ENERGY

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This chapter analyses the access to electricity by Syrian refugee households in Lebanon. It also assesses the hours of electricity supplied by the national grid versus private diesel generators.

KEY FINDINGS

- **96% of Syrian refugee households have some access to electricity,** mainly from the electricity grid and through diesel generators.
- **Electricity from the grid covers only 55% of the daily needs,** on average leaving 11 hours of power cuts nationally. As a result, 60% of households resort to accessing electricity through diesel generators, which bears an environmental as well as a financial cost.
- Over half of households pay for their electricity grid bill directly to the landlord or it is already included in their rent, while 33% pay directly to Electricité Du Liban, EDL. For 14% of households, no-one is collecting electricity bills.
- The use of renewable power, including solar panels and biomass/ biogas, remains negligible in all governorates.

ACCESS TO ELECTRICITY

Overall, 96% of households have some access to electricity, while 4% report having no access.

Access to any type of electricity is more challenging for those living in non-residential and non-permanent shelters. There are no major differences in access between women-headed and men-headed households.

Figure 1: Access to electricity

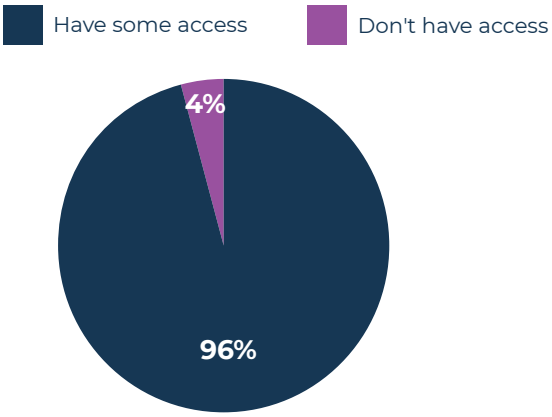
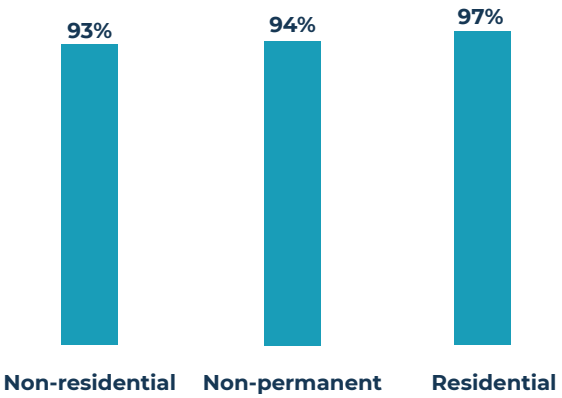
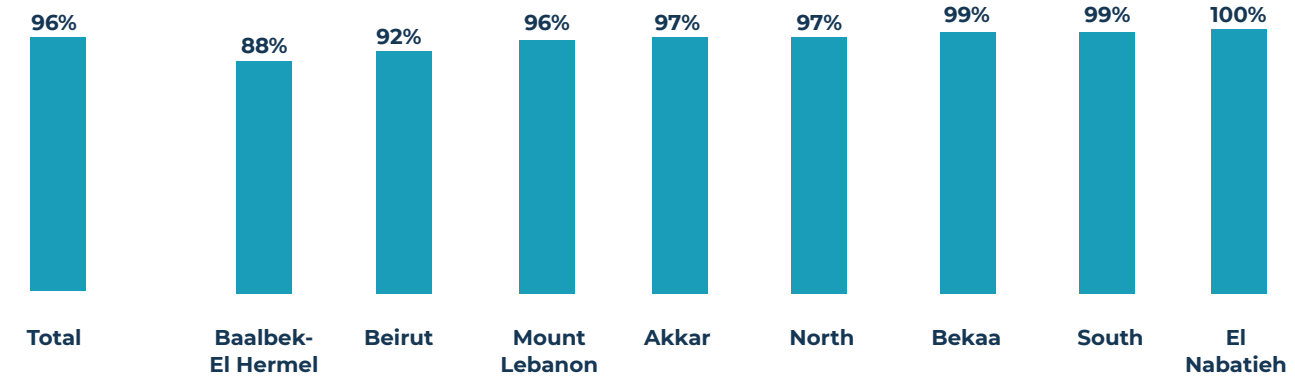


Figure 2: Access to electricity per shelter type



Looking at access to electricity per geographical area, Baalbek-El Hermel scored as the governorate with the lowest access at 88%.

