

***Affordability of utilities' services: extent,  
practice, policy***

***Research Paper 8: Simulations of Policies to  
Alleviate Utility Affordability in France: Evidence  
from the 'Budget de Famille' Survey 2010-11***

***Dr David Deller (Centre for Competition Policy, University of East  
Anglia)***

***Professor Catherine Waddams (Joint Academic Director, CERRE  
and Centre for Competition Policy, University of East Anglia)***

**22 October 2015**

*151022\_AffordabilityUtilitiesServices\_ResearchPaper\_8*



## Table of contents

1. Introduction.....	3
2. Description of population and household groups .....	4
3. Energy –Baseline .....	14
4. Energy – Simulations .....	17
5. Water – Baseline .....	20
6. Water – Simulations .....	23
7. Telecoms – Baseline .....	26
8. Telecoms – Simulations .....	29
9. Transport – Baseline.....	32
10. Transport – Simulations .....	35



## 1. Introduction

This document presents the results of simulations and analysis of the French household expenditure survey, 'Budget de Famille', conducted during 2010 and 2011. The data analysed in this document cover both mainland France and its overseas territories. Our understanding of the data is that the island of Réunion is included in the data, but that the other large overseas departments, such as French Guiana, are excluded. The total sample size of the survey is 15,797 with the overseas territories being heavily oversampled (they account for one-third of the sample). This oversampling of the overseas territories and the non-response of participants are controlled for by the application of weights to make the dataset representative of France and its overseas territories combined. Since the population of mainland France far exceeds that of the overseas territories the results presented below are effectively determined by the data from mainland France.

In terms of the utility data itself it is worth noting that for the water sector around 30% of respondents provided no information regarding their water expenditure as this is included in 'general' charges paid in relation to the household's dwelling. Rather than being treated as missing values, the dataset appears to record water expenditure for these households as zero. Clearly these households do in fact have a positive expenditure on water, but it is not easily observed. This issue has a noticeable impact on the results for the water sector.

The methodology behind the French simulations presented here is identical to that for the other countries. While we discuss differences between household groups within France and compare the results to other countries, no formal tests have been conducted to confirm the statistical significance of these results. Finally, this analysis has been performed on the basis of translations of the key documentation and variables.

Given the current policy discussions in France regarding measures to alleviate fuel poverty we emphasise that our figures for the proportion of households in fuel poverty result from the particular methodology of comparing actual energy expenditure recorded by households with total household expenditure. Using engineering models to estimate energy consumption or replacing total household expenditure with household income may lead to percentages of households being identified as fuel poor which are noticeably different.



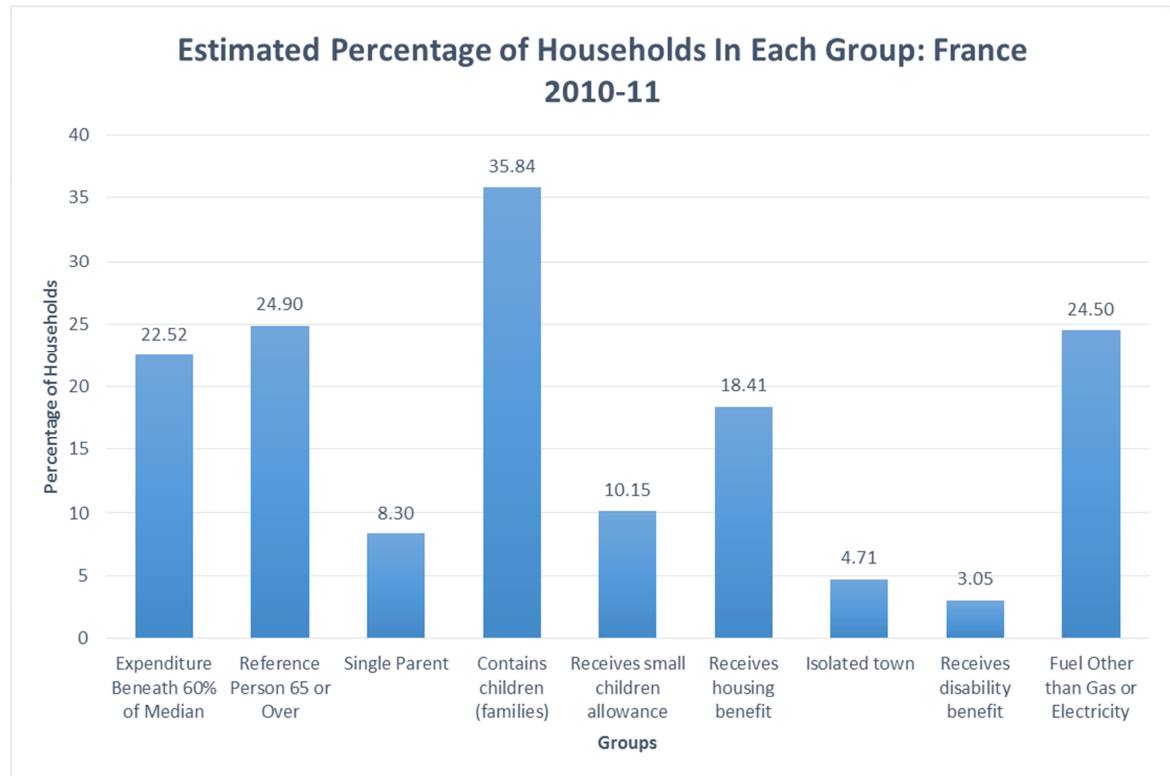
## 2. Description of population and household groups

As with the other countries studied, a number of the groups used for targeting interventions are based on France-specific policies and definitions. Firstly, the target group relating to older households in France is defined on the basis of the Household Reference Person, i.e. the head of the household, being aged 65 or over. In other countries the target group for older households relates to households which contain one or more people aged 65 or over. In relation to the French definition of households containing children we have not been able to identify a maximum age used to define children.

Turning to households receiving financial support from the government we have identified three groups which translate as receiving one of the following: (i) family allowance for small children, (ii) housing benefit, or (iii) disability benefit. We are unable to comment on the precise qualifying conditions for these benefits or the financial entitlement of households in receipt of these benefits. Lastly, we include a group described as 'Isolated Town' which we believe is an indicator of rural areas. Looking at the raw data we believe this indicator includes the areas surrounding 'isolated towns' rather than literally referring only to those who actually live in towns.

Chart 1 shows that the largest individual group are households containing children, including around 36% of households. This is mid-way between the Republic of Ireland, where a larger proportion of households contain children, and the UK, where a lower proportion of households contain children. A major difference between France and the UK is the percentage of the population receiving 'housing benefit'. In the UK the figure is no more than 4%, while in France it is over 18%. This suggests that the policies referred to as 'housing benefit' in each of these countries are significantly different. However the largest difference between all three countries relates to the structure of the energy market. In France 24.5% of households report using fuels other than electricity and mains gas to provide energy in their homes. This is just over three times the percentage in the UK, but less than half the percentage of households using fuels other than gas and electricity in the Republic of Ireland.

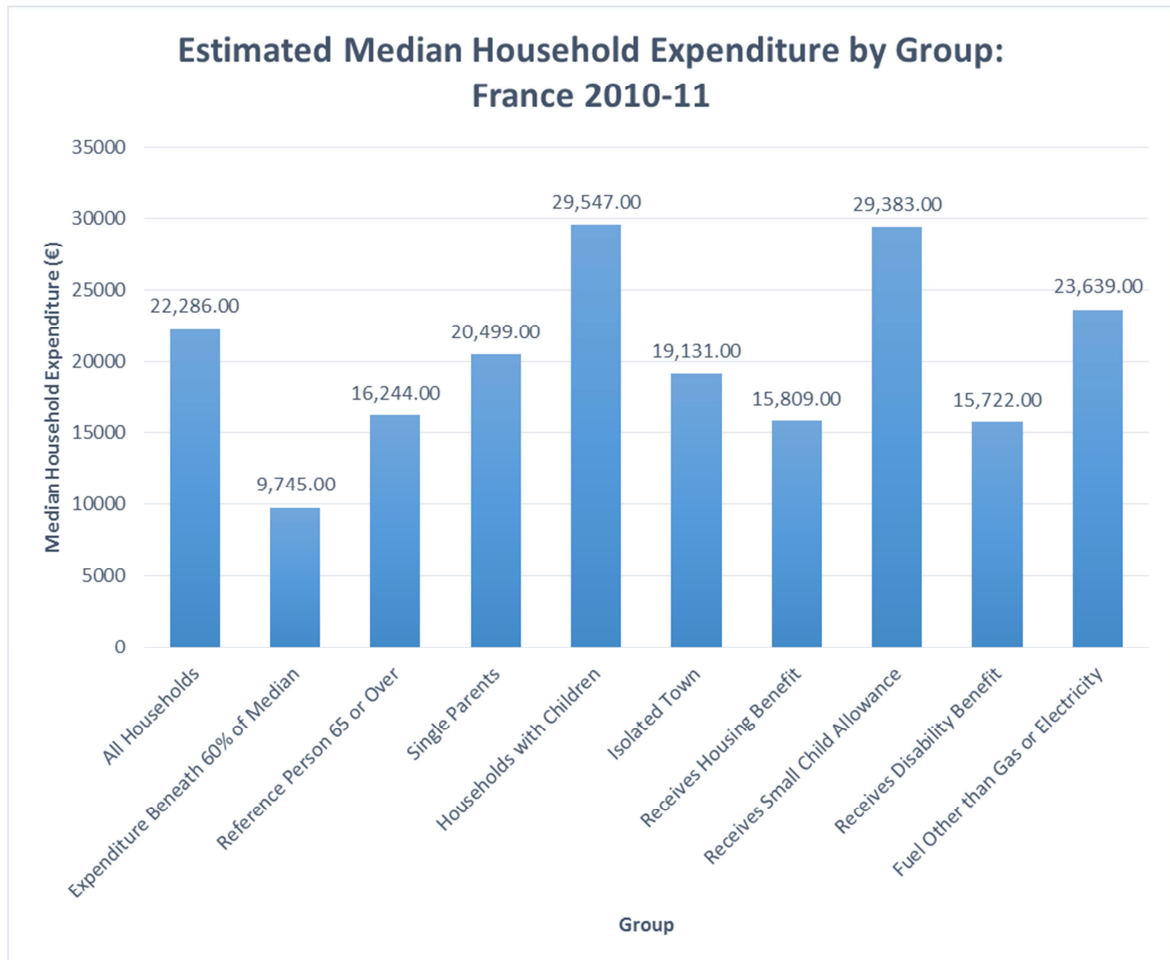
**Chart 1: Estimated Percentage of Households in Each Group: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

Turning to the median household expenditure of each of the groups in Chart 2, the expenditure figures are much lower than for the Republic of Ireland in 2009-10. Looking at all households together, median total expenditure in the Republic of Ireland is approximately 50% higher than it is in France. This pattern of much lower total expenditure in France is repeated across all of the household groups that are common to both countries. However, the magnitude of the difference between the two countries is smaller for single parent households and households with an older household member; for these two groups the total expenditure figures for the Republic of Ireland are only around 25% higher than in France. This may indicate relatively more generous financial support mechanisms for these two groups in France than in the Republic of Ireland.

Chart 2: Estimated Median Household Expenditure by Group: France 2010-11



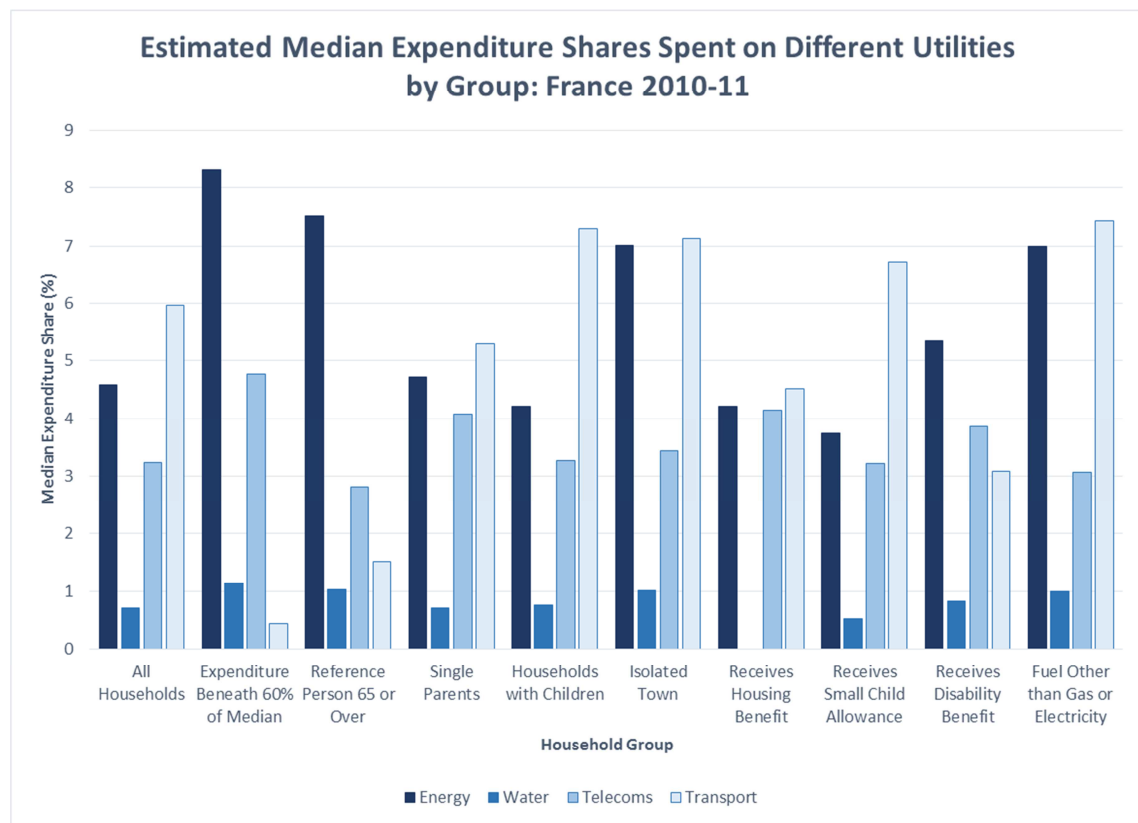
Source: French household expenditure survey 'Budget de Famille', 2010-11

In Chart 3 the most noticeable features are the very low median shares of expenditure devoted to transport by those with total expenditure beneath 60% of the median and where the household reference person is aged 65 or over. The median expenditure share devoted to transport by those on low incomes is estimated to be less than a tenth of the median expenditure share devoted to transport for the population of all households. Not only are the median transport expenditure shares for these two groups very low relative to other household groups in France, they are also much lower than the shares reported for equivalent groups in the UK and the Republic of Ireland. In part, the lower transport expenditure share for older households in France may be due to the different definition of older households. In the UK and Republic of Ireland the indicator for an older household does not require the main earner in the household to be over 65, whereas the French definition does. This difference is particularly important for analysing transport expenditure, since a

significant amount of travel expenditure is generally linked to reaching a person’s workplace; if the main breadwinner is retired, this commuting expenditure will stop.

