



GHG Emissions (PCAF Method) of the Loan Portfolio of NWB Bank

Reporting year 2019



Rens Mulder
John Dagevos

NWB Bank, The Hague, March 2020



HET PON



Official Partner
Tilburg University



GHG Emissions (PCAF Method) of the Loan Portfolio of NWB Bank

INTRODUCTION

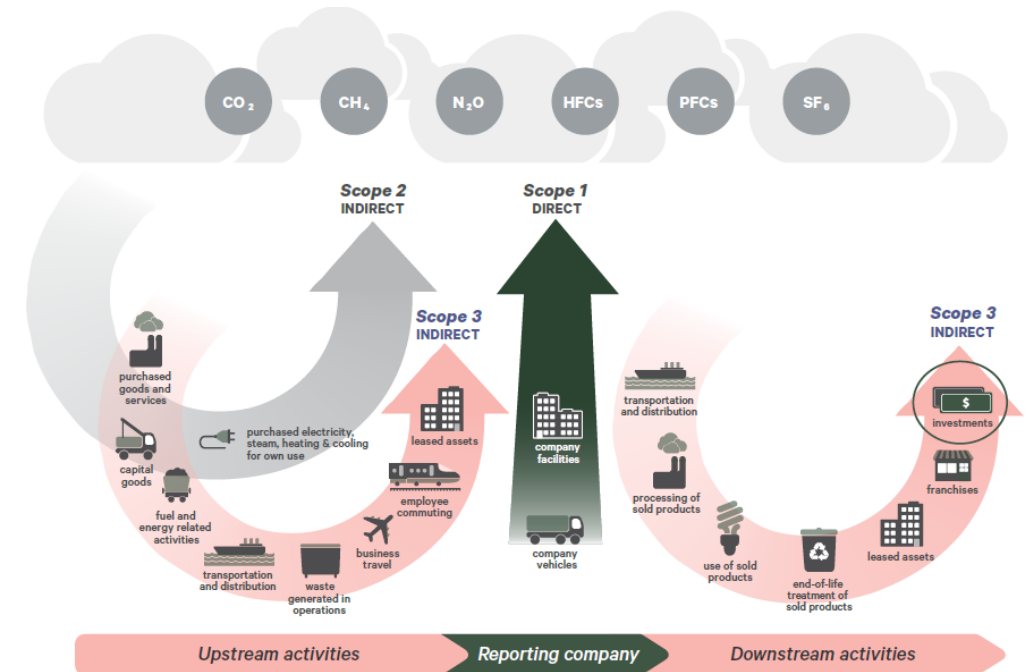
PCAF & NWB Bank

- PCAF
- Platform for Carbon Accounting Financials
 - Initiated in the context of the Paris climate agreement (2015)
 - Initiative of Dutch financial institutions
 - NWB Bank committed to PCAF in January 2019
- PCAF method for NWB Bank
- Applying and adapting PCAF method for NWB Bank loan portfolio
 - Using methods already developed (PCAF methodology report, 2019)
 - Adding additional methods to the PCAF approach
 - Particularly in public sector balance sheet financing



Method

- Applying the PCAF Harmonised Approach for the Financial Sector (2019)
- All direct and indirect GHG emissions in three scopes:
 - Scope 1: All direct GHG (e.g. natural gas in offices and fuel use by car fleets);
 - Scope 2: Indirect GHG emissions (e.g. purchased electricity, heat or steam);
 - Scope 3: Other indirect emissions, like purchased goods & services, business travel, employee commuting and end of life treatment of sold products.



