

ASSESSING FINAL COMPENSATION TO RTÉ AS A RESULT OF COSTS INCURRED IN 700 MHZ MIGRATION

A report for ComReg – non-confidential version

July 2020



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EXECUTIVE SUMMARY

This non-confidential report (confidential material is replaced with “X”) relates to the assessment of the efficiently incurred capital and operational costs incurred by 2rn, the wholly owned subsidiary of Raidió Teilifís Éireann (RTÉ), as a direct result of migrating its national Digital Terrestrial Television (DTT) network from the 700 MHz band¹. In assisting the Department of Communications, Climate Action and Environment (DCCAE)², the Commission for Communications Regulation (ComReg) engaged Frontier Economics (Frontier) to conduct that assessment and to assess how much 2rn should be compensated in completing the migration of DTT out of the 700 MHz band³.

A Frontier report for ComReg published in 2016⁴ (“the 2016 Frontier Report”) estimated that the incremental costs incurred by 2rn as a result of 700 MHz migration, could amount to €8.6 million. The 2016 Frontier Report sets out the compensation that should be provided to RTÉ in three phases.

A Frontier report for ComReg published in 2017, (“the 2017 Frontier Report”) (Document 17/111a) provided more detailed cost forecasts (based on results of actual tenders for the necessary investments). The 2017 Frontier Report examined whether the costs which had been tendered for were reasonable and set out the recommended compensation payable to RTÉ as part of phase 1 and phase 2 compensation instalments.

On the 4th March 2020, following the end of the simulcast period, the migration of DTT out of the 700 MHz band was completed⁵. 2rn has provided Frontier with the data on the outturn costs that it has incurred as a result of the migration.

This report assesses the final compensation (phase 3) that should be provided to RTÉ as a result of the costs it has incurred. The outturn “allowable costs” (i.e. the subset of costs that RTÉ should be compensated for) are summarised in Figure 1 and these are compared with the forecast costs in the 2016 Frontier Report.

¹ ComReg Doc 16/114c

² See: Letter from the Minister of DCENR to the Chairman of RTÉ 15 December 2016 https://www.dccae.gov.ie/en-ie/communications/publications/Documents/68/Minister's%20Letter%20to%20RT%C3%89%20Chair%20setting%20out%20Act%20of%20Entrustment_Redacted.pdf.

³ See ComReg 15/62 The 700 MHz radio frequency band Results of the Cost Benefit Analysis (CBA) of a change in use of the 700 MHz radio frequency band in Ireland. This followed discussions with the Department of Communications, Energy and Natural Resources (DCENR) who in turn begun considering the future of the 700 MHz band in its 2014 consultation on Spectrum Policy Priorities (See: <https://www.dccae.gov.ie/en-ie/communications/consultations/Documents/71/consultations/SpectrumConsultationDocument.pdf>) and the Report of the UHF Spectrum Policy Review Group (see: <https://www.dccae.gov.ie/en-ie/communications/publications/Pages/Report-on-Future-Use-of-UHF-Spectrum-for-Broadcasting-in-Ireland.aspx>)

⁴ See: Document 16/114a

⁵ The project has been completed with the exception of very minor works to monitor and complete any minor corrections.

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Figure 1 Outturn “allowable” costs compared to forecasts (€), Summary

| Cost Category | 2016 Frontier Report | 2020 2rn allowable costs | Difference |
|------------------------------------|----------------------|--------------------------|------------|
| Compensation Percentage | 72% | 75.09% | |
| Transmission Equipment | [X] | [X] | [X] |
| Antennas and Structures | [X] | [X] | [X] |
| Network And distribution | [X] | [X] | [X] |
| Project and resourcing | [X] | [X] | [X] |
| Simulcast | [X] | [X] | [X] |
| NRV Cost | [X] | [X] | [X] |
| Contingency | [X] | [X] | [X] |
| Total Cost Inc NRV and contingency | 8,643,477 | 8,145,798 | -497,679 |

Source: Frontier

The outturn costs of each category of spend are broadly in line with the forecast budget for the project (with some a little higher and some lower), and the overall outturn spend for the project was €498k lower than forecast.