The median expenditure shares devoted to transport in France are generally lower relative to the expenditure shares devoted to the other utilities in both the UK and the Republic of Ireland. In the UK and Republic of Ireland, the expenditure share of all households devoted to transport is roughly double that devoted to energy. However in France the median expenditure share devoted to transport is only a third higher than that for energy when all households are combined.

**Chart 3: Estimated Median Expenditure Shares Spent on Different Utilities by Group: France 2010-11**



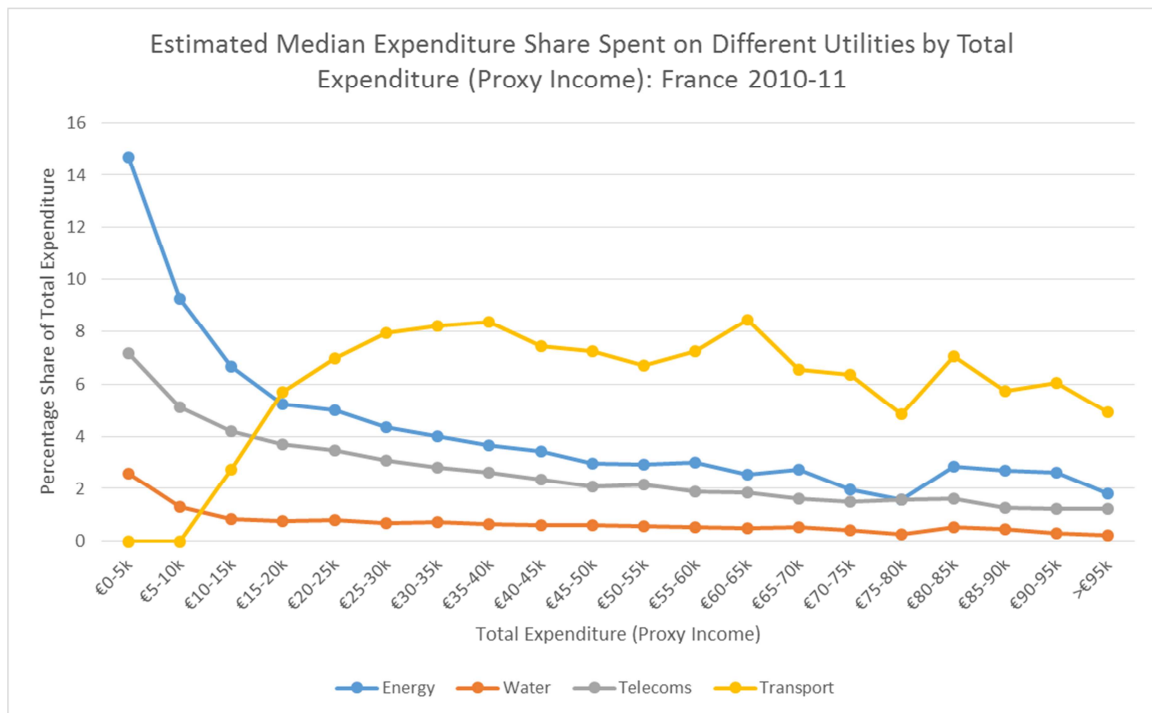
Source: French household expenditure survey ‘Budget de Famille’, 2010-11

The relationships between total household expenditure and the expenditure shares devoted to specific utilities shown in Chart 4 are broadly comparable to those in the UK and Republic of Ireland. It is therefore tempting to suspect that similar relationships are likely to be found in many countries across the EU15. Nevertheless the French data do appear to show some differences in detail to those in the UK. Firstly, in France expenditure devoted to telecoms seems to be less responsive to declines in income (total expenditure) than in the UK, so that the expenditure share on telecoms shows a more noticeable increase as total expenditure declines in France. Secondly,



the downward trend in the expenditure share devoted to transport above moderate levels of total expenditure appears more visible in France than it does in the UK. Thirdly, at low levels of total expenditure the expenditure share devoted to water is much lower in France than in the UK, in part due to water costs in France being incorporated into general rental charges.

**Chart 4: Estimated Median Expenditure Share Spent on Different Utilities by Total Expenditure (Proxy Income): France 2010-11**



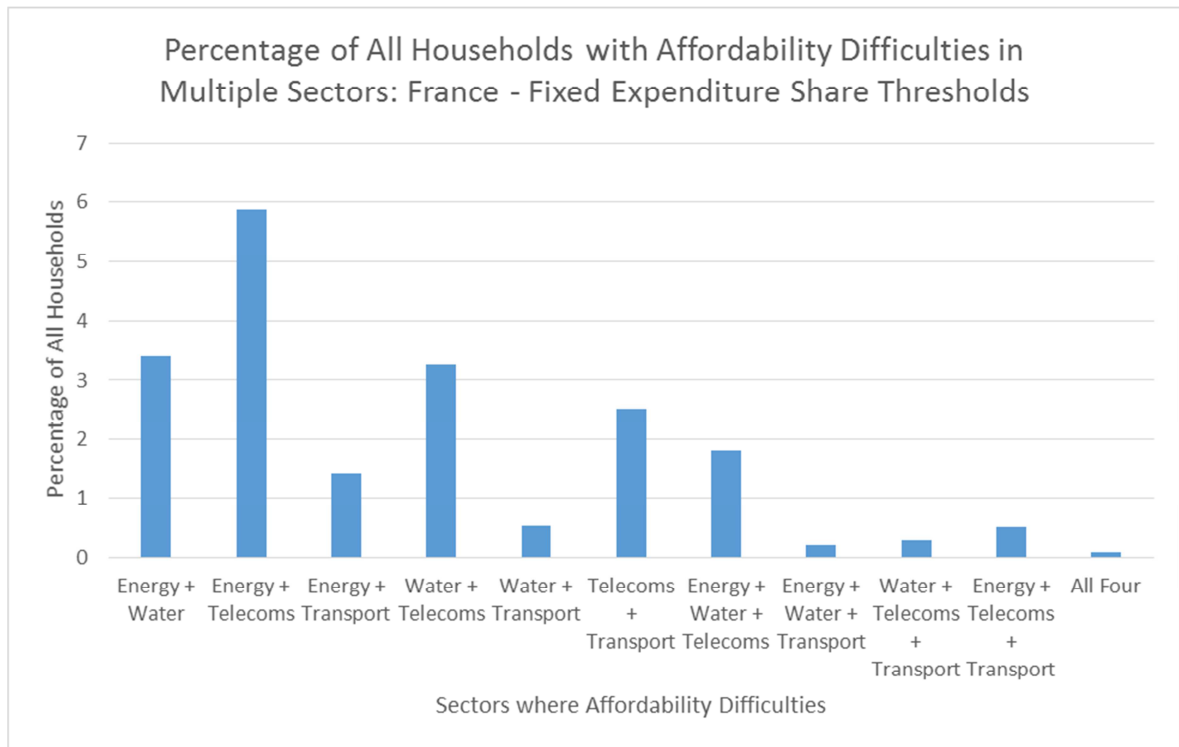
Source: French household expenditure survey 'Budget de Famille', 2010-11

Charts 5 to 10 show the proportion of households which face affordability difficulties in multiple sectors. For the UK and Republic of Ireland the equivalent charts are provided in Research Paper 10 rather than in the research papers reporting the policy simulations for these two countries.





**Chart 5: Percentage of All Households with Affordability Difficulties in Multiple Sectors: France – Fixed Expenditure Share Thresholds**

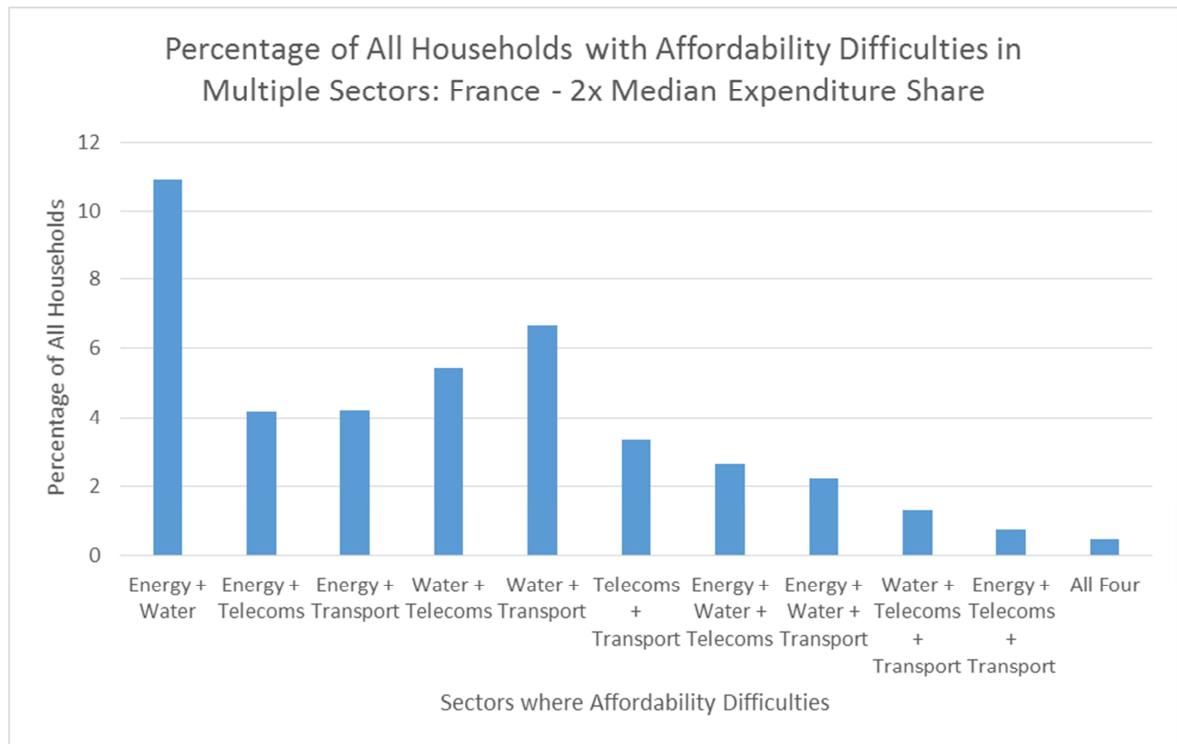


Source: French household expenditure survey 'Budget de Famille', 2010-11

That certain households devote a greater proportion of their expenditure to water in the UK is again illustrated by considering Chart 5 and the equivalent chart for the UK in Research Paper 10. In France just over 3% of households are recorded as spending over 3% of their expenditure on water and 10% of their expenditure on energy whereas in the UK the equivalent figure is around 9% of households. However, when we measure affordability difficulties by the twice median expenditure share metric in Chart 6, the proportion of households with affordability difficulties in both energy and water is higher in France than it is in the UK. This reversal is because of the large number of households in France whose water expenditure is recorded as zero.

The dependency of the picture of multiple affordability difficulties for France and the UK on whether the fixed threshold or relative affordability metrics are used also extends to considering the combination of energy and transport affordability difficulties. According to the fixed expenditure share thresholds, the UK has a greater proportion of households with affordability difficulties in both energy and transport, but using the twice median metrics, France has the larger proportion of households suffering affordability difficulties in both of these sectors.

**Chart 6: Percentage of All Households with Affordability Difficulties in Multiple Sectors: France – 2x Median Expenditure Share**

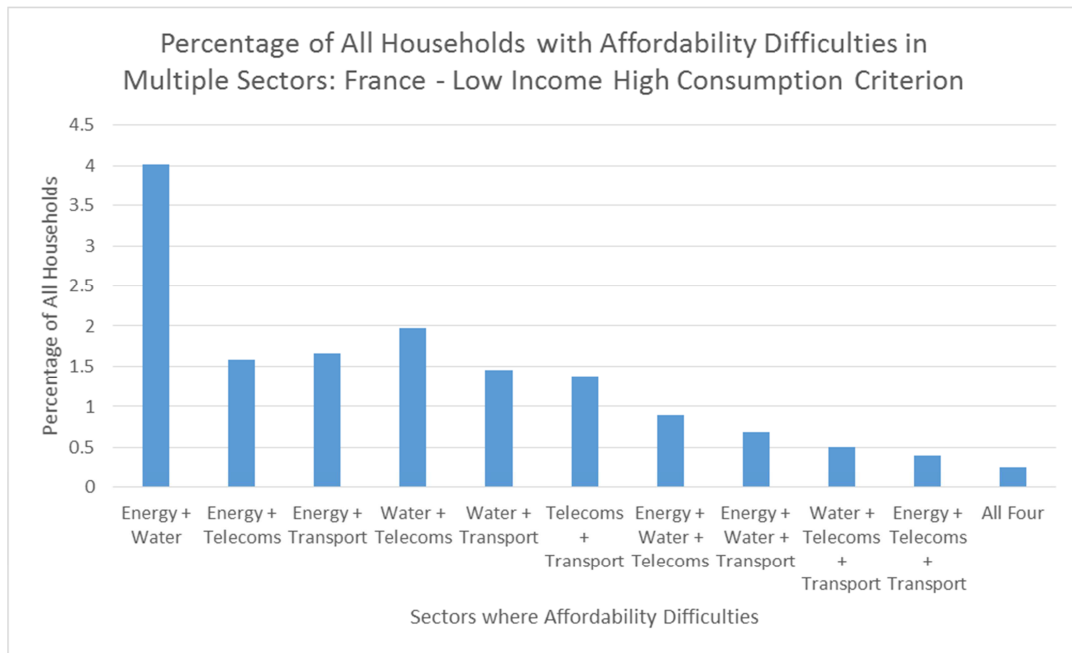


Source: French household expenditure survey 'Budget de Famille', 2010-11

Since the LHC criterion is also a relative measure, Chart 7 shows that France has a greater proportion of households suffering from both energy and water affordability difficulties than the UK. France also has a relatively high proportion of households suffering affordability difficulties in both the telecoms and transport sectors according to the LHC criterion. The proportion in France suffering this combination of affordability difficulties is almost treble the figure in the UK and double the proportion in the Republic of Ireland. However, as an overall percentage of French households, the proportion that have affordability difficulties in both the telecoms and transport sectors according to the LHC criterion is very low at less than 1.5% of households.