Figure 3: Access to electricity per governorate

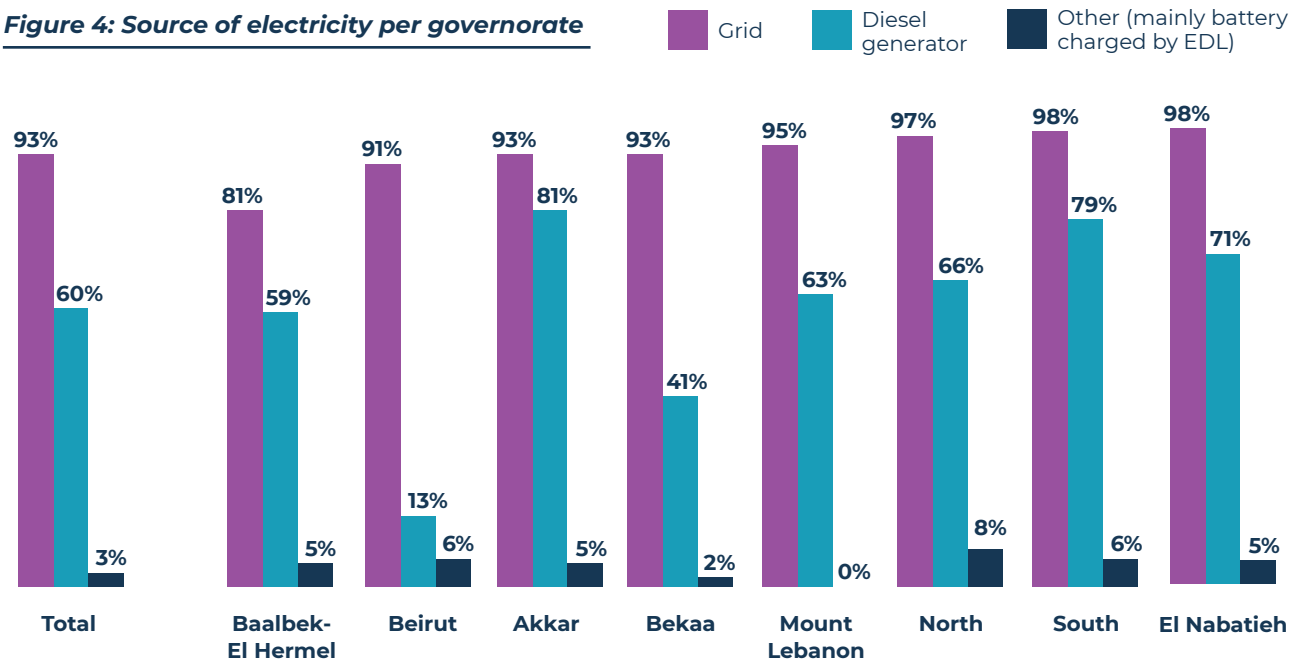


SOURCES OF ELECTRICITY

When considering the sources of electricity, 93% of households have access to the grid, with the lowest access reported by those living in non-permanent shelters (86%) as well as the most vulnerable households (92%). While access to diesel generators is lower at 60% on average and remains to be more challenging for those living in non-permanent shelters, only 48% of whom have access.

The 2019 results show that significant regional disparities relating to the source of energy should also be noted. While over 90% of households are able to access electricity from the grid in most governorates, in Baalbek-El Hermel accessibility is only 81%. Access to generators varies widely, ranging from 81% in Akkar to 13% in Beirut. The use of renewable power, including solar panels and biomass/biogas, remains negligible in all governorates.

