b	22,500	0.7	32,143	57	40	564	2
Digestate							
Dried solid digestate	35,500	0.90	39,444	44	40	807	3
Concentrate liquid digestate	19,200	1.10	17,455	36	40	533	2
Amonium sulfate solution (ASS)	2,663	1.12	2,378	36	40	74	
Excipients							
Sulfuric acid	2,280	1.83	1,246	25		50	
Activated carbon	9	2	5	20		1	
Products							
LNG	9,125	0.47	19,415	50		388	2
Liquid CO2	15,575	1.1	14,159	25		566	2

Liquid	subs	trate c	le Li	ivery
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Entry runs per day	15
Exit runs per day	15
Collection rate	100%
Exit runs with liquid digestate per day	2.0
Empty exit runs per day	13.0

## Amonium sulfate solution (ASS) Collection

74
3982

#### Solid substrate delivery

Entry runs per day	8
Exit runs per day	8
Collection rate	100%
Exit runs with dried digestate per day	3
Empty exit runs per day	5

#### Digestate collection

Entry runs Dried solid digestate per day (not connected	
with Solid substrate delivery)	0.0
Exit runs Dried solid digestate per day (not connected	
with Solid substrate delivery)	0.0
<u>Traffic on site</u>	Per year
Substrate and digestate	
Delivery entry runs liquid	4,680
Delivery entry runs solid	2,496
Empty exit runs liquid	3,982
Empty exit runs solid	1,560
Full exit runs liquid	624
Full exit runs solid	936
Digestate	
Entry runs Dried solid digestate per year (not connected	
with Solid substrate delivery)	-
Exit runs Dried solid digestate per year (not connected	
with Solid substrate delivery)	-
Excipients	
Sulfuric acid entry and exit runs	100
Activated carbon entry and exit runs	2
Products	
LNG entry and exit runs	1,248
Liquid CO2 entry and exit runs	1,248
Total runs per year	16,876

16,876 In vergunning is uitgegaan van 17.500

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## Traffic load

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- 1. Maximum load of the trucks is 40 tonnes.
- 2. Maximum volume capacity of the liquid delivery trucks is 36 m<sup>3</sup>.
- 3. The whole concentrate liquid digestate is collected using liquid substrate delivery trucks.
- 4. The whole ammonium sulfate solution is collected using liquid substrate delivery trucks. The trucks are cleared before collection of ammonium sulfate solution.
- 5. Only 50% of dried solid digestate is collected using solid substrate delivery trucks.

	Amount per year	Density in	Volume	Payload of the truck	Payload of the truck (max. 40 t)	Number o	ftrucks
Feed Stock	[t/a]	t/m³	in m³	m <sup>3</sup>	t	per year	per day
Broiler dung	20,000	0.65	30,769	61	40	504	2
Pig slurry	25,000	1	25,000	36	36	694	3
Cows slurry	100,000	1	100,000	36	36	2,778	9
Glycerine	2,000	1.26	1,587	32	40	50	1
Fatty acids/0il	4,000	0.94	4,255	36	34	118	1
WLOM	4,000	1.2	3,333	33	40	101	1
Olivjenmargarine (Cake)	15,000	0.7	21,429	57	40	376	2
Graanpellet	5,000	0.7	7,143	57	40	125	1
Pet food	2,500	0.7	3,571	57	40	63	1
Other (niet in huidige menu, maar voor max van 200.000 ton b	22,500	0.7	32,143	57	40	564	2
Digestate							
Dried solid digestate	35,500	0.90	130 galati 9 1 10 10 10 16	44	1 2	807	3
Concentrate liquid digestate	0	1.10		36		a <b>-</b> a	0
Amonium sulfate solution (ASS)	0	1.12	0	36	40	-	0
							0
Thin fraction	284,427	1.01	282,731	36	36	7,854	26
Excipients							
Sulfuric acid	2,280	1.83	1,246	25		50	
Activated carbon	9	2	5	20		1	
Products							
LNG	9,125	0.47	19,415	50		388	2
Liquid CO2 Liquid substrate delivery	0	1.1	0	25		·-	0

Liquid	subs	trate	geT1	Lvery
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Entry runs per day	15
Exit runs per day	15
Collection rate	100%
Exit runs with liquid digestate per day	0.0
Empty exit runs per day	15.0

## Amonium sulfate solution (ASS) Collection

Exit liquid runs per year	4680
ASS Collection runs	0
Exit runs with liquid per year (ASS collected with liquid	
substrate delivery trucks)	4680

### Solid substrate delivery

Entry runs per day	8
Exit runs per day	8
Collection rate	100%
Exit runs with dried digestate per day	3

Empty exit runs per day	5
Digestate collection	
Entry runs Dried solid digestate per day (not connected	
with Solid substrate delivery)	0.0
Exit runs Dried solid digestate per day (not connected	
with Solid substrate delivery)	0.0
Traffic on site	Per year
Substrate and digestate	
Delivery entry runs liquid	4,680
Delivery entry runs solid	2,496
Empty exit runs liquid	0.00
Empty exit runs solid	1,560
Full exit runs liquid	4680.00
Full exit runs solid	936
Digestate	
Entry runs Dried solid digestate per year (not connected	
with Solid substrate delivery)	-
Exit runs Dried solid digestate per year (not connected	
with Solid substrate delivery)	-
Extra entry runs thin fraction (empty)	3,432
Extra exit runs thin fraction	3,432
Excipients	
Sulfuric acid entry and exit runs	100
Activated carbon entry and exit runs	2
Products	
LNG entry and exit runs	1,248
Liquid CO2 entry and exit runs	0.00
Total runs per year	22,566

In vergunning kunnen we uitgegaan van 23.400