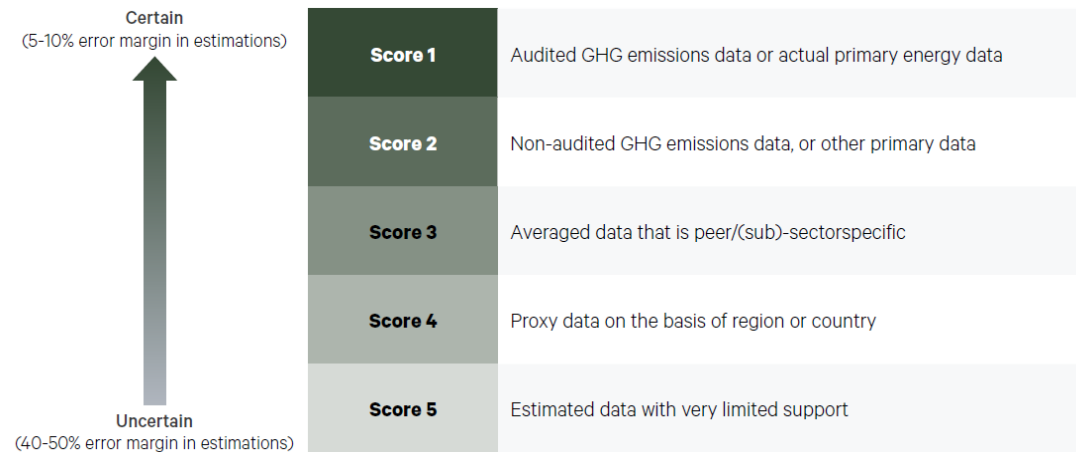


Method

- Unique in our approach: client specific information and approach.
 - Lots of data available through Telos' knowledge of public sector monitoring
 - Estimates much more robust than in former PCAF methodologies
- Data sources
 - Multiple sector specific data sources
 - Amongst others: CBS, Klimaatmonitor, Aedes, A&O, Stichting LISA, Company annual reports, Klimaatmonitor waterschappen, DUO, Human Environment and Transport Inspectorate, CO2 emission
- factors

$$\text{Attributed emissions} = \text{Impact data} \times \text{Emission factor} \times \text{Attribution factor}$$

Data quality assessment



- Data quality is important
- High quality emissions data is defined as follows:
 - Emissions data is consistent, both across entities and across time
 - Emissions data reflects the underlying emissions generating activities of the entity and are not impacted by unrelated factors
 - Emissions data is accompanied by a relevant level of assurance



GHG Emissions (PCAF Method) of the Loan Portfolio of NWB Bank

RESULTS PER SECTOR

Results: Social Housing Sector

Social Housing sector	Number of customers	Loan portfolio (million EUR)	Percentage of sector	Percentage of all loans	Coverage rate (Loan portfolio)
Social housing associations	288	30,790	99.9%	64.5%	100%
Others	6	23	0.1%	0.0%	0%
Total	294	30,813	100%	64.6%	99.9%

Attribution

Scope 1

- Use of natural gas

Scope 2

- District heating (heat purchase)
- Use of electricity

Scope 3

- N/A (see PCAF methodology)

Results: Social Housing Sector

Source of emission	Scope	CO ₂ -eq (total)		CO ₂ -eq (relative)	Data quality score
		Ton/year	%	Ton/million EUR	
Direct CO ₂ -emissions					
Natural gas use	Scope 1	1,145,600	63%	37.2	2.5
Indirect CO ₂ emissions by energy use					
Electricity use	Scope 2	615,554	34%	20.0	2.5
District heating	Scope 2	49,156	3%	1.6	2.5
Other indirect CO ₂ emissions					
n.a.	Scope 3				
Total		1,810,311	100%	58.8	2.5

- Results:
 - Highest emissions in scope 1: natural gas use in Dutch (social) houses still high. Major challenge for energy transition
 - Low emissions for district heating. But not many houses are connected to district heating
 - High data quality score

Results: Water Authorities Sector

Water Authorities sector	Number of customers	Loan portfolio (million EUR)	Percentage of sector	Percentage of all loans	Coverage rate (Loan portfolio)
Water Authorities	21	6,501	100%	13.6%	100%

Attribution

Tabel 2 Soorten emissies en de scope conform het GHG-protocol

Soorten emissies	Scope GHG-protocol	CO ₂ bron
<i>Directe CO₂-emissies (eigen energieverbruik binnen en buiten de inrichting)</i>		
Brandstoffen zuiveringsbeheer	Scope 1	Aardgas
Brandstoffen zuiveringsbeheer	Scope 1	Diesel
Brandstoffen zuiveringsbeheer	Scope 1	Overige brandstoffen
Brandstoffen watersysteem	Scope 1	Aardgas
Brandstoffen watersysteem	Scope 1	Diesel
Brandstoffen watersysteem	Scope 1	Overige brandstoffen
Brandstoffen overig (o.a. huisvesting)	Scope 1	Aardgas
Brandstoffen overig (o.a. huisvesting)	Scope 1	Overige brandstoffen
Brandstofverbruik zakelijk verkeer eigen wagenpark	Scope 1	Brandstof
Brandstofverbruik vrachttransport en onderhoud (eigen materieel)	Scope 1	Brandstof
Procesemissies spui biogas	Scope 1	Biogas (methaan) ¹
<i>Indirecte CO₂-emissies (energieopwekking buiten de inrichting)</i>		
Elektriciteit ingekocht zuiveringsbeheer	Scope 2	Elektriciteit
Elektriciteit ingekocht watersysteem	Scope 2	Elektriciteit
Elektriciteit ingekocht overig (o.a. huisvesting)	Scope 2	Elektriciteit
Warmte ingekocht	Scope 2	Warmte
<i>Overige indirecte CO₂-emissies (overige emissies buiten de inrichting)</i>		
Brandstofverbruik zakelijk verkeer privéauto's	Scope 3	Brandstof
Brandstofverbruik woon-werkverkeer privéauto's	Scope 3	Brandstof
Brandstofverbruik openbaar vervoer dienstreizen	Scope 3	Brandstof
Brandstofverbruik zakelijke vlieguren	Scope 3	Kerosine
Brandstofverbruik uitbesteed zuiveringsslibtransport	Scope 3	Diesel
Brandstofverbruik uitbesteed onderhoud watersysteem	Scope 3	Diesel
Brandstofverbruik uitbesteed overig vrachttransport	Scope 3	Diesel
Inkoop metaalzouten	Scope 3	Metaalzouten
Inkoop polymeren	Scope 3	Polymeren