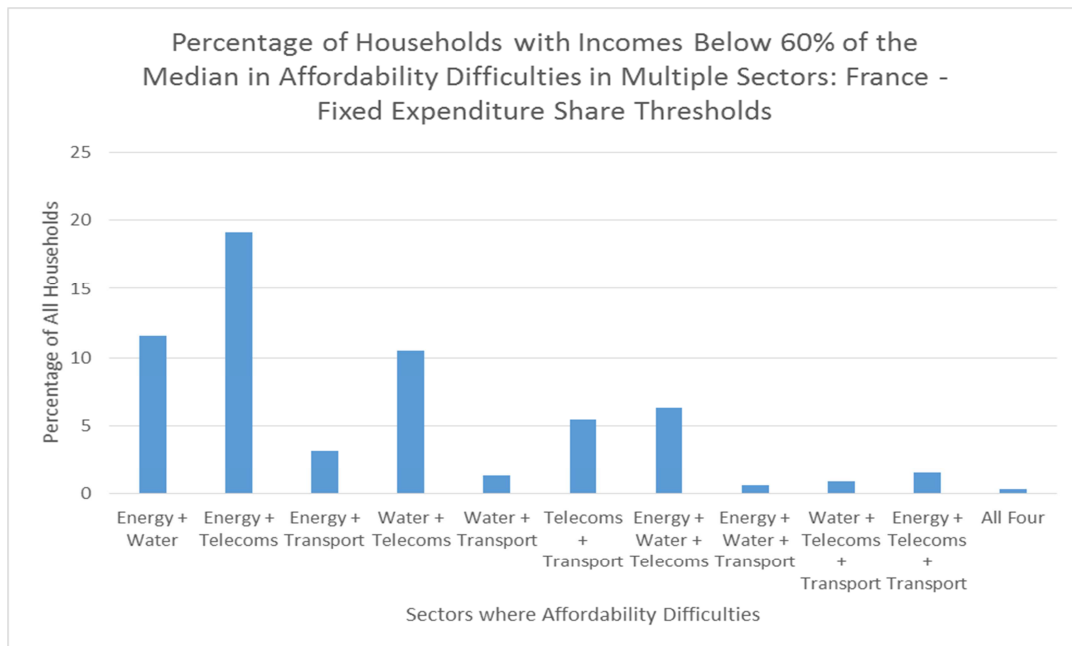
While the rates of multiple affordability difficulties across the whole population are generally low or very low, among those households with total expenditure beneath 60% of the median the rates are much higher. Charts 8 and 9 show that regardless of whether the fixed threshold or twice median expenditure share metrics are used there are three combinations of affordability difficulties which are experienced by more than 10% of low expenditure (income) households: (i) energy and water, (ii) energy and telecoms, and (iii) water and telecoms.

**Chart 7: Percentage of All Households with Affordability Difficulties in Multiple Sectors: France – Low Income High Consumption Criterion**



Source: French household expenditure survey 'Budget de Famille', 2010-11

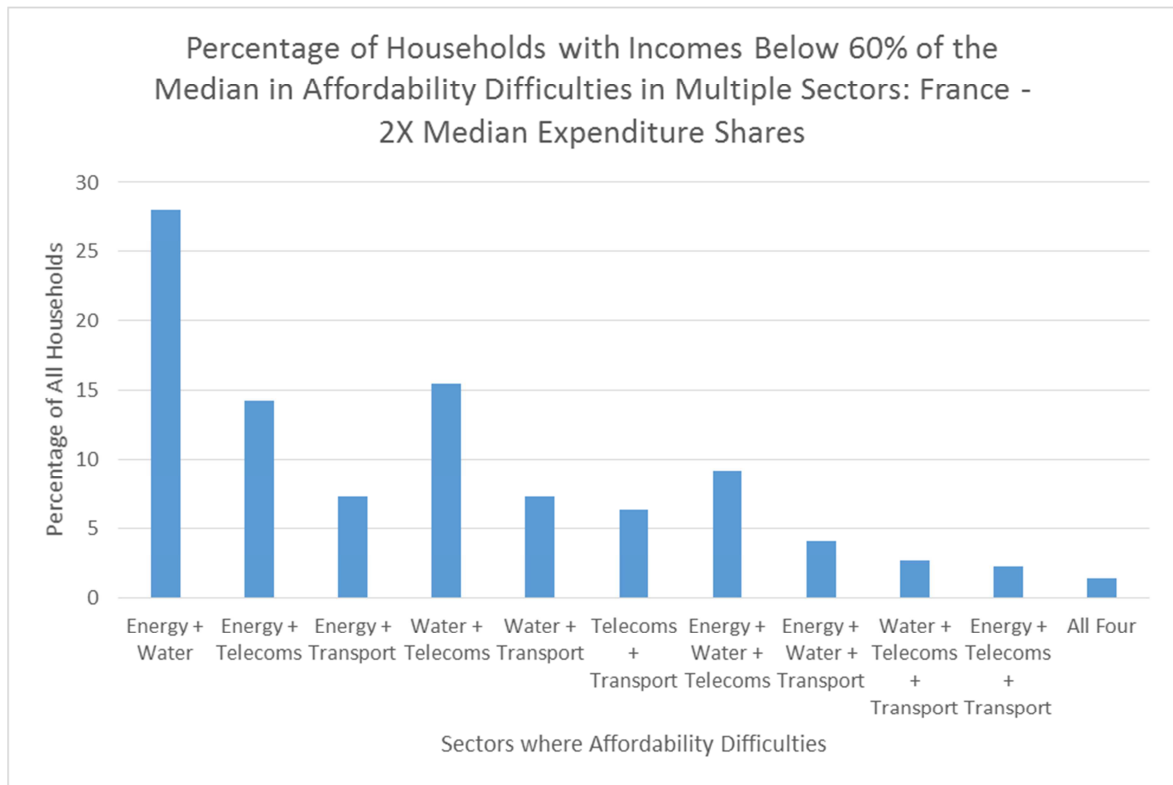
**Chart 8: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: France – Fixed Expenditure Share Thresholds**



Source: French household expenditure survey 'Budget de Famille', 2010-11

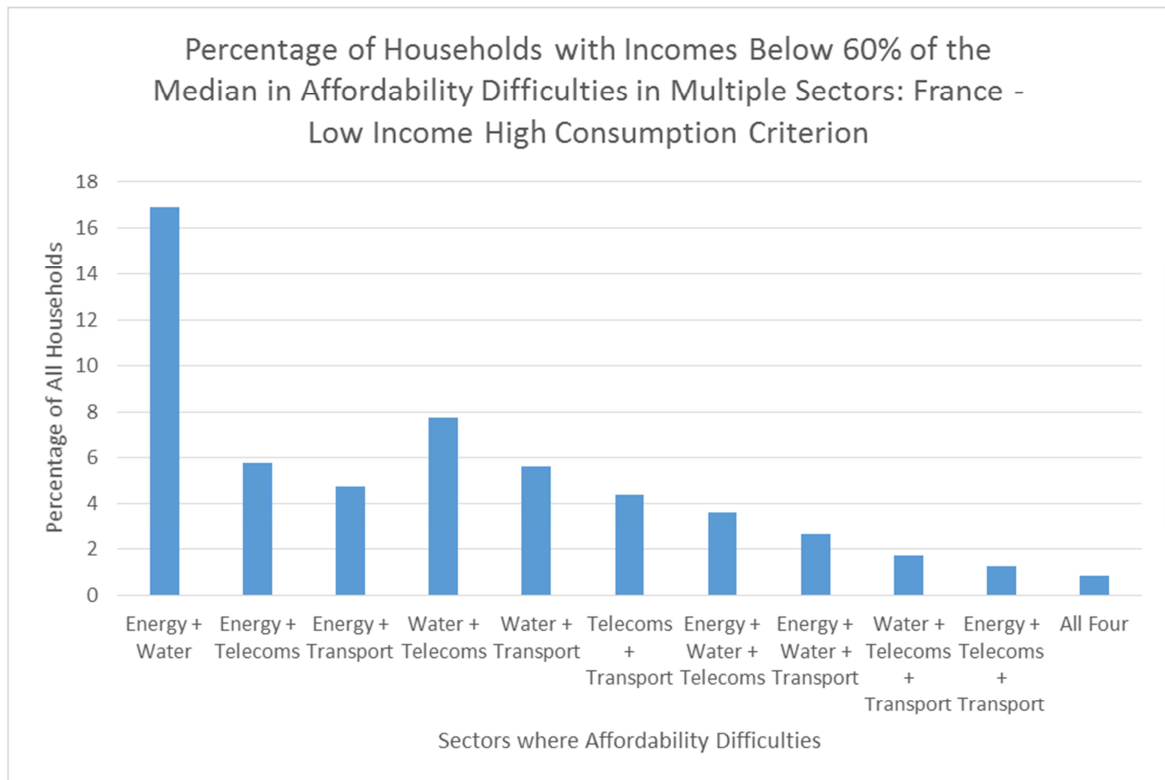


**Chart 9: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: France – 2x Median Expenditure Shares**



Source: French household expenditure survey 'Budget de Famille', 2010-11

**Chart 10: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: France – Low Income High Consumption Criterion**



Source: French household expenditure survey 'Budget de Famille', 2010-11

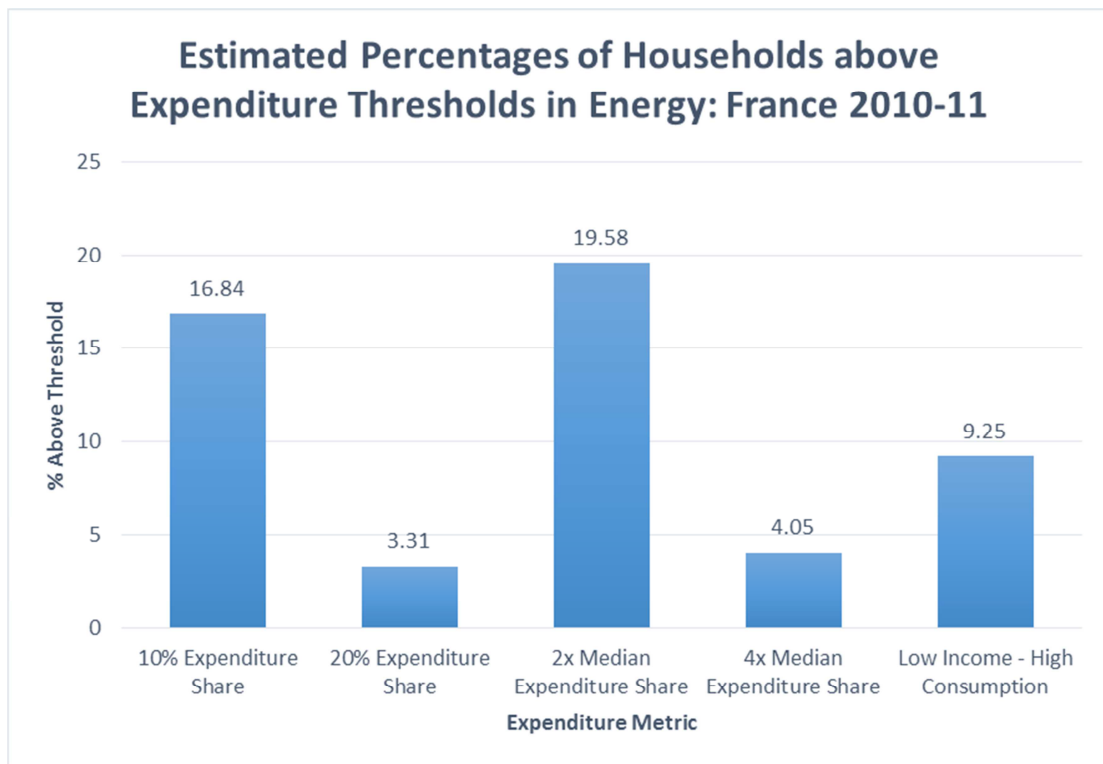
Charts 9 and 10 show that when relative measures of affordability difficulties are used the rates of households reporting affordability difficulties in three or all four of the utility sectors are higher than when fixed threshold metrics are used (Chart 8); although the rates observed are still very low.



### 3. Energy –Baseline

The rates of affordability difficulties in the energy sector recorded by the different affordability metrics in Chart 11 are broadly similar to those in the UK in 2012. However, compared to the Republic of Ireland, the rates of affordability difficulties are somewhat greater, with the percentage of households spending more than 10% of their expenditure on energy being 4 percentage points higher in France.