Figure 4: Source of electricity per governorate

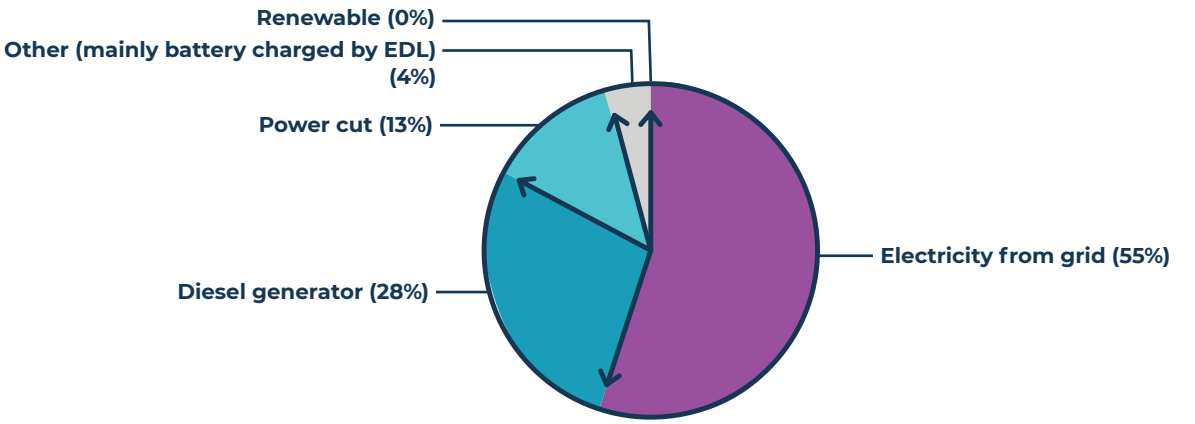


HOURS OF ELECTRICITY BY SOURCE

Out of a 24 hour window, refugees are able to access, on average, 13 hours and 12 minutes of electricity from the grid (55% of daily need), 6 hours and 42 minutes of electricity from diesel generators (28% of daily need) and 54 minutes of electricity from other sources (4%), while they experience a power cut during 13% of their day (3 hours and 9 minutes).

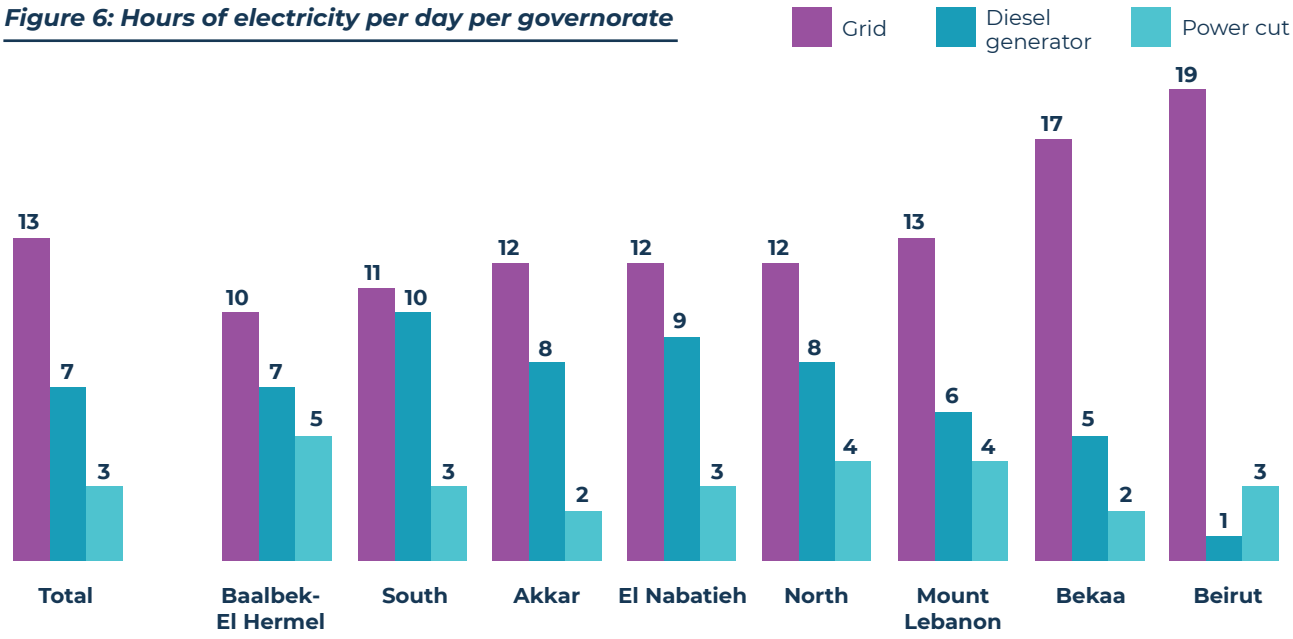
Power cuts, on average 3 hours and 9 minutes per day, are the highest in non-residential shelters (3 hours and 27 minutes per day) and among the most vulnerable households (3 hours and 30 minutes per day compared to 2 hours and 27 minutes per day for those least vulnerable).