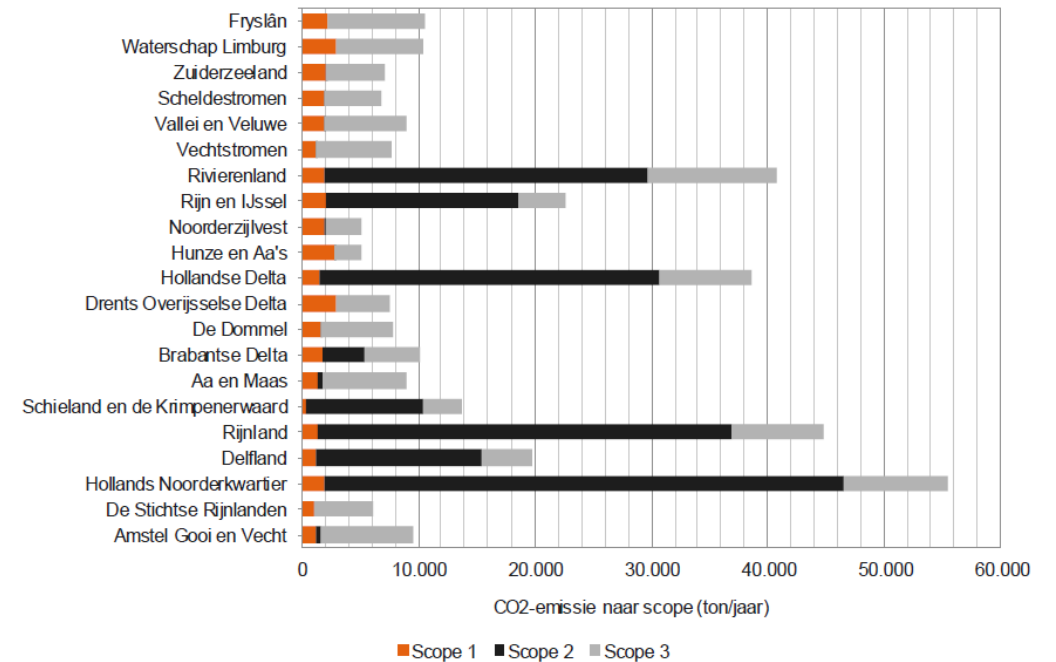
Source: Klimaatmonitor Waterschappen (Arcadis, 2019)

Results: Water Authorities Sector

Source of emission	Scope	CO ₂ EQ. (total)		CO ₂ EQ. (relative)	Data quality score
		Ton/year	%	Ton/million EUR	
Direct CO ₂ -emissions	Scope 1	26,697	11.2%	4.1	1
Indirect CO ₂ emissions by energy use	Scope 2	120,765	50.5%	18.6	1
Other indirect CO ₂ emissions	Scope 3	91,899	38.4%	14.1	1
Total		239,361	100%	36.8	1

Source: Klimaatmonitor Waterschappen (Arcadis, 2019)

- Results:
 - Largest part of emissions are from scope 2 activities
 - Large differences between water authorities in GHG-emissions
 - Detailed study



Results: Municipalities Sector

Municipalities sector	Number of customers	Loan portfolio (million EUR)	Percentage of all loans	Coverage rate (loan portfolio)
Municipalities	199	5,346	11.2%	100%

Attribution

Scope 1

- Natural gas use
- Fossil car fuel use

Scope 2

- Electricity use

Scope 3

- Purchased goods and services

Results: Municipalities Sector

Source of emissions	Scope	CO ₂ EQ. (total)		CO ₂ EQ. (relative)	Data quality score
		Ton/year	%	Ton/million EUR	
Direct CO ₂ -emissions					
Natural gas use	Scope 1	10,475	2.1%	2.0	3
Fossil car fuel use	Scope 1	1,028	0.2%	0.2	4
Indirect CO ₂ emissions by energy use					
Electricity use	Scope 2	27,856	5.7%	5.2	3
Other indirect CO ₂ emissions					
Purchased goods and services	Scope 3	450,719	92.0%	84.3	3
Total		490,078	100%	91.7	3

- Results:
 - Coverage rate of 100%
 - Largest part of emissions from scope 3, purchased goods and services. Makes sense given the societal tasks of municipalities
 - Sustainable procurement makes a difference for municipalities
 - Relatively small part of emissions due to natural gas use.