Given that the total allowable costs are €8,145,798, and they are below the maximum allowable compensation of €8.6m, we note that the compensation payable in phase 3 should be €169,918. This is summarised in Figure 2.

Figure 2 Actual Compensation Allowable For Phase 3

| | (EURO) |
|-------------------------------|------------|
| Phase 1 compensation | €5,160,000 |
| Phase 2 compensation | €2,815,880 |
| Allowable Costs Incurred | €8,145,798 |
| Proposed phase 3 compensation | €169,918 |

Source: Frontier Economics

1 INTRODUCTION

This report relates to the recommended compensation payment to be made in the third and final phase (“phase 3”) of the 700 MHz migration process. The purpose of this final phase of compensation is to ensure that Raidió Teilifís Éireann (RTÉ) receives the appropriate compensation for costs incurred as a direct result of the migration of its Digital Terrestrial Television (DTT) network out of the 700 MHz band, up to the maximum envisaged at the time of the phase 1 assessment (€8.6m), but is not over compensated⁶.

In 2016, the Commission for Communications Regulation (“ComReg”) engaged Frontier to conduct a fully reasoned analysis and assessment of the efficiently incurred capital and operational costs which 2rn, and ultimately RTÉ⁷, would incur as a result of migrating DTT from the 700 MHz band. This analysis has formed the basis of an estimate of the compensation that RTÉ could recover as a result of incurring costs in the 700 MHz migration.

Over the course of the 700 MHz Migration process, Frontier has developed two reports for ComReg.

The 2016 Frontier Report forecast the costs that would be incurred in undertaking the migration from the 700 MHz spectrum band by 2rn. This report described the methodology that would be used to estimate the incremental costs incurred, including where those costs related to bringing forward investments in time. The report estimated that the incremental costs incurred by 2rn as a result of 700 MHz migration, could amount to €8.6 million (including reasonable contingency) and proposed that €8.6 million should be the maximum allowable compensation. This report also set out that compensation should be provided in three phases. The three instalments would reflect the phasing of costs incurred by 2rn.

- Phase 1: early 2017 - 60% to cover tendering and installation of equipment;
- Phase 2: late 2017 - 30% to cover tendering and installation of equipment; and
- Phase 3: 2020 - 10% to cover the final reconciliation between forecast and costs incurred.

The 2017 Frontier Report provided more detailed cost and accurate forecasts (based on results of actual tenders for the necessary investments), and considered whether the tendered costs were reasonable. It then set out the recommended compensation payable to RTÉ as part of 1st and 2nd compensation instalment.

⁶ As with the previous 2017 Frontier Report, Frontier was not required to in any way audit 2rn’s tariff model or regulatory accounts and this report does not constitute such an audit.

⁷ RTÉ is Ireland’s national public service broadcaster for television and radio. 2rn is a wholly-owned subsidiary company of RTÉ though it operates independently of RTÉ and fully at commercial arms’ length. 2RN built and operates a communication network in Ireland and has a substantial portfolio of developed sites and in house engineering, planning, construction resources and capabilities. The costs at issue would initially be incurred by 2RN but would ultimately be borne by RTÉ.

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In this report Frontier examines the costs incurred by 2rn to date (as at May 2020, and forecast costs to the end of the project to determine the compensation for phase 3)⁸.

The remainder of the report is structured as follows.

- Section 2 summarises Frontier's proposed methodology for assessing the percentage of costs that could be compensated as a result of being brought forward (the compensation percentage).
- Section 3 summarises the costs incurred by 2rn and the compensation due as a result of these costs. This report also explains the differences between the final costs and those forecast in the 2016 Frontier Report.

⁸ In a spreadsheet provided to ComReg by 2rn in May 2020: '700MHz Cost pool Tracking 38 Apr 20 (9) REC TO AGGRESSO' and 'Budget to Forecast recovery comparison 200525'.

2 COMPENSATING 2rn FOR BRINGING FORWARD INVESTMENT

As a result of the DTT migration from the 700MHz band, 2rn would incur costs that it otherwise would not. Frontier estimates these incremental costs to arrive at the allowed compensation, which should leave RTÉ's costs indifferent between migrating DTT equipment from the 700 MHz band (with compensation) and not making any frequency changes to its network (without compensation).