Figure 5: Hours of electricity by source (out of a 24h window)



In Beirut and the Bekaa, the hours of electricity accessed from the grid are notably higher, corresponding to a lower number of hours of electricity sourced from generators. In contrast, the South experiences a much lower supply of electricity from the grid, which is supplemented by higher energy sourcing from generators.

Figure 6: Hours of electricity per day per governorate



ELECTRICITY BILL COLLECTION

For over half of refugee households (52%), bills for electricity from the grid are either collected by the landlord (29%) or are already included as part of the rent (22%). EDL collects bills directly from almost one third of households (33%). No bills are collected from 14% of households.
The highest rate of collection of bills by EDL was reported in Beirut (55%) and El Nabatiyeh (53%) while the lowest was in Akkar (11%) and North (26%).

Figure 7: Electricity bill collections

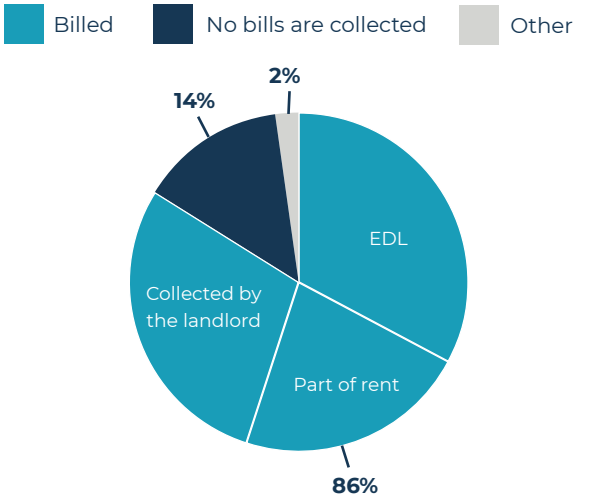
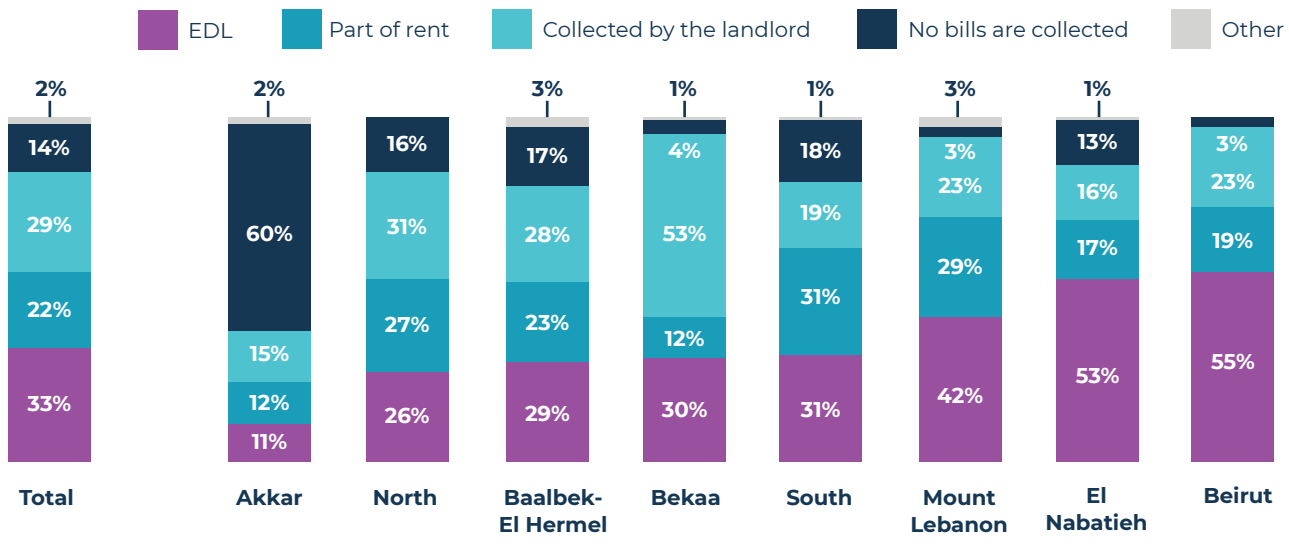
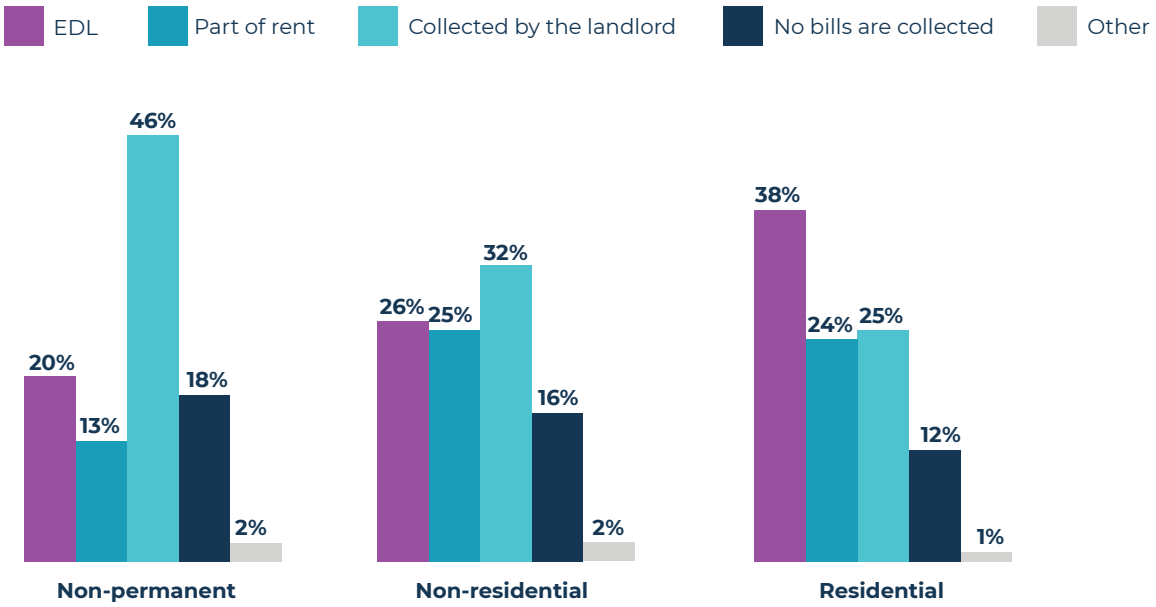