Chart 11: Estimated Percentages of Households above Expenditure Thresholds in Energy: France 2010-11



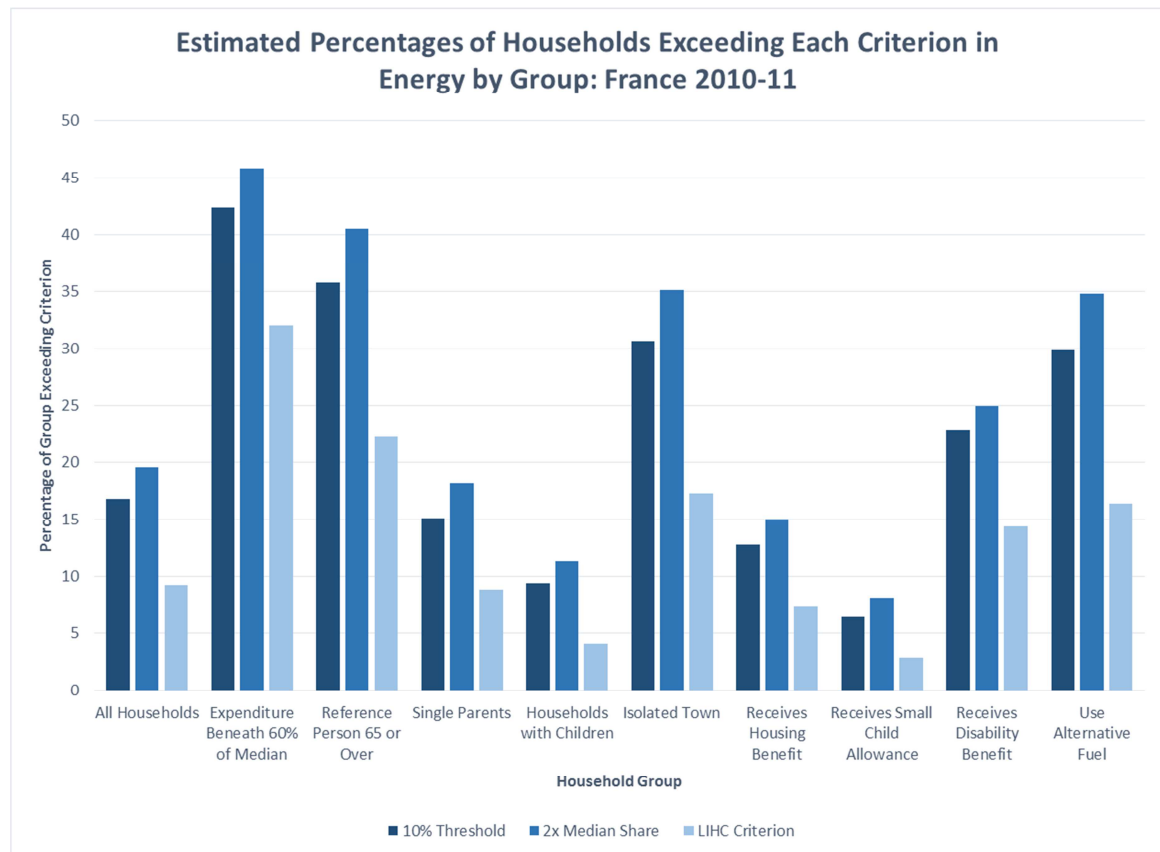
Source: French household expenditure survey 'Budget de Famille', 2010-11

Turning to the rates of energy affordability difficulties for specific household types in Chart 12, it is households with low total expenditure which have the highest rates of affordability difficulties, as in the UK and Republic of Ireland. This consistent pattern emphasises the importance of income in determining sector specific affordability difficulties. Interestingly, the rates of affordability difficulties among those households using fuels other than gas and electricity, according to the 10% threshold and twice median metrics, are 15 percentage points higher in France than in the Republic

of Ireland. The rates of 30% and 35% are closer to those in the UK, despite three times as many households using alternative fuel sources in France as in the UK.

It is apparent that individuals living in ‘isolated towns’ have particularly high rates of affordability difficulties. That the rates of affordability difficulties for this group are almost identical to those for households using alternative fuels suggests that households in rural France have to use fuel sources other than gas and electricity, or that building characteristics associated with alternative fuel use drive energy affordability difficulties in rural areas. The rates of energy affordability difficulties reported for ‘isolated towns’ in France are noticeably higher than for rural households in the Republic of Ireland, but it is difficult to say whether this difference is genuine or due to the different definitions of rurality used in the two countries.

**Chart 12: Estimated Percentages of Households Exceeding Each Criterion in Energy by Group: France 2010-11**



Source: French household expenditure survey ‘Budget de Famille’, 2010-11

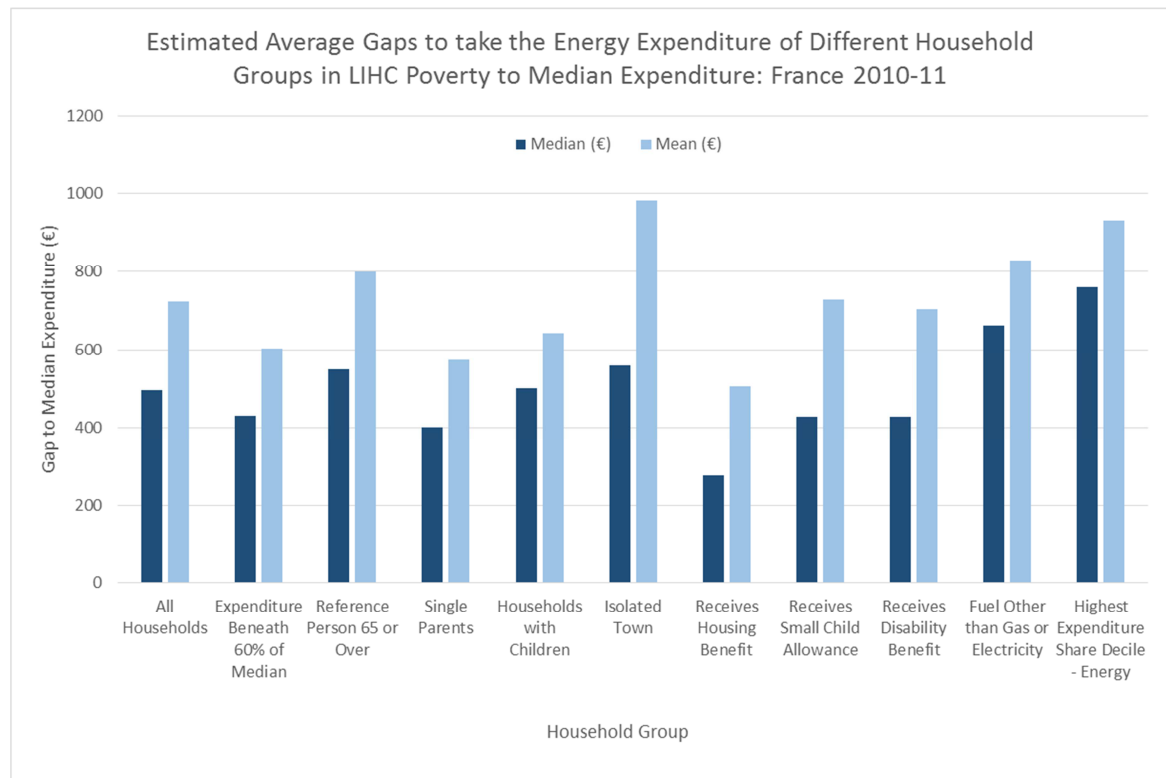
Chart 13 shows that the LIHC gaps for households with total expenditure below 60% of the median are lower than for many groups despite Chart 12 showing that households with low total expenditure have the highest rate of energy affordability difficulties according to the LIHC criterion.



Together these results indicate that while many of households with low expenditure (income) face energy affordability difficulties, for many households in this group the affordability difficulties are relatively mild. The other feature of Chart 13 which stands out is that the mean LIHC gap for households in 'isolated towns' is almost €400 higher than the median LIHC gap. This suggests that there are some households with very high expenditures devoted to energy in this group. Three potential explanations for this high energy expenditure are that: some households in rural areas live in very large properties; that some of these households are actually farms; or these households come disproportionately from overseas territories where supply costs may be particularly high.

Looking at the mean and median LIHC gaps averaged across all households they are broadly similar to those in the UK in 2012 and noticeably lower than those in the Republic of Ireland.

**Chart 13: Estimated Average Gaps to take the Energy Expenditure of Different Household Groups in LIHC Poverty to Median Expenditure: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11





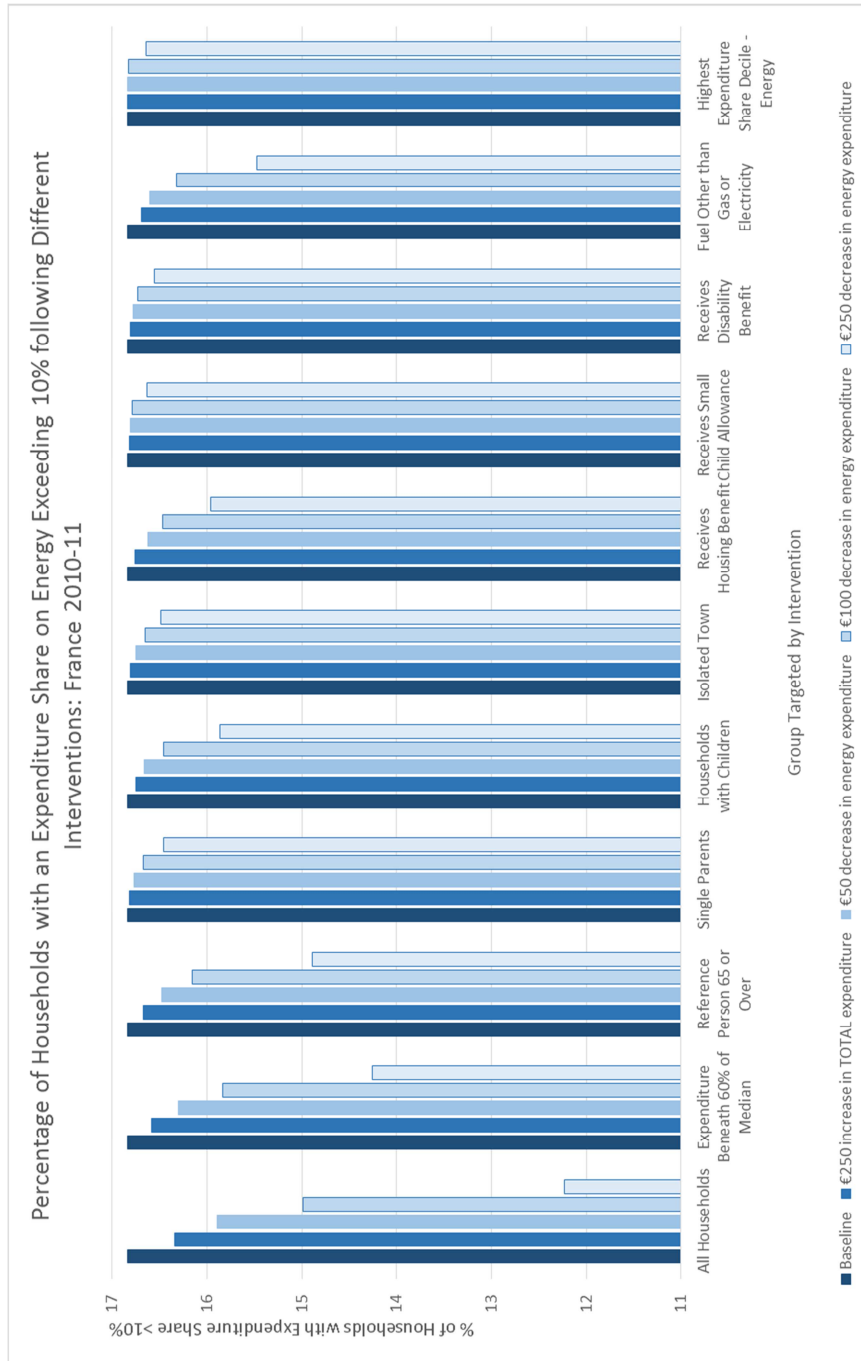
## 4. Energy – Simulations

Turning to the simulations, Chart 14 shows that expenditure reductions of €250 can reduce the rate of households spending more than 10% of their expenditure on energy by a full percentage point when targeted at a variety of sub-groups of households. These sub-groups are nevertheless relatively large segments of the population, namely households using an alternative fuel source, households with expenditure below 60% of the median and households where the reference person is aged 65 or over.

Targeting interventions at households receiving a small child allowance or the 10% of households with the highest energy expenditure shares have virtually no impact on the percentage of the population devoting more than 10% of their expenditure to energy. However targeting each of these two groups fails for differing reasons. Targeting households receiving the child allowance is ineffective as very few households in this group spend over 10% of their expenditure on energy. In contrast, those households with the highest energy expenditure shares have energy expenditures so high that an expenditure reduction of €250 moves very few of them across the 10% threshold.