Results: Healthcare Sector

Health care sector	Number of customers	Loan portfolio (million EUR)	Percentage of sector	Percentage of all loans	Coverage rate (loan portfolio)
Total	207	2,053	100%	4.3%	74.1%

Attribution

Scope 1

- Natural gas use

Scope 2

- Electricity use

Scope 3

- Commuting (car)
- Commuting (train)
- Commuting (bus/tram/metro)

Results: Healthcare Sector

Source of emission	Scope	CO ₂ (total)		CO ₂ (relative)	Data quality score
		Ton/year	%	Ton/million EUR	
Direct CO ₂ -emissions					
Natural gas use	Scope 1	45,110	54.9%	29.6	1.5
Indirect CO ₂ emissions by energy use					
Electricity use	Scope 2	30,435	37.0%	20.0	2
Other indirect CO ₂ emissions					
Commuting (car)	Scope 3	6,449	7.8%	4.2	4
Commuting (train)	Scope 3	39	0.0%	0.0	4
Commuting (bicycle)	Scope 3	0	0.0%	0.0	4
Commuting (bus/tram/metro)	Scope 3	197	0.2%	0.1	4
Commuting (walking)	Scope 3	0	0.0%	0.0	4
Total		82,230	100%	54.0	2.5

• Results:

- Especially in hospitals much energy needed for heating and medical procedures
- Large part of emission come from scope 1 activities
- Commuting relatively small part in total emission

Results: Provinces Sector

Provinces sector	Number of customers	Loan portfolio (million EUR)	Percentage of sector	Percentage of all loans	Coverage rate (loan portfolio)
Provinces	1	225	100%	0.5%	100%

Attribution

Scope 1

- Natural gas use
- Fossil car fuel use

Scope 2

- Electricity use

Scope 3

- Purchased goods and services

Results: Provinces Sector

Source of emission	Scope	CO ₂ EQ. (total)		CO ₂ EQ. (relative)	Data quality score
		Ton/year	%	Ton/million EUR	
Direct CO ₂ -emissions					
Natural gas use	Scope 1	165	1.2%	0.7	3
Fossil car fuel use	Scope 1	25	0.2%	0.1	4
Indirect CO ₂ emissions by energy use					
Electricity use	Scope 2	581	4.1%	4.1	3
Other indirect CO ₂ emissions					
Purchased goods and services	Scope 3	13,296	94.5%	94.5	3
Total		14,066	100%	62.7	3

- Results:
 - Coverage rate of 100%
 - Largest part of emissions from scope 3, purchased goods and services. Makes sense given the societal tasks of provinces
 - Sustainable procurement makes a difference for provinces
 - Relatively small part of emissions due to natural gas use.



GHG Emissions (PCAF Method) of the Loan Portfolio of NWB Bank

CONCLUSIONS

Overall results

Loan portfolio & coverage rate: High coverage

Sector	Subsector	Total NWB loan portfolio		Part covered with GHG-emission calculation	
		mIn EUR	%	mIn EUR	%
Social housing	Total	30,813	64.6%	30,790	99.9%
Water Authorities	Total	6,501	13.6%	6,501	100%
Municipalities	Total	5,346	11.2%	5,346	100%
Healthcare	Total	2,053	4.3%	1,522	74.1%
Provinces	Total	225	0.5%	225	100%
Others	Organizations	2,441	5.1%	0	0%
	Projects	333	0.7%	0	0%
Total		47,711	100%	44,383	93.0%

Total PCAF result loan portfolio

Sector	Total outstanding loans covered		Attributed emissions Kton CO ₂ eq.	Emission intensity kton CO ₂ eq. / billion EUR	Data quality score high quality = 1, low quality = 5
	mIn EUR				
Social Housing	30,790		1,810	58.79	2.5
Water Authorities	6,501		239	36.82	1
Municipalities	5,346		490	91.67	3
Healthcare	1,522		82	54.04	2.5
Provinces	225		14	62.65	3
Others	0		-	-	-
Total	44,383		2,636	59.39	2.5



General Conclusions

- High coverage rate
 - Large part (93%) of the GHG-emissions of NWB Bank loan portfolio is covered
- GHG-emissions vary amongst sectors
 - Municipalities have a relatively high emission intensity, which is mainly due to a high contribution of Scope 3 activities
 - Water Authorities score relatively low because of the low scope 1 activities.
- Overall, the NWB bank has an emissions intensity over the outstanding loans of 59 Kton CO₂/billion EUR.
- The data quality score is on average approximately 2.5. This is rather high compared with other PCAF studies carried out in the financial sector