Irish Water

First Fix Leak Repair Scheme

For Domestic Water Customers

Quarterly Report

Q4 2016

1. Introduction

Leakage of water from the network is a serious problem on a national scale. Lost water is estimated nationally at approximately 45% of the water produced for supply, well above international norms.

In May 2014 the Government announced funding of €51m for a scheme to address water leakage on pipework within customer property under a "First Fix" scheme. Following a public consultation the Commission for Energy Regulation (CER) approved Irish Water's proposed First Fix Leak Repair Scheme on 5th August 2015. Under the First Fix Leak Repair scheme, Irish Water is assisting customers by notifying them where suspected leakage is occurring within the boundary of the property. Leaks which are identified on the external supply pipe serving a property are offered a free leak repair. The First Fix Leak Repair scheme does not apply to leaks within a dwelling.

Utilising meter read data to identify the most significant leaks has proven key to operating the First Fix Leak Repair scheme efficiently. Previously, the key barrier to addressing leakage was the identification of where leakage arose. The vast majority of leaks remain underground and, as such, they are not visible and largely go un-noticed and un-detected. Prior to the introduction of the First Fix Leak Repair scheme, leakage programmes have been primarily based around time-consuming and labour intensive sampling of areas in order to seek to detect anomalies on pipework. The Irish Water domestic metering programme provides a technology based solution to address this challenge. Data obtained from meters highlights unusual water usage patterns and allows Irish Water to isolate the source of leaks to a particular property, thereby reducing the time required for leak investigation. Operating the First Fix Leak Repair scheme on the basis of meter read data allows Irish Water to systematically identify significant water wastage at individual properties and focus resources on locating the source of wastage within individual properties.

Given the need to prioritise water conservation, under the First Fix Leak Repair scheme Irish Water prioritises repairs by size, based on the volume of water lost. A constant flow of water, that is 6 litres per hour over a 48 hour period, will trigger a constant flow alarm on the meter, indicating a potential leak. The largest leaks wasting the most water were fixed first. At the end of Q4 2016, all of the properties with a continuous flow alarm at meter install stage have been notified of a potential leak.

Irish Water estimates that over 89 million litres of water per day have been saved as a result of this scheme to the end of Q4 2016.

2. How to avail of the scheme

Relevant customers for whom a current constant flow alarm is recorded are issued with a letter from Irish Water, indicating a potential leak on their property. This letter is triggered where a constant flow of water to the property is identified. A customer will need to have received this letter from Irish Water, and meet the eligibility requirements[1] in order to avail of the scheme. Customers with a visible leak on their property can also contact Irish Water to confirm if they are eligible to participate in the scheme.

Customers who receive a constant flow advice letter are asked to contact Irish Water to request a free leak investigation. If the leak investigation indicates a leak on the external supply pipe serving the property, the customer will be offered a free leak repair. Irish Water will issue the customer with a First Fix Leak Repair Scheme offer, detailing the terms and conditions of providing the repair. To avail of the repair the customer will need to sign and return the offer document to Irish Water.

If you would like further information on the scheme, please see the ***First Fix Leak Repair Scheme for Domestic Water Customers*** policy document which is available on www.water.ie

3. Reporting on the scheme

In April 2015, the Commission for Energy Regulation (CER) consulted on Irish Water's proposed First Fix Leak Repair Scheme for Domestic Water Customers and received eight responses. The CER's decision on the policy, issued on 5 August 2015, was based on a review of the eight submissions received during the consultation period. Amongst its recommendations, the CER expects Irish Water to strongly promote the scheme in order to increase customer awareness of the scheme and to encourage customers to engage with Irish Water on the scheme.

The CER is monitoring the ongoing implementation of the scheme to ensure that the costs allowed are efficiently incurred and that benefits are achieved for customers. In line with the CER Decision CER/15/178 Irish Water is to report on a quarterly basis on the progress of the First Fix Leak Repair scheme, the following section outlines the progress of the scheme to the end of Q4 2016.

[1] For eligibility requirements and detailed information about the administration of the scheme, please see the ***First Fix Leak Repair Scheme for Domestic Water Customers*** policy document which is available on www.water.ie

4. Quarterly Summary

Table 1 provides a detailed breakdown of the scheme deliverables up to the end of Q4 2016.