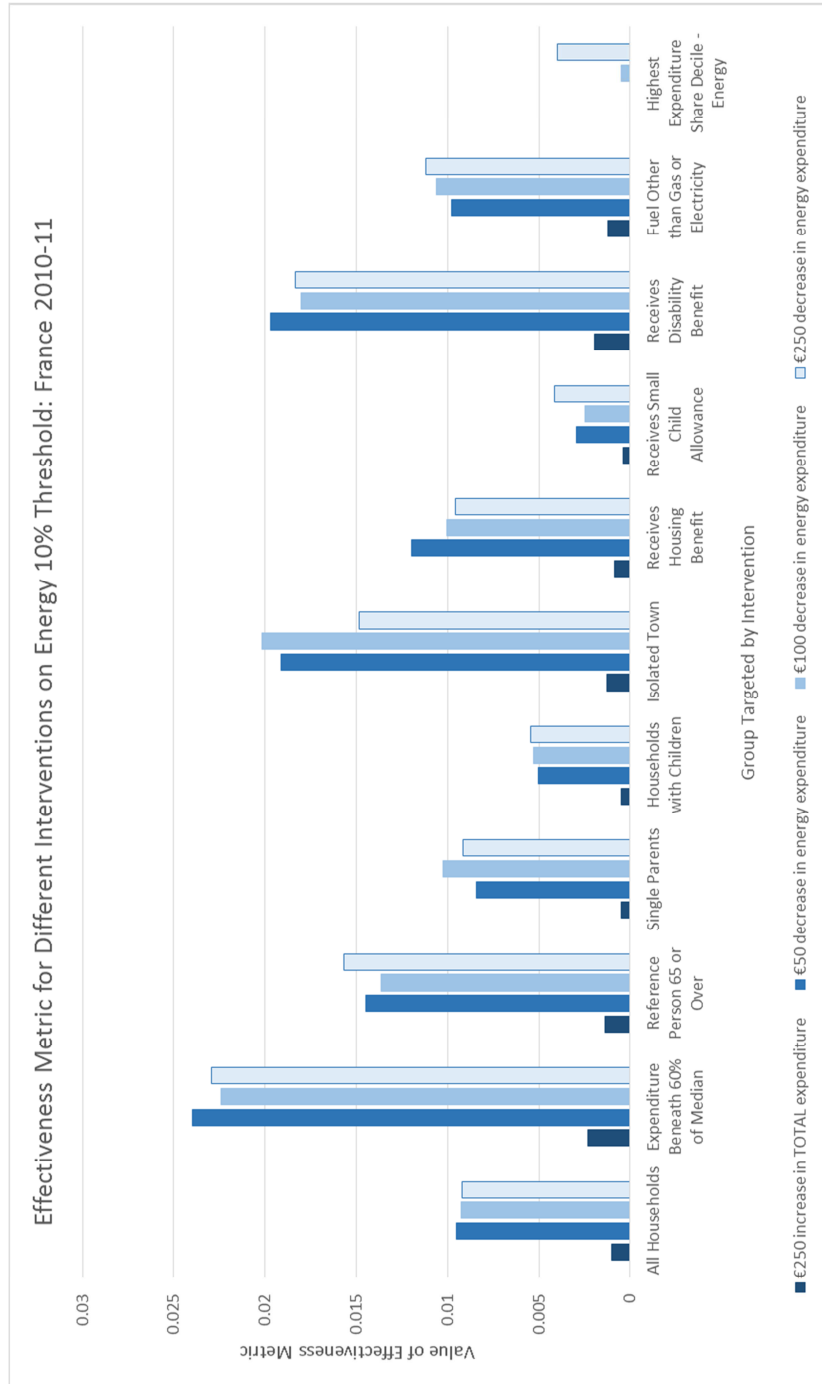
Looking at the most effective groups to target to reduce the percentage of households devoting 10% of their expenditure to energy, Chart 15 demonstrates that targeting households with low total expenditure, containing a person receiving disability benefit or located in an isolated area is sensible. Chart 15 shows that when targeting households in the first two of these groups the size of the expenditure reduction does not have much impact on the effectiveness of the intervention. This implies that the households in these two groups which have expenditure shares above 10% are relatively evenly distributed i.e. there is no large block of households which are particularly close to, or particularly far away from, the 10% threshold.

**Chart 14: Percentage of Households with an Expenditure Share on Energy Exceeding 10% following Different Interventions: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

Chart 15: Effectiveness Metric for Different Interventions on Energy 10% Threshold: France 2010-11



Source: French household expenditure survey 'Budget de Famille', 2010-11

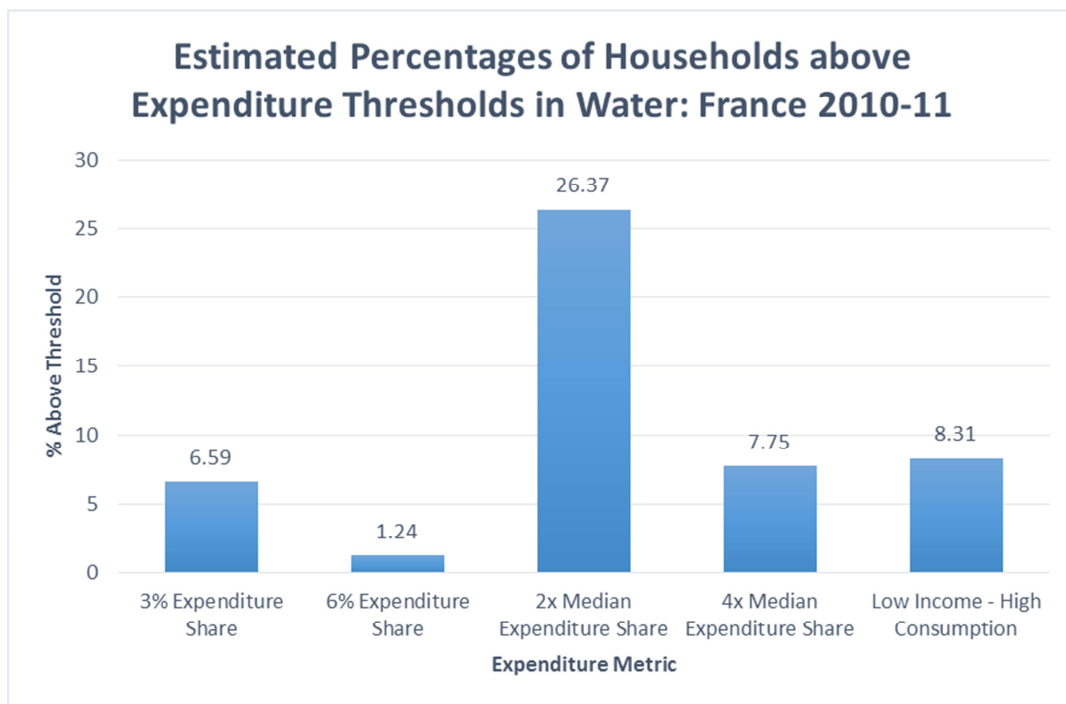


## 5. Water – Baseline

The picture given by the different affordability metrics in Chart 16 is much closer to the pattern of the Republic of Ireland than the UK, with relatively few households reporting an expenditure share on water above 3%. Also, as in the Republic of Ireland, the distribution of water expenditure shares is heavily skewed with over a quarter of French households appearing to spend more than twice the median expenditure share on water. While the Republic of Ireland did not directly charge for water in 2010, the similar pattern across affordability metrics displayed in France may simply be due to water expenditure being grouped with other household charges for around a third of households as previously discussed.

The limitation of using the LIHC criterion to understand the distribution of expenditure shares is illustrated by the fact that while wide variations in water affordability according to the 3% threshold and the twice median metrics exist between all three countries, the LIHC criterion records a rate of water affordability difficulties of 8-9% in the UK, France and the Republic of Ireland.

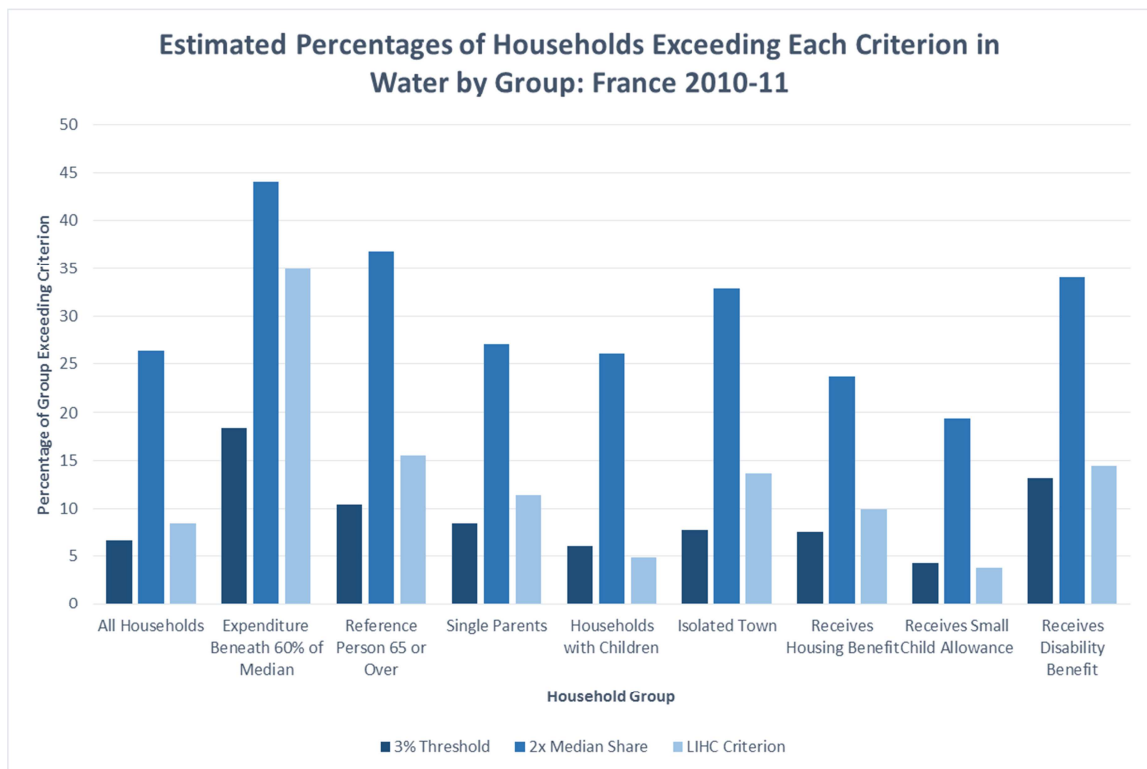
**Chart 16: Estimated Percentages of Households above Expenditure Thresholds in Water: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

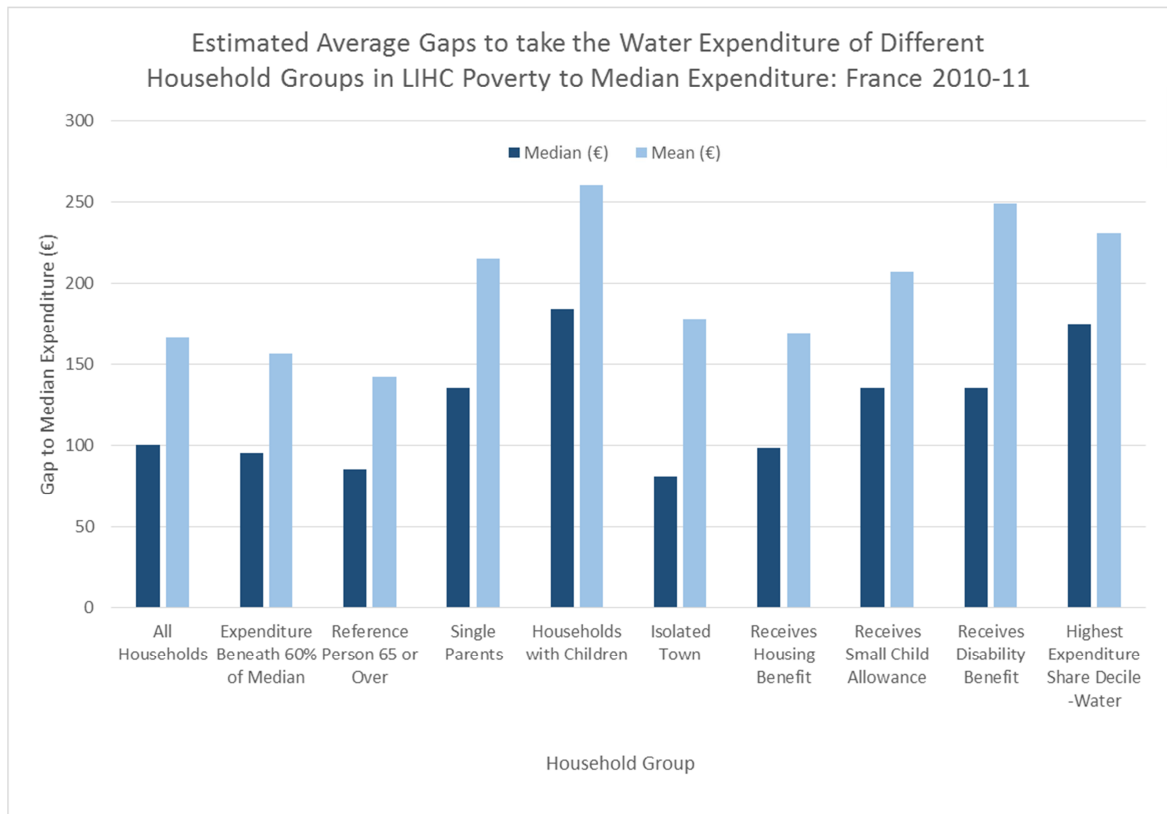
Chart 17 generally confirms that within individual household groups, as well as for the population as a whole, the LIHC criterion and 3% threshold give relatively similar pictures of water affordability difficulties; while the twice median metric, perhaps misleadingly, indicates a much greater prevalence of water affordability difficulties. The two groups where this pattern does not hold are households with total expenditure below 60% of the median and those in isolated towns. In these two groups the rate of water affordability difficulties according to the LIHC metric is almost double the rate of households with an expenditure share devoted to water above 3%.

**Chart 17: Estimated Percentages of Households Exceeding Each Criterion in Water by Group: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

**Chart 18: Estimated Average Gaps to take the Water Expenditure of Different Household Groups in LIHC Poverty to Median Expenditure: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

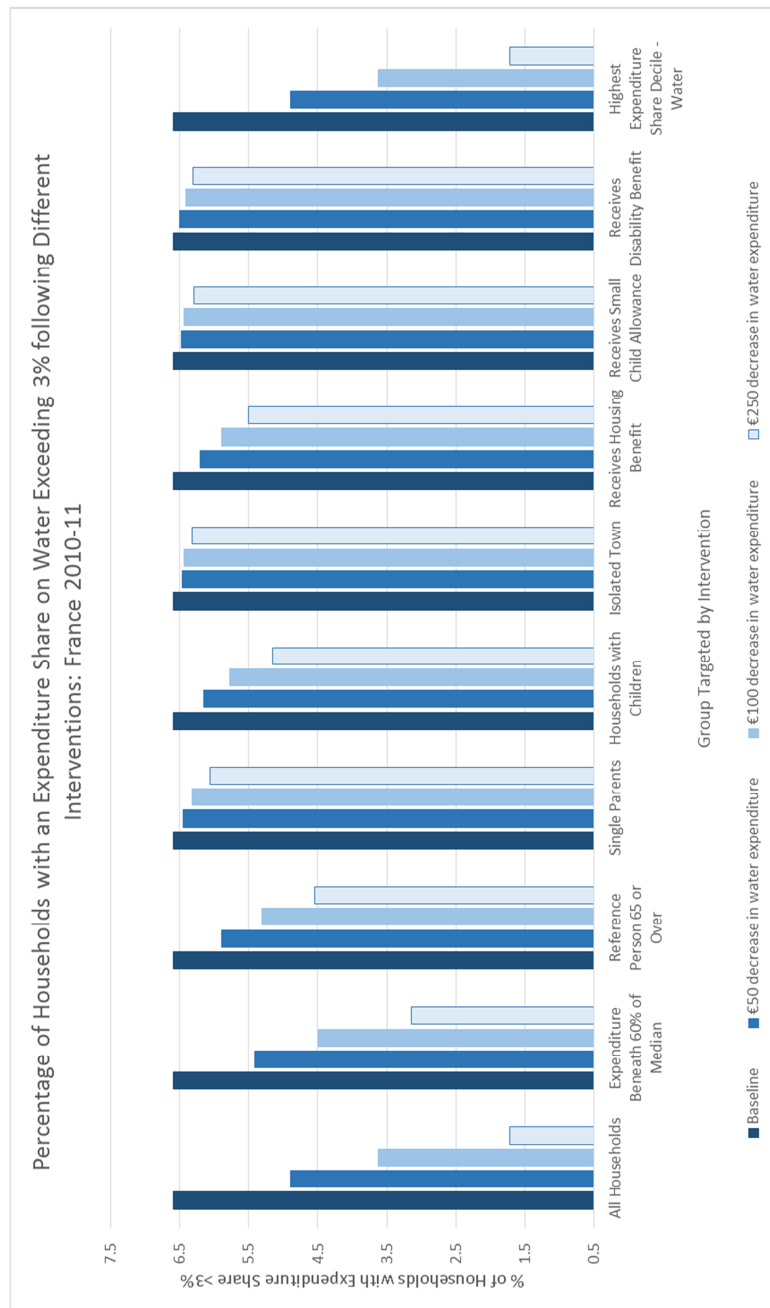
Chart 18 shows that both the median and mean gaps tend to be higher for the different household groups which make reference to children. This is probably due to children simply indicating households of a larger size which generally consume more water. Particularly interesting is the high LIHC gap for households receiving disability benefit and the implication that this group of households, if they have a relatively low income, have particularly high water consumption compared to other groups.