Figure 8: Bills collection by governorate



Two-thirds of refugees living in non-permanent shelters (informal settlements) are paying the EDL electricity bills to the landlord (directly or part of the rent) and only 20% are paying directly to EDL staff compared to 38% of those living in residential shelters.

Figure 9: EDL bill collection

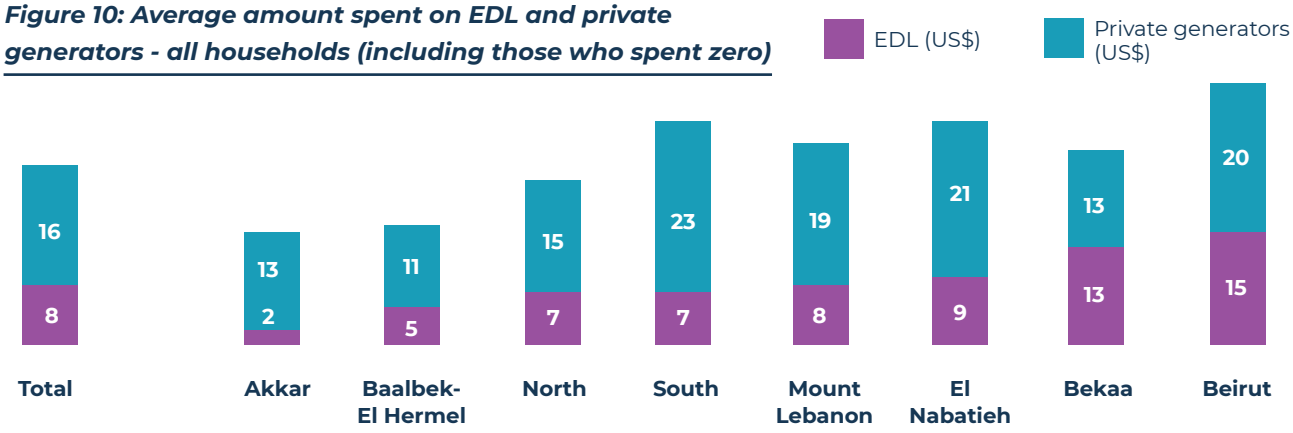


EXPENDITURE ON ELECTRICITY

Out of all households visited, 30% reported an expenditure on electricity from the grid (Electricité du Liban - EDL) in the last 30 days, whereas 38% had an expenditure on generators during the same time period.