4.1. Constant Flow Advice Letters and Customer Response Rates and Engagement Levels

To the end of Q4 2016, constant flow advice letters have been issued to 100,559 properties resulting in 40,865 customers requesting a free leak investigation survey. In addition, 71,974 first reminder, 52,542 subsequent second reminder and 31,084 final reminders have also been issued to households where a response has not been received. All properties with a continuous flow alarm at meter installation stage have now been notified of a potential leak and all subsequent reminder letters are now issued. Irish Water will continue to notify properties in 2017 where a continuous flow alarm becomes active subsequent to the meter installation.

Irish Water has continued with a number of local media pieces promoting the scheme and requesting customers to engage.

Irish Water has also continued localised contractor engagement on site with the customer, initially by phone and subsequently followed by a visit to their property. This contractor engagement focused on properties where a customer response was not received following the issuing of an initial and three reminder notifications. In Q4 the contractor attempted to contact 300 properties in Dublin county. For these properties, the contractor engaged directly on site with the customer to offer a free leak investigation survey. The contractor successfully contacted the customer in 71% of properties.

A summary of the customer response is provided in Table 1 below.

Summary Description	% Properties
Customer Request for a free First Fix leak investigation	29%
Customer unwilling to engage	18%
Customer to undertake Internal Checks/ Repair Leak	11%
Leak repaired by customer	6%
Other e.g out of scope	7%

Table 1. Summary of Customer Response Q4 2016 (300 nr)

Overall for Q4 2016 the percentage of customers that requested a leak investigation was 41% of those issued with a constant flow advice letter. However, the customer engagement level with the scheme has increased to 64% from 59% in Q3 2016. A total of 63,903 customers have engaged with the scheme to date, representing 64% of the 100,559 constant flow advice letters issued. Customer engagement is measured under the following three categories (see Chart 1 below):-

1. Customers requesting a free leak investigation survey (as reported in section 4.2).
2. Customer repairs completed from data collected from the meter (as reported in section 4.4).
3. Customers contacting Irish Water to advise of an un-qualifying leak.

Each number underlined in the chart represents the total number of customers who engaged by that category. In cases where the customer engagement is common to two of these categories, it is noted in the overlapping area in white text. The total number of customers who engaged is outlined below.

$$\text{Total Customer Engagement (\%)} = \frac{40{,}865+26{,}748+10{,}438-(10{,}854+3{,}294)}{100{,}559}$$