## 6. Water – Simulations

The striking feature of Chart 19 is that targeting expenditure reductions at the 10% of households with the highest water expenditure shares reduces the proportion of all households with a water expenditure share exceeding 3% by the same amount as giving the same intervention to all households in the population. Unsurprisingly this means that in Chart 20 targeting expenditure reductions at those households with the highest expenditure shares is by far the most effective method of reducing the recorded rate of households with water affordability difficulties. This result emphasises how the value of targeting particular household types is driven heavily by how the distribution of expenditure shares within the target group relates to the distribution of expenditure shares across the whole population. For the French dataset less than 10% of households devote more than 3% of the expenditure to water, so targeting the 10% of households with the highest expenditure shares will reach all the households identified as having water affordability difficulties. That a €250 expenditure reduction can reduce the rate of water affordability difficulties according to the 3% threshold from 6.5% of households to only 1.5% of households indicates that most of the households with affordability difficulties have expenditure shares lying only slightly above the 3% threshold.

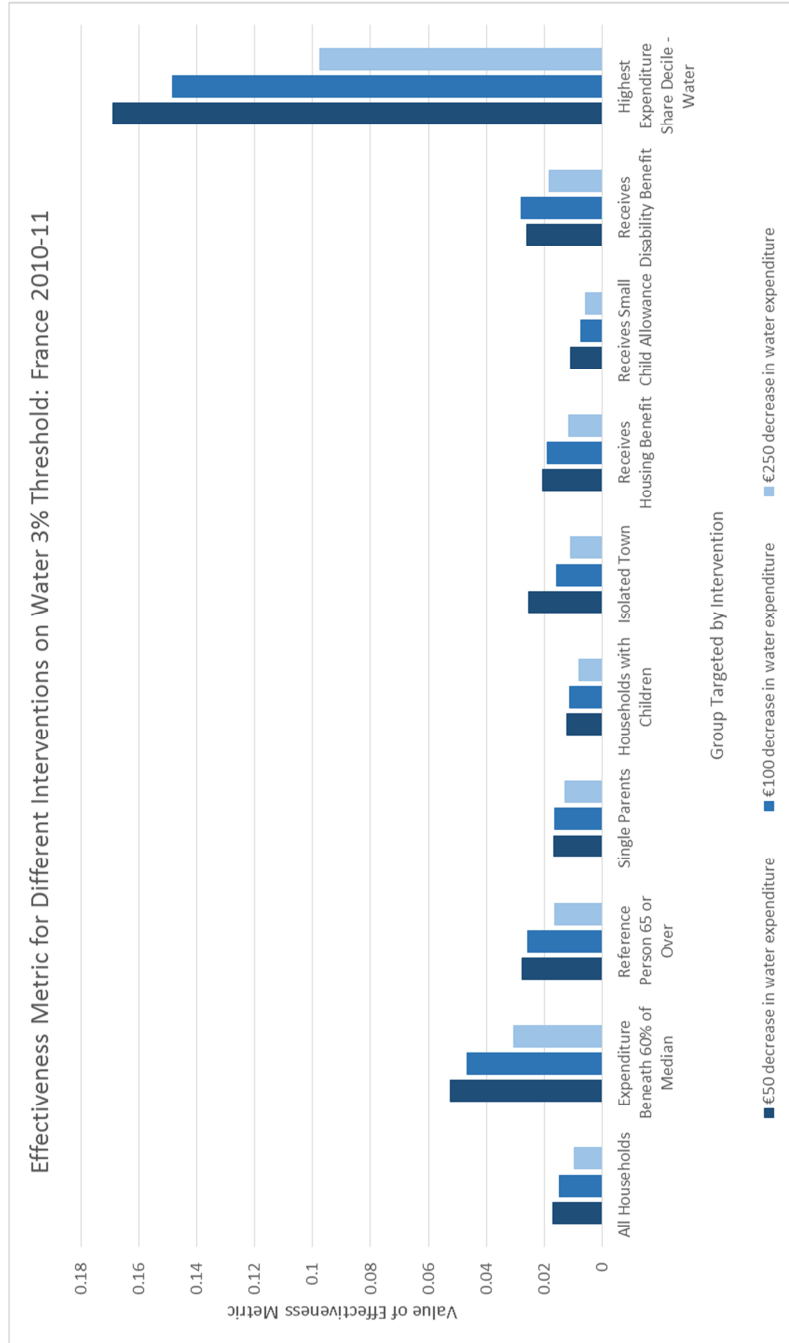
**Chart 19: Percentage of Households with an Expenditure Share on Water Exceeding 3% following Different Interventions: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11



Chart 20: Effectiveness Metric for Different Interventions on Water 3% Threshold: France 2010-11



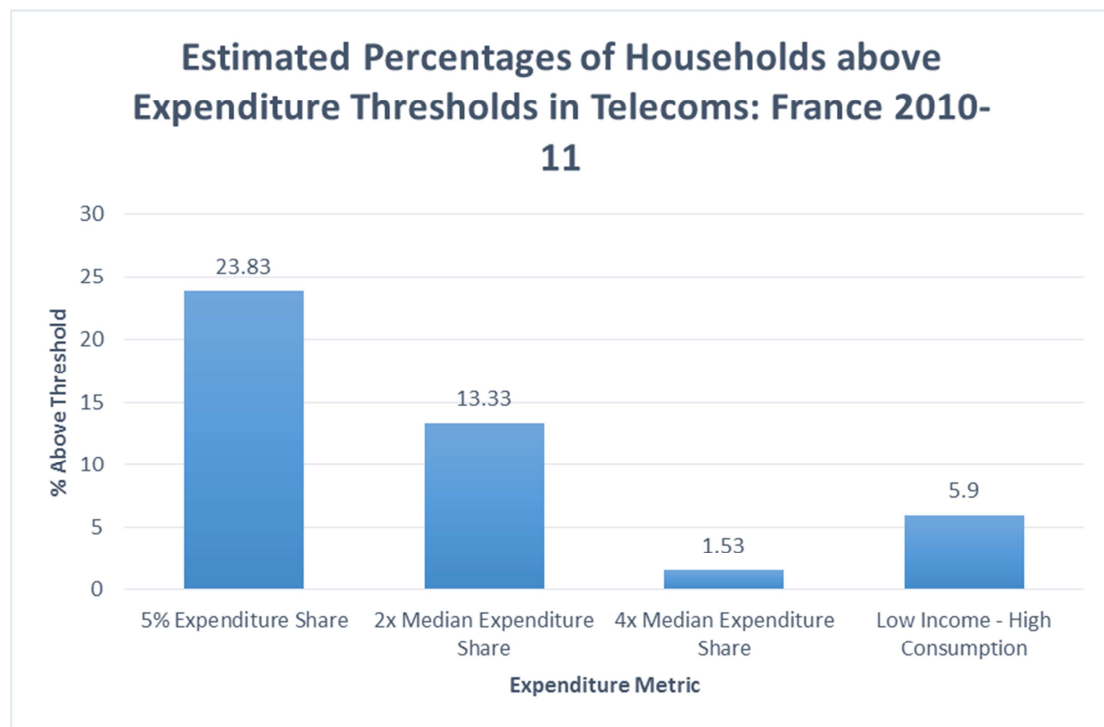
Source: French household expenditure survey 'Budget de Famille', 2010-11



## 7. Telecoms – Baseline

With the exception of the four times median expenditure share metric, Chart 21 shows that across the affordability metrics French households devote a greater proportion of expenditure to telecoms services than households in the UK or the Republic of Ireland. In particular, almost 24% of French households devote more than 5% of their expenditure to telecoms compared to only 16% of households in the UK. While the 5% threshold suggests that a greater proportion of French households may experience telecoms affordability difficulties, the two and four times median expenditure share metrics record very similar values for all three countries. This latter result suggests the dispersion of the expenditure share distributions is relatively similar across the three countries.

**Chart 21: Estimated Percentages of Households above Expenditure Thresholds in Telecoms: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

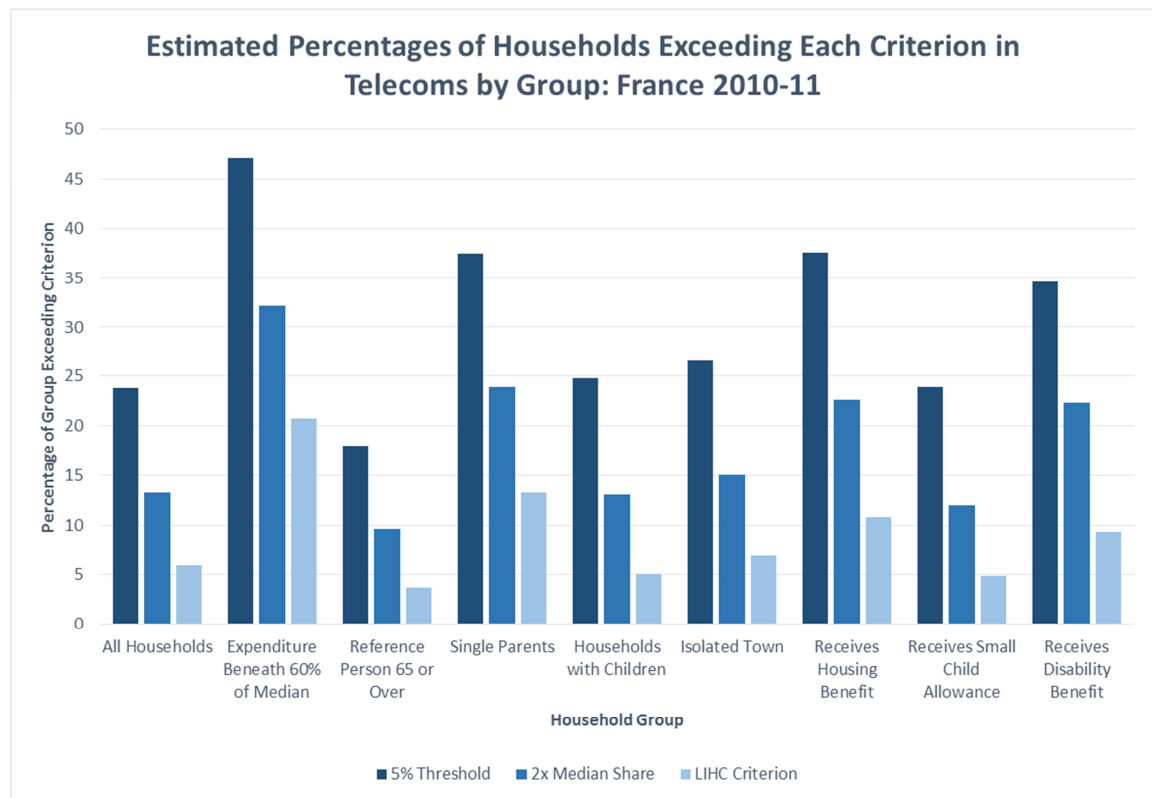
As in the UK and Republic of Ireland, Chart 22 shows that devoting a high proportion of expenditure to telecoms is strongly linked to having a low total expenditure (income). An interesting difference from the other two countries is that, across all of the affordability metrics, a noticeably greater proportion of single parents in France devote a high expenditure share to telecoms. In France over 35% of single parent households devote more than 5% of their expenditure to telecoms whereas in



the UK fewer than 25% of single parent households do so, and in the Republic of Ireland the figure is below 20%.

Turning to the LIHC gaps in Chart 23 one can see that the difference between the mean and median gaps is particularly large for households which are receiving a small child allowance and households receiving disability benefits. This suggests that among members of these two groups classified as having telecoms affordability difficulties there is a proportion of households where the expenditure devoted to telecoms is a particularly long way above the median.