The 2016 Frontier Report set out that the compensation should depend on three factors.

- First, costs that are exclusively a direct result of migration should be fully compensated.
- Second, where 2rn must bring forward investments it otherwise would have made at a later time, compensation should only cover the *incremental* costs incurred by 2rn in making this investment earlier than it would have done under no migration.
- Third, the value related to the existing assets which become stranded will continue to be recovered from the tariff model (as if the migration had not taken place), until the existing assets would have been fully depreciated (January 2025). This is to ensure that existing tariffs applied by 2rn (in Market A⁹, and by RTÉ in the downstream Market B¹⁰) are not affected by the 700 MHz migration. At the point at which stranded assets would have become fully depreciated (from January 2025), 2rn would earn normal allowed returns on its replacement assets from the tariff model (in line with the value that they have at this time).

The approach taken to estimating the percentage of costs that should be compensated for, where they relate to investments brought forward in time is set out in detail in the 2016 Frontier Report¹¹ and summarised in section 2.1 below. Section 2.2 sets out the percentage of these costs that should be compensated, based on the actual time profile of investment undertaken by 2rn as at June 2020.

2.1 Frontier cost compensation methodology

In the 2016 Frontier Report, Frontier proposed a methodology for assessing the percentage of costs that could be compensated as a result of being *brought forward*. Only transmitter and transposer costs are affected by this adjustment since all other costs were wholly incremental to the 700 MHz band repurposing (i.e. other costs would not have taken place absent the repurposing).

⁹ Market A is described as wholesale access to national terrestrial broadcast transmission services in which 2rn is designated as having SMP.

¹⁰ Market B is described as wholesale access to DTT (Digital Terrestrial Television) Multiplexing Services in which RTÉ is designated as having SMP.

¹¹ 2016 Frontier Report and summarised in section 2.1

At the point that the existing stranded assets¹² would have fully depreciated, the replacement assets¹³ will earn revenues the normal way via the tariff model (based on the assets' values in the RAB). Hence these “allowed tariff revenues” should not also form part of the compensation.

Therefore, in calculating the appropriate compensation, the present value of the allowed tariff revenues from each investment is netted off the total investment costs to estimate the allowed compensation. Formally the appropriate compensation for each investment (*i*) therefore equals the nominal investment, minus the present value of the allowed revenues for that investment:

$$\text{Compensation \%}_i = \frac{\text{Nominal Investment}_i - PV(\text{Allowed Revenues}_i)}{\text{Nominal Investment}_i}$$

In this way 2rn is permitted to recover the nominal costs incurred, minus the present value of allowed returns that it would derive from those assets from the tariff model, at the point that its stranded assets would have fully depreciated (from 2025) until the end of the asset life of its replacement assets.

The 2016 Frontier Report estimated that 72% of the cost of the assets should be provided as compensation (the Cost Compensation Percentage, hereafter “CCP”), since the remaining 28% of the cost would be recovered from the tariff model. These estimates were based on forecasts that 2rn made (in 2016) of the costs it would incur, and the time profile of those costs over the course of the project. We have now revised this estimate based on the actual costs, and the time profile of those costs, that 2rn incurred over the course of the project.

2.2 Results

The CCP has been updated based on actual costs incurred. The CCP has increased since 2016 due to a large portion of 2rn’s investment (c. €2m) being brought forward to 2017 compared to the original forecast of all investments occurring in 2018. Bringing forward investments would reduce the present value of returns that those investments would make from the tariff model from 2025 (since these new investments will depreciate earlier). This would, all else equal, increase the CPP since 2rn will recover less value from the tariff model.

The net outcome of these effects is highlighted in Figure 3. Total investments represent the total nominal costs of transmitters and transposers which are brought forward and therefore subject to the CCP adjustment.

¹² i.e. assets stranded as a result of the repurposing of the 700 MHz band.

¹³ i.e. the assets that are installed as a result of the 700 MHz repurposing project.