The average amount spent on electricity from the grid is USD$ 8 per family monthly, whereas the average amount spent on generators is US$ 16 per family per month.

Figure 10: Average amount spent on EDL and private generators - all households (including those who spent zero)



FREQUENCY OF BILL COLLECTION

Of the 33% of households where EDL directly collects the bills, 59% pay monthly, whereas 40% pay every two months, with only 1% settling their bills every 6 months.

Refugee households more frequently tend to pay the landlords directly for the electricity grid, whereas 81% pay their bills every month.

Table 6: Electricity grid connection - frequency of payment

	Payment to EDL staff			Payment to landlord		
	Every month	Every 2 months	Every 6 months	Every month	Every 2 months	Every 6 months
Total	**59%**	**40%**	**1%**	**81%**	**16%**	**3%**
Akkar	**35%**	**65%**	**0%**	**80%**	**17%**	**3%**
Baalbek-El Hermel	**84%**	**13%**	**3%**	**78%**	**15%**	**6%**
Beirut	**40%**	**59%**	**1%**	**85%**	**14%**	**1%**
Bekaa	**90%**	**9%**	**1%**	**90%**	**6%**	**3%**
El Nabatieh	**37%**	**60%**	**3%**	**68%**	**29%**	**3%**
Mount Lebanon	**58%**	**41%**	**1%**	**76%**	**20%**	**3%**
North	**41%**	**59%**	**0%**	**78%**	**22%**	**0%**
South	**26%**	**69%**	**5%**	**58%**	**42%**	**0%**

In contrast to EDL electricity payments, almost all refugee households (99%) with access to diesel generators pay their bills monthly.

Table 7: Energy sources for cooking

		Gas	Oil (e.g. furnace oil)	Wood	Electric powered heater/cooker	No source is used
Governorate	**Total**	**98%**	**2%**	**2%**	**1%**	**0%**
	Akkar	**99%**	**0%**	**1%**	**0%**	**0%**
	Baalbek-El Hermel	**99%**	**4%**	**2%**	**0%**	**0%**
	Beirut	**94%**	**0%**	**0%**	**5%**	**1%**
	Bekaa	**100%**	**7%**	**7%**	**0%**	**0%**
	El Nabatieh	**99%**	**0%**	**2%**	**1%**	**0%**
	Mount Lebanon	**99%**	**0%**	**0%**	**1%**	**0%**
	North	**93%**	**1%**	**0%**	**5%**	**0%**
	South	**99%**	**2%**	**2%**	**1%**	**0%**
Shelter type	**Residential**	**98%**	**2%**	**1%**	**1%**	**0%**
	Non-residential	**97%**	**2%**	**2%**	**3%**	**1%**
	Non-Permanent	**99%**	**4%**	**8%**	**0%**	**0%**

Table 8: Energy sources for heating

		Gas	Oil (e.g. furnace oil)	Wood	Electric powered heater/cooker	None	Other
Governorate	Total	11%	40	12%	16%	20%	5%
	Akkar	8%	62%	13%	9%	12%	1%
	Baalbek-El Hermel	5%	82%	16%	1%	0%	1%
	Beirut	22%	0%	0%	27%	33%	18%
	Bekaa	3%	78%	22%	1%	1%	1%
	E Nabatieh	16%	41%	22%	8%	14%	5%
	Mount Lebanon	16%	11%	3%	26%	38%	9%
	North	15%	18%	12%	28%	25%	3%
	South	17%	23%	13%	22%	22%	15%
Shelter type	Residential	14%	33%	6%	20%	24%	7%
	Non-residential	9%	44%	16%	16%	14%	5%
	Non-Permanent	3%	63%	30%	1%	6%	1%