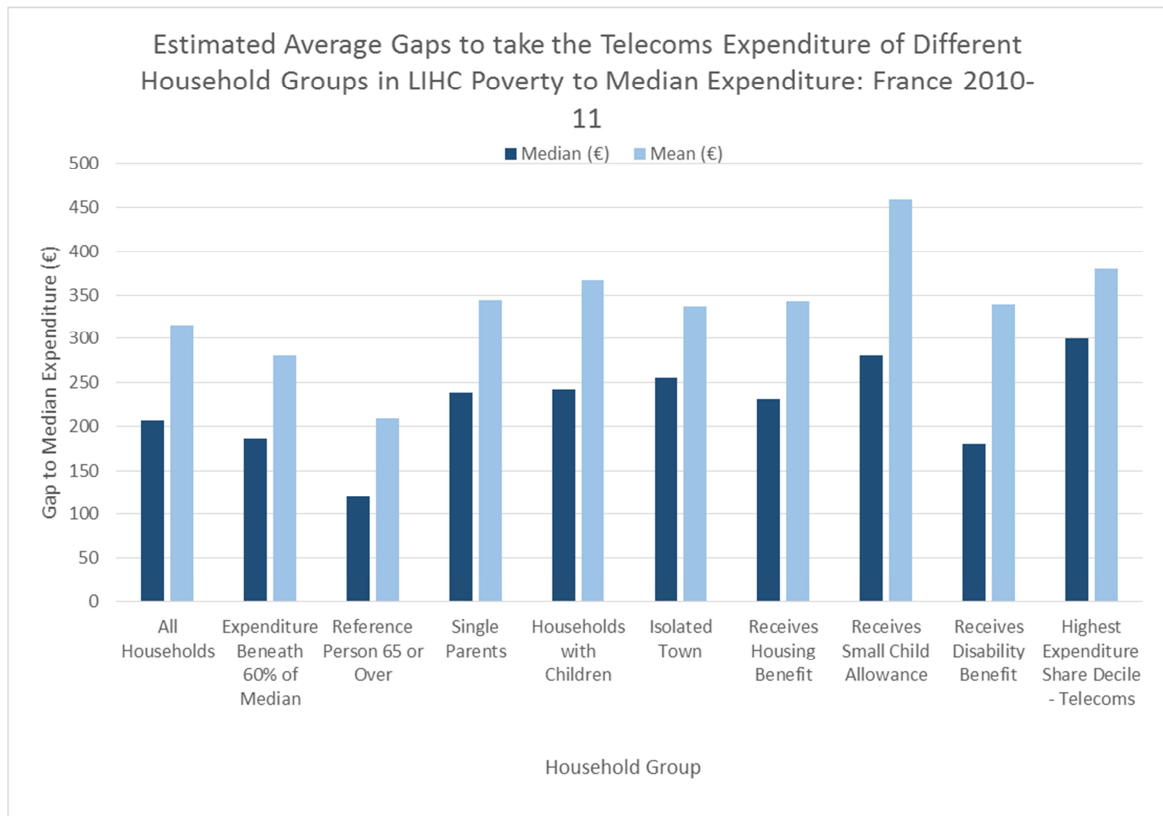
**Chart 22: Estimated Percentages of Households Exceeding Each Criterion in Telecoms by Group: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11



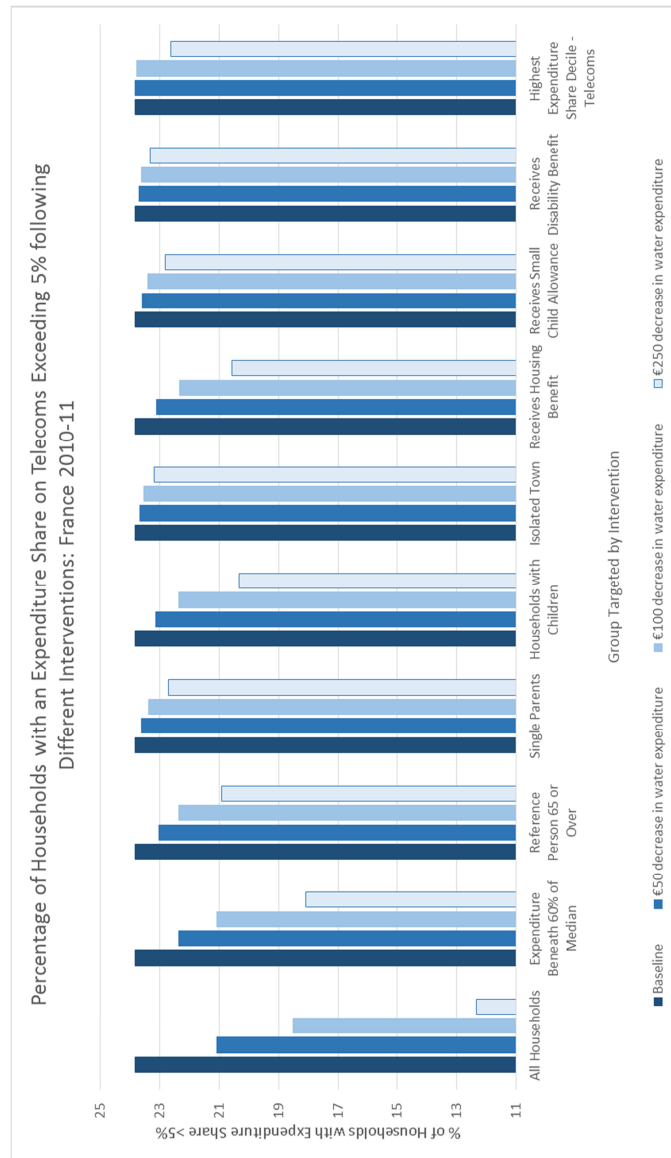
**Chart 23: Estimated Average Gaps to take the Telecoms Expenditure of Different Household Groups in LIHC Poverty to Median Expenditure: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

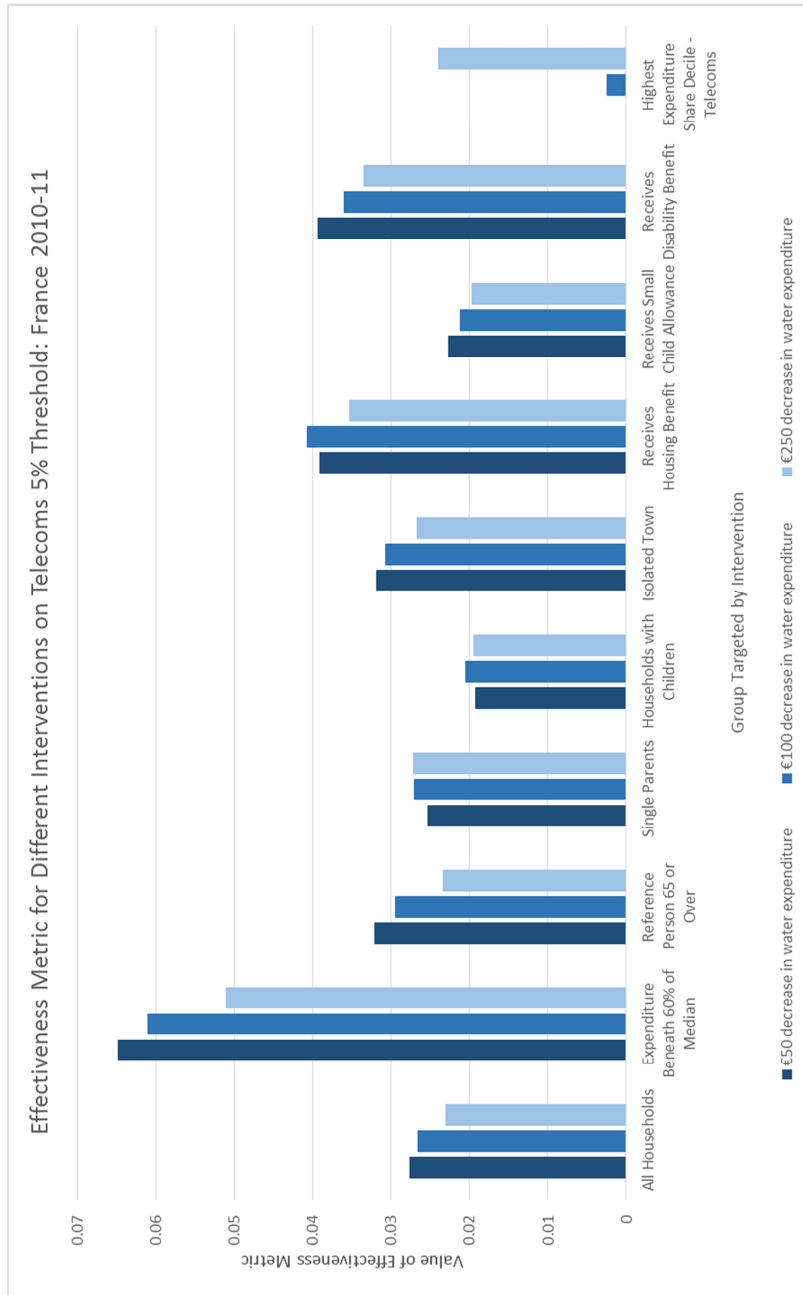
## 8. Telecoms – Simulations

Chart 24: Percentage of Households with an Expenditure Share on Telecoms Exceeding 5% following Different Interventions: France 2010-11



Source: French household expenditure survey 'Budget de Famille', 2010-11

Chart 25: Effectiveness Metric for Different Interventions on Telecoms 5% Threshold: France 2010-11



Source: French household expenditure survey 'Budget de Famille', 2010-11

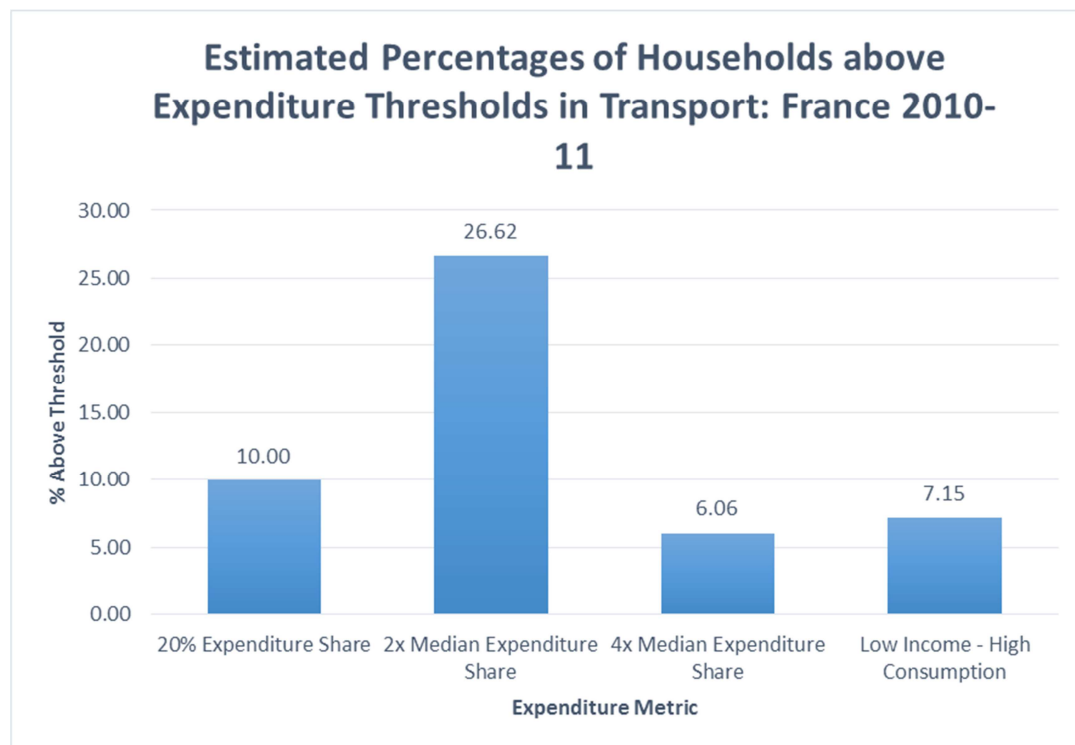


In a stark contrast to the water sector, the telecoms simulations in Chart 24 show that targeting expenditure reductions at the 10% of households with the highest expenditure shares has virtually no impact on the rate of households reporting telecoms expenditure shares exceeding 5% at the population level. This indicates that French households with a high telecoms expenditure share have telecoms expenditure which places them considerably above the 5% threshold. Rather than targeting those with high expenditure, Charts 24 and 25 show that reducing the expenditure of households with low total expenditure (income) is the most effective intervention. Targeting a €250 expenditure reduction at households with total expenditure beneath 60% of the median reduces the proportion of households spending more than 5% of their expenditure on telecoms by over five percentage points. The effectiveness of targeting those with low total expenditure mirrors the results in the UK and Republic of Ireland.

## 9. Transport – Baseline

The relationship between the various affordability metrics for transport in France appears to follow a different pattern from both the UK and the Republic of Ireland. Chart 26 shows that the proportion of households spending more than 20% of their expenditure on transport is in line with the Republic of Ireland, but 6 percentage points below the figure for the UK. However, compared to the distributions of expenditure shares in the UK and Republic of Ireland, France has a much greater proportion of households with relatively and extremely high expenditure shares compared to the median.<sup>1</sup> The percentage of households in France recorded as having a transport expenditure share exceeding four times the median is approximately six times the proportion recorded in either the UK or the Republic of Ireland.