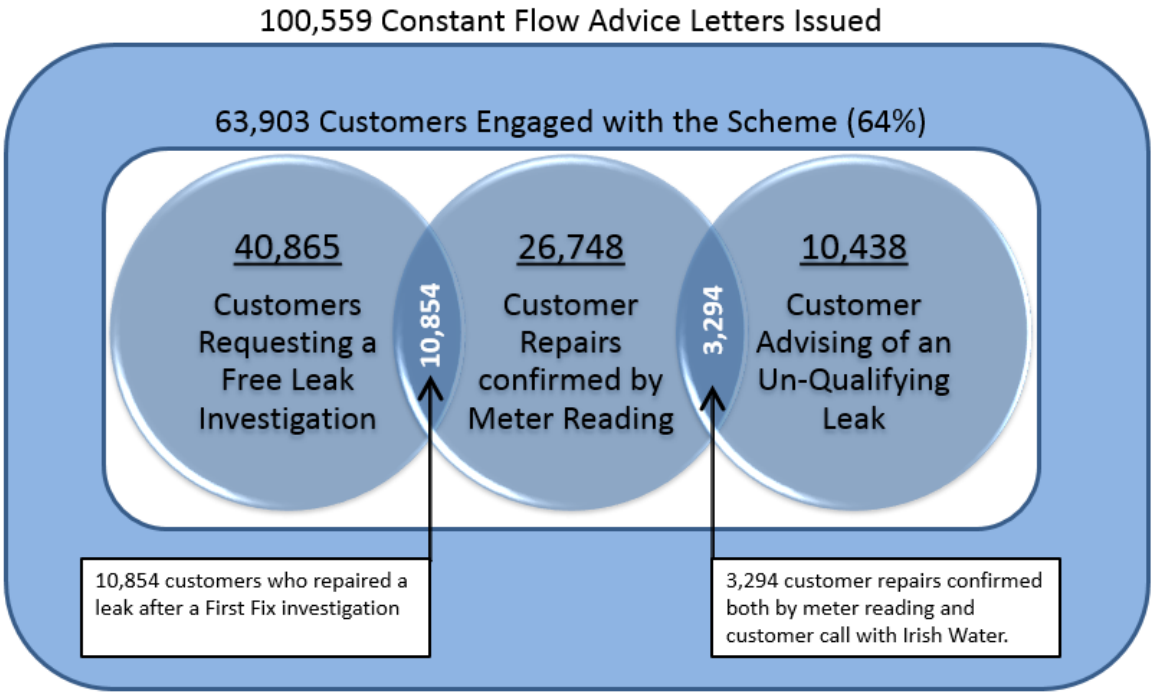

Chart 1. Summary of Customer Engagement with the Scheme

4.2. Leak Investigations

A total of 40,865 customers contacted Irish Water to avail of the free leak investigation under the scheme. A total of 42,604 investigations were requested, which include repeat visits where customers installed an Internal Stop Valve (ISV) after an initial leak investigation visit.

Irish Water contacts customers within 10 business days to arrange a convenient time for an appointment to carry out the free leak investigation at a property. A total of 41,878 leak investigations had been undertaken by the end of Q4 2016. For the remaining 726 customers that

had requested a leak investigation to the end of Q4 2016, they either had appointments scheduled with the contractor or were in the process of having appointments scheduled.

From the 41,878 completed leak investigations 8,965 leaks on external supply pipes were identified. Irish Water has offered these customers with leaks on their external supply pipe a free leak repair under the scheme. The remaining 32,913 leak investigations identified non-qualifying leaks.

There were three main reasons why these leaks were non-qualifying:

1) A total of 9,327 properties surveyed did not have an operational Internal Stop Valve (ISV) and the survey could not be progressed. In many cases, the ISV was present but not operational. Customers are advised of the need to have a working ISV installed in order for the leak investigation to be completed.
2) In addition, a total of 666 properties have been identified through the First Fix process where the property does not qualify or the survey could not progress as it is served through a shared or backyard service.
3) The remaining leak investigations identified internal plumbing and other issues[2], which come under the remit of the home owner. As with all internal repair and maintenance in a customer's home, if a leak is confirmed internal to the house then it should be repaired. A lot of household leaks e.g. dripping taps, running cisterns can be repaired easily for a modest price.

4.3. Leak Repairs

Customers are asked to review the terms and conditions of the leak repair offer and sign the offer documentation after which Irish Water will contact the customer to schedule the leak repair at a suitable time. On receipt of the documentation Irish Water contacts customers within 10 working days to arrange a convenient time for an appointment to carry out the free leak repair at a property. At the end of Q4 2016 Irish Water had completed 7,444 free leak repairs under the First Fix Leak Repair scheme. Of the remaining 1,521 customers to whom Irish Water offered a free leak repair, 510 no longer qualified for repair (e.g repaired by the customer or found to be non-qualifying after further detailed investigation), 390 repairs were scheduled or were in the process of being scheduled, while 621customers had yet to accept the leak repair offer.

4.4. Customer Repairs

From the data collected through meter reading we know that 26,748 customers have repaired leaks on their property after receiving a constant flow advice letter. Irish Water would like to thank all

[2] Other issues internal concealed leaks (under floors etc.), external leaks on branch pipework to external fittings (e.g. water features).

customers who repaired leaks on their property which have made a significant contribution to water conservation.

4.5. Water Savings

The issuance of constant flow advice letters has targeted at the largest leaks first and the result of this can be seen from the estimated savings of 89.17 million litres of water per day achieved to the end of Q4 2016. A cumulative estimated total of 45.70 million litres per day has been saved through First Fix repairs and a further estimated 43.47 million litres from customer repairs. Savings are calculated from a comparison of meter data collected prior to and after the repair work being undertaken. For customer repairs, the constant flow alert is no longer active and the meter data shows a supporting drop in water usage over two read periods.

4.6. Project Expenditure

The project expenditure is reported quarterly in arrears. The cumulative total expenditure up to the end of Q4 2016 (end of December 2016) is €20,287,278 consisting of €9,634,705 for leak investigations, €7,243,592 for repairs and €3,408,981 for additional costs.