**Chart 26: Estimated Percentages of Households above Expenditure Thresholds in Transport: France 2010-11**



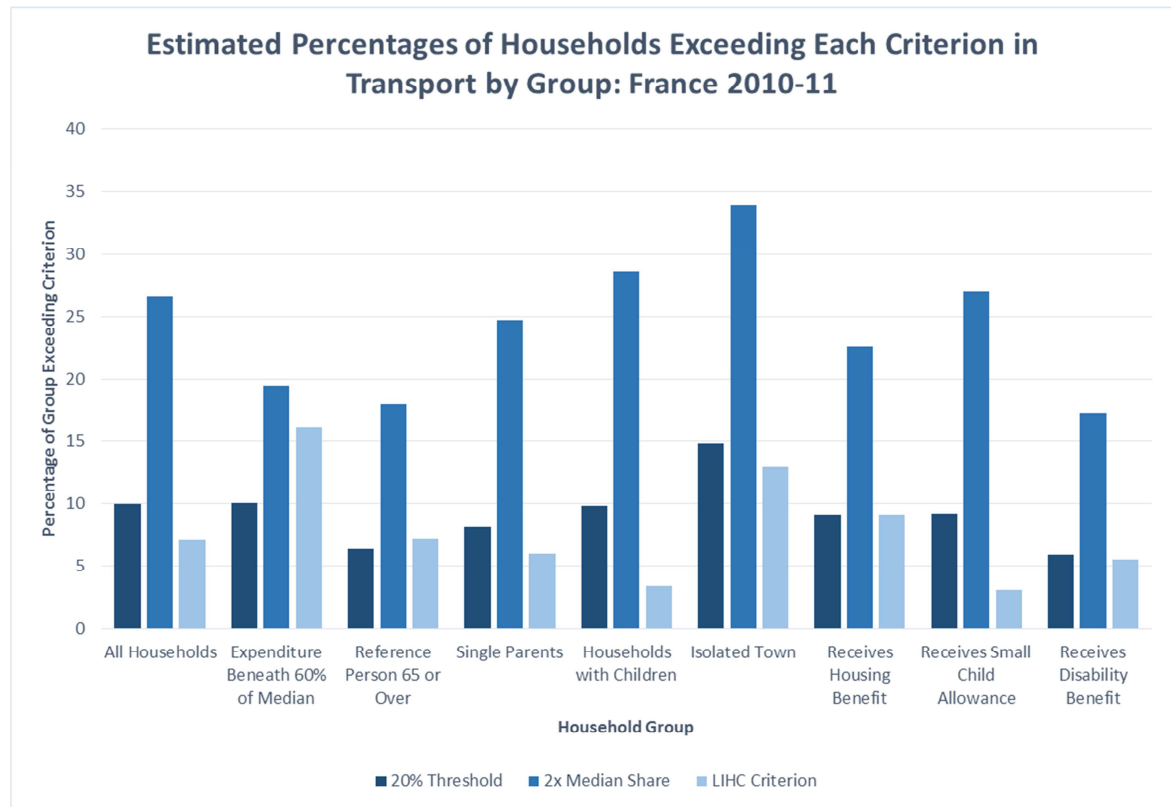
Source: French household expenditure survey 'Budget de Famille', 2010-11

<sup>1</sup> Again one suspect there is a large, possibly unrepresentative, number of zero expenditure figures recorded in the French dataset.



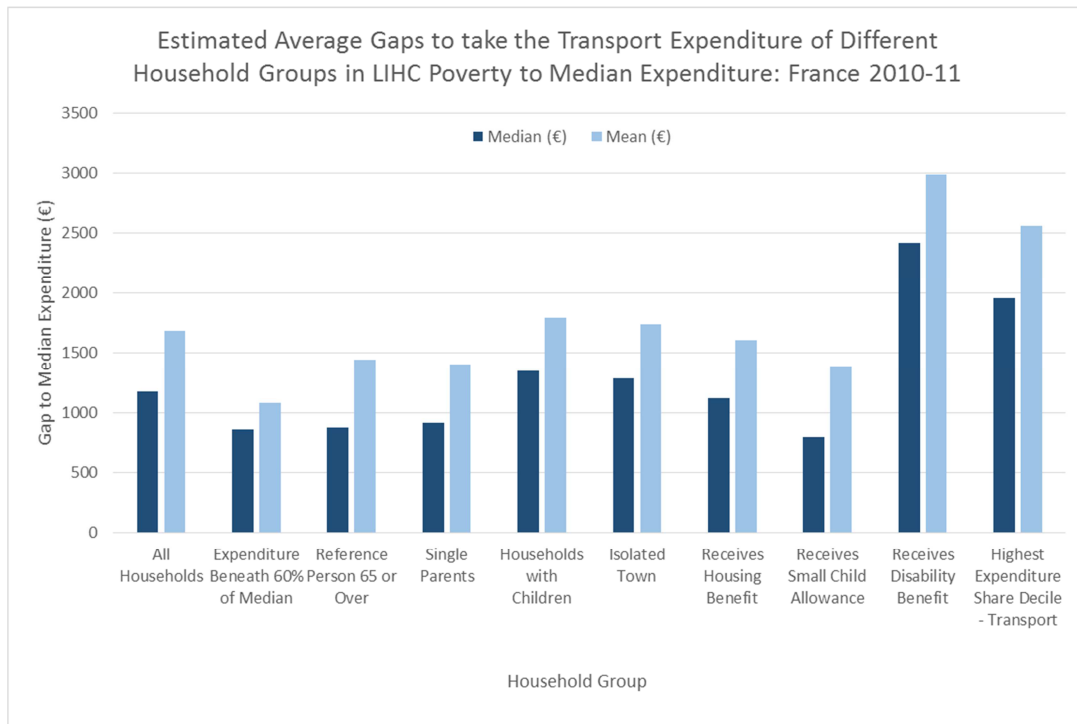


**Chart 27: Estimated Percentages of Households Exceeding Each Criterion in Transport by Group: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

**Chart 28: Estimated Average Gaps to take the Transport Expenditure of Different Household Groups in LIHC Poverty to Median Expenditure: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

Looking at Chart 27 it is unsurprising that households in 'isolated towns' record the highest rates of affordability difficulties according to both the 20% threshold and twice median metrics. This parallels the result for rural households in the Republic of Ireland. One interesting feature of Chart 27 relates to the picture of affordability difficulties given by the different metrics for households with children. According to the twice median metric this group of households has the second highest rate of affordability difficulties, however, according to the LIHC criterion this group has the second lowest rate of affordability difficulties. This difference indicates that while some households with children devote a particularly large share of expenditure to transport, these households also have comparatively high total expenditure (income).

The most noticeable feature of the LIHC gaps reported in Chart 28 is the very high mean and median LIHC gaps reported for households receiving a disability benefit. Ignoring the 10% of households with the highest transport expenditure shares, the mean and median LIHC gaps for households receiving disability benefit are over €1,000 higher than the household group (households with children) with the next highest gaps. One policy question lying behind this result is whether disabled individuals face very high transport costs because they require specialist transport services or whether relatively minor special requirements severely restricts their choice of transport services so that they are forced to use high cost transport services.

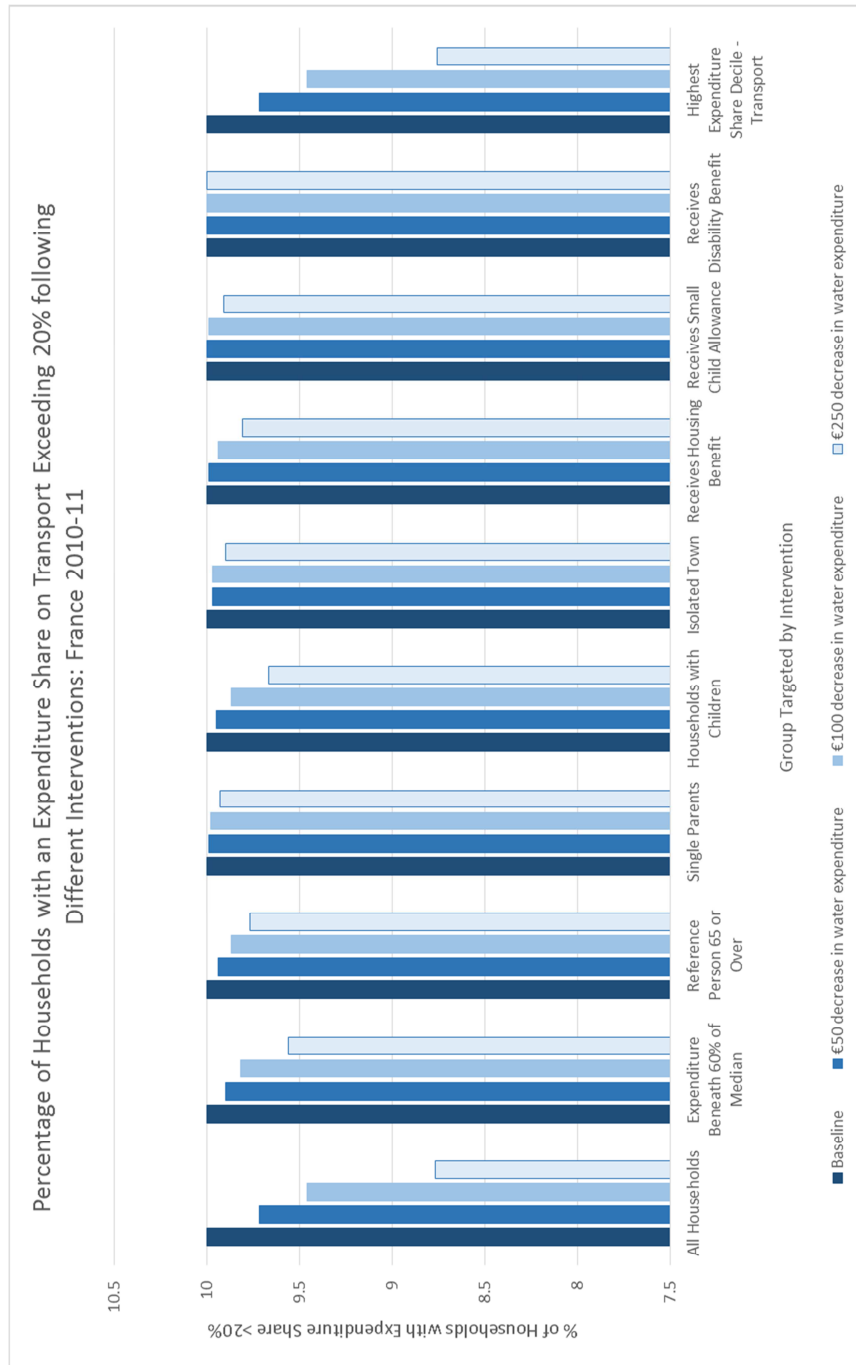


## 10. Transport – Simulations

In Chart 29 it is clear that targeting expenditure reductions at the 10% of households with the highest transport expenditure shares has the greatest impact on the percentage of households reporting a transport expenditure share of over 20%. This is due to the relatively small proportion of households in France with such a high share of expenditure devoted to transport. In this respect France is similar to the Republic of Ireland and very different to the UK. In the UK the large number of households with expenditure shares far above the 20% threshold means that targeting the proposed expenditure reductions at the 10% of households with the highest transport expenditure shares has no impact on the rate of affordability difficulties recorded by the 20% metric. One difference between France and the Republic of Ireland is that in France targeting expenditure reductions at households in 'isolated towns' has almost no impact on the fixed threshold metric, whereas targeting the same expenditure reductions at rural households in the Republic of Ireland has a somewhat larger impact.

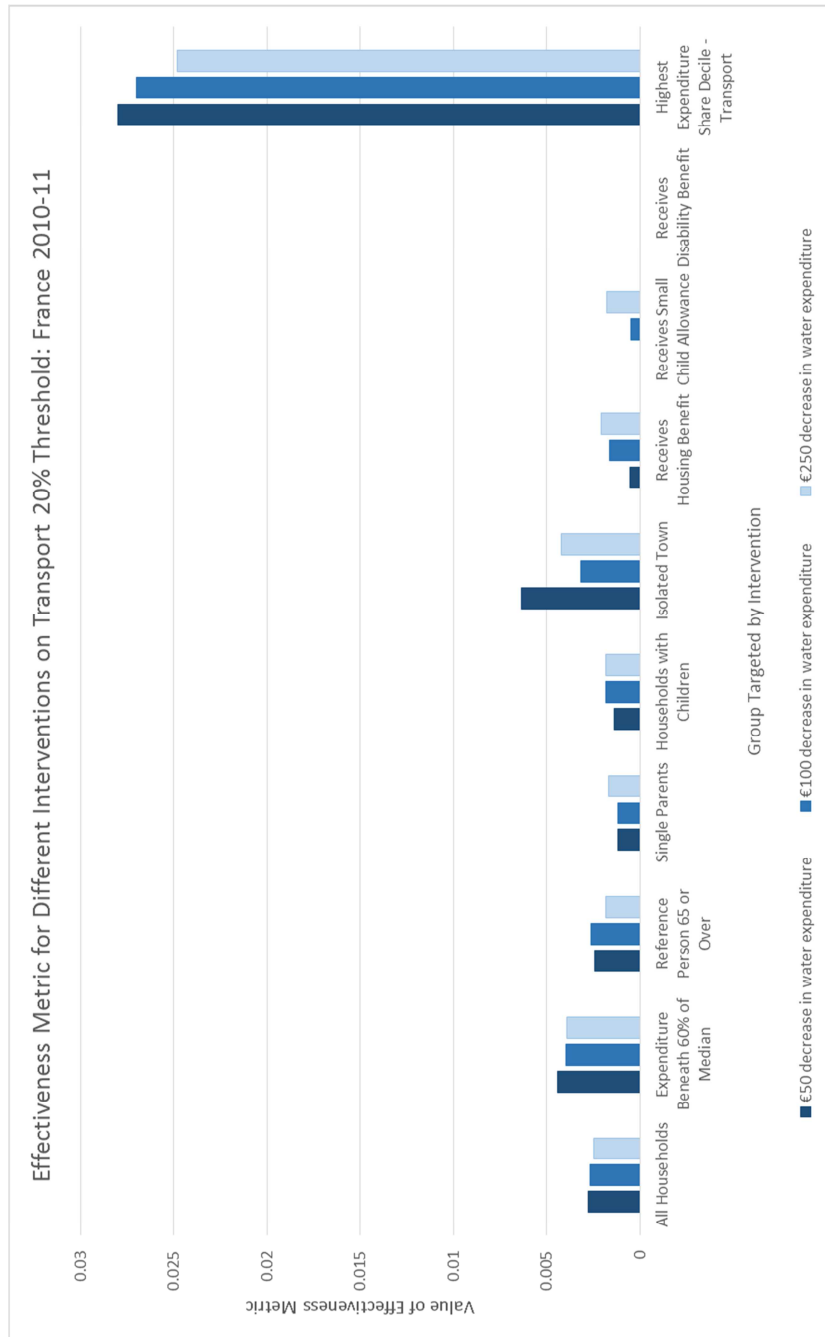
Paralleling the results in Chart 29, Chart 30 confirms that targeting expenditure reductions at the 10% of households with the highest transport expenditure shares is by far the most effective targeting strategy.

**Chart 29: Percentage of Households with an Expenditure Share on Transport Exceeding 20% following Different Interventions: France 2010-11**



Source: French household expenditure survey 'Budget de Famille', 2010-11

Chart 30: Effectiveness Metric for Different Interventions on Transport 20% Threshold: France 2010-11



Source: French household expenditure survey 'Budget de Famille', 2010-11