5. Next Steps

Irish Water will continue to implement the First Fix Leak Repair scheme and will issue the next quarterly report, for Q1 2017, to the CER at the end of Q2 2017.

Table 2: Overall Project Summary (*last four quarters shown*)

1	Number of Continuous Flow Alarms Detected	**Total**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
					54,498			52,723			51,950		53,837
2	Number of Customer Notifications Issued (Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	27,296	31,436	34,497	35,728	38,735	39,479	40,908	42,816	43,138	43,143	43,172	43,174
		North and West	8,955	10,997	12,839	13,100	14,847	15,390	16,098	16,927	17,104	17,107	17,117	17,117
		Southern	22,232	23,936	28,638	29,925	34,272	36,073	37,911	39,991	40,237	40,252	40,267	40,268
		Grand Total	58,483	66,369	75,974	78,753	87,854	90,942	94,917	99,734	100,479	100,502	100,556	100,559
		A total of 100,559 constant flow advice letters issued to the end of Q4 2016. 71,974 first reminder, 52,542 second reminder and 31,084 final reminder letters have also been issued to households where a response has not been received.												
3	Customer Responses requesting a Free Leak Investigation (Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	11,584	12,884	13,765	15,076	15,840	16,559	17,004	17,590	18,076	18,292	18,495	18,594
		North and West	3,285	3,772	4,315	4,856	5,241	5,705	5,987	6,244	6,433	6,493	6,560	6,598
		Southern	8,608	9,653	10,505	11,781	12,553	13,500	14,157	14,822	15,271	15,432	15,587	15,673
		Grand Total	23,477	26,309	28,585	31,713	33,634	35,764	37,148	38,656	39,780	40,217	40,642	40,865
		40,865 customers contacted Irish Water to request a free leak investigation. A total of 42,604 leak investigations have been raised to the end of Q4 2016 (second leak investigation where a customer installs an ISV after advice from first leak investigation survey).												
4	Leak Investigations Completed (Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	10,403	11,827	12,792	13,778	14,989	15,957	16,450	17,030	17,360	17,799	18,335	18,580
		North and West	2,963	3,502	4,098	4,638	5,092	5,565	5,962	6,352	6,551	6,669	6,781	6,854
		Southern	7,948	9,107	10,051	11,063	12,060	13,091	14,116	14,985	15,600	16,000	16,286	16,444
		Grand Total	21,314	24,436	26,941	29,479	32,141	34,613	36,528	38,367	39,511	40,468	41,402	41,878
		41,878 leak investigations were carried out to the end of Q4 2016. The remaining 726 customers that requested a leak investigation had appointments scheduled or were in the process of having appointments scheduled.												
4a	Leak Repairs Created (Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	2,796	3,103	3,324	3,523	3,733	3,913	3,985	4,098	4,157	4,237	4,345	4,408
		North and West	604	679	790	871	937	1,016	1,086	1,149	1,188	1,201	1,230	1,251
		Southern	1,718	1,902	2,091	2,286	2,465	2,657	2,867	3,050	3,157	3,218	3,275	3,306
		Grand Total	5,118	5,684	6,205	6,680	7,135	7,586	7,938	8,297	8,502	8,656	8,850	8,965
		Of the 41,878 completed leak investigations carried out at the end of Q4 2016, 8,965 were found to be on the external supply pipe.												
5	Leak Repairs Completed (Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	1,807	2,107	2,357	2,633	2,906	3,120	3,278	3,394	3,518	3,616	3,709	3,770
		North and West	357	407	456	505	588	695	734	765	810	864	911	940
		Southern	1,021	1,243	1,424	1,619	1,752	1,921	2,081	2,165	2,338	2,539	2,640	2,734
		Grand Total	3,185	3,757	4,237	4,757	5,246	5,736	6,093	6,324	6,666	7,019	7,260	7,444
		In respect of the 8,965 qualifying leaks, 7,444 free leak repairs were carried out. For the remaining 1,521 leaks, 510 no longer qualify for repair (e.g repaired or found to be non-qualifying after further detailed investigation), 621 were awaiting acceptance of the leak repair offer by the customer and the remaining 390 were scheduled or in the process of being scheduled.												

Table 2: Overall Project Summary (continued)

6	Estimated Water Savings from First Fix Repairs (ML/day - Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	12.68	13.95	15.17	16.65	18.03	18.84	19.68	20.19	20.55	21.38	21.93	22.45
		North and West	2.81	3.06	3.27	3.76	4.15	4.57	4.83	5.11	5.31	5.64	5.89	6.12
		Southern	7.73	8.95	9.94	11.16	11.98	12.64	13.50	13.98	14.96	15.86	16.50	17.13
		Grand Total	23.22	25.96	28.37	31.57	34.16	36.06	38.01	39.27	40.81	42.89	44.31	45.70
		A cumulative estimated total of 45.70 million litres per day has been saved through First Fix Scheme repairs. Savings are calculated from a comparison of meter data collected prior to and after the repair work being undertaken.												
7	Customer Repairs Completed (Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	6,865	7,541	8,186	8,846	9,784	10,681	11,181	11,723	12,322	12,554	12,614	12,650
		North and West	1,730	1,989	2,217	2,496	2,882	3,175	3,362	3,588	3,807	3,881	3,891	3,896
		Southern	4,678	5,390	5,914	6,648	7,618	8,371	8,843	9,441	9,997	10,170	10,182	10,202
		Grand Total	13,273	14,920	16,317	17,990	20,284	22,227	23,386	24,752	26,126	26,605	26,687	26,748
		Customer repairs are those repairs arranged by the customer for leaks occuring within their property. The customer repair is counted only when two confirmed meter readings are collected after the repair. 26,748 of these repairs were undertaken by customers following a First Fix notification.												
8	Estimated Savings from Customer Repairs (Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	13.55	14.52	15.41	16.29	17.29	18.26	19.03	19.71	20.60	20.87	20.96	20.98
		North and West	3.30	3.72	3.97	4.35	4.74	5.12	5.43	5.85	6.19	6.27	6.28	6.28
		Southern	9.15	9.91	10.80	11.83	12.82	13.70	14.40	15.18	15.90	16.18	16.19	16.20
		Grand Total	26.00	28.14	30.19	32.47	34.85	37.08	38.86	40.75	42.69	43.32	43.43	43.47
		An estimated 43.47 million litres of water per day has been saved from customer repairs. Savings are calculated from a comparison of meter data collected prior to and after the repair work being undertaken. The completion of a repair is indicated when the leak alarm is no longer active, with a supporting drop in water usage. The estimated savings from customer repairs are confirmed once two meter readings												
9	Known Properties Without an Operational ISV (Cumulative)	**Period**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
		Region	**2016-01**	**2016-02**	**2016-03**	**2016-01**	**2016-02**	**2016-03**	**2016-07**	**2016-08**	**2016-09**	**2016-10**	**2016-11**	**2016-12**
		East and Midlands	2,012	2,284	2,476	2,732	2,857	3,008	3,129	3,217	3,270	3,334	3,426	3,468
		North and West	718	818	929	1,066	1,143	1,270	1,368	1,455	1,487	1,513	1,526	1,544
		Southern	2,155	2,538	2,894	3,232	3,403	3,628	3,849	4,024	4,148	4,219	4,280	4,315
		Grand Total	4,885	5,640	6,299	7,030	7,403	7,906	8,346	8,696	8,905	9,066	9,232	9,327
		A total of 9,327 properties did not have an operational Internal Stop Valve (ISV) and the leak investigation could not be progressed. In many cases the ISV was present but not operational.												
10	Number of Non-Qualifying Properties Served Through a Shared or Backyard Pipe (Cumulative)	**Total**	**Q1 2016**			**Q2 2016**			**Q3 2016**			**Q4 2016**	
			415			560			634			666		
		666 properties were identified as not qualifying for the scheme as they are served through a shared or backyard pipe and cannot have their supply isolated.												
11	Counties in Each Region	**East and Midlands**	Dublin City, County Dublin, Kildare, Laois, Longford, Louth, Meath, Offaly, Westmeath, Wicklow											
		North and West	Cavan, Donegal, Galway, Leitrim, Mayo, Monaghan, Roscommon, Sligo											
		Southern	Carlow, Clare, Cork, Kerry, Kilkenny, Limerick, Tipperary, Waterford, Wexford											

Note: Meter read data is used to confirm that a customer repair has been carried out. Number of customer repairs and estimated savings will be included in the report once two confirmed meter readings are collected after the repair date. As such, the number of customer repairs noted above for each month is expected to increase in the next report as more confirmed readings are collected.