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Figure 3 Differences in Investment Profile of Transmitters and Transposers (€)

| | 2017 | 2018 | 2019 | 2020 | Total | CCP |
|--|------|------|------|------|-------|--------|
| Frontier (2016 Frontier Report) | [X] | [X] | [X] | [X] | [X] | 72.0% |
| Frontier (June 2020) | [X] | [X] | [X] | [X] | [X] | 75.09% |

Source: Frontier Analysis

We estimate that the compensation percentage should increase to 75.09%¹⁴ as a result of the different time profiling of the investments. We note however that this result is sensitive to the precise “in-year” date assumed for the investment decision.

¹⁴ In February 2020, Frontier calculated a CCP of 75.03%. This CPP has been updated based on the final profile of investments using the same methodology as February 2020.

3 COSTS INCURRED BY 2RN AND COMPENSATION DUE

This section summarises the cost estimates and differences in the 2016 Frontier Report and the outturn costs. Section 3.1 sets out the final compensation payment payable to RTÉ as a result. The total outturn costs incurred by 2rn is set out in Figure 4.

Figure 4 Outturn “allowable” costs compared to forecasts (€)

| Cost Category | Description | 2016 Frontier Report | 2020 2rn allowable costs | Difference (2020-2016) |
|--------------------------|--|----------------------|--------------------------|------------------------|
| | Compensation percentage* | 72% | 75.09% | 3.09% |
| Transmission Equipment | Transmitter and Transposer Total | [X] | [X] | [X] |
| | Combiner Supply & retuning | [X] | [X] | [X] |
| Antennas and Structures | Antennas, Surveys & Structural Strengthening | [X] | [X] | [X] |
| | Antennas Mods & Retunes | [X] | [X] | [X] |
| | New site development (2 Sites) | [X] | [X] | [X] |
| Network And distribution | Fibre links | [X] | [X] | [X] |
| | SFN Config | [X] | [X] | [X] |
| | RBR & Off-Air feeds | [X] | [X] | [X] |
| | Information for local switchovers | [X] | [X] | [X] |
| Project and resourcing | Consultant Project Management | [X] | [X] | [X] |
| | Project Engineers | [X] | [X] | [X] |
| | Site rigging & engineering | [X] | [X] | [X] |
| | Freq planning, EHS | [X] | [X] | [X] |
| Other | Simulcast | [X] | [X] | [X] |
| | Senior Management Time | [X] | [X] | [X] |
| Totals | Compensation Estimate (excl. NRV) | [X] | [X] | [X] |
| | NRV Cost ¹⁵ | [X] | [X] | [X] |
| | Total Including NRV | [X] | [X] | [X] |
| | Contingency | [X] | [X] | [X] |
| | Total Cost Inc NRV and contingency | 8,643,477 | 8,145,798 | -497,679 |

Source: Frontier

Note: *Compensation percentage is applied to all transmitter and transposer forecasted costs to arrive at an allowable cost for compensation.

¹⁵ NRV relates to non-recoverable VAT that 2rn incurs as a result of its activities.

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In the data supplied by 2rn NRV was contained within each cost for category, however to make the analysis consistent with the 2016 categories we have separately identified NRV.

NRV is applied to all costs with the exception of internal 2rn senior management time. (See section 2.2 of the 2017 Frontier Report).

Senior management time was not included in the 2016 Frontier Report, but is included within 'Consultant Project Management' category of data in the data provided by 2rn.

The cost items where there was a significant deviation from the 2016 forecast are described below. We have identified the main differences between the 2016 forecasts and the 2020 outcome:

- Transmitters and transposers cost less than forecasted in 2016 by approximately €[>]. This was due to the final configuration of the transmitters adopted being different to the design originally forecast in 2016. In Spur Hill and Maghera only one transmitter was replaced.
- Antennas cost more than forecasted in 2016 by approximately €[>]. Where antennas were strengthened, as opposed to being replaced (such as in Kippure), the costs were higher than anticipated in 2016.
- New site development costs were higher than forecasted in 2016 by approximately €[>]. The costs of new sites were higher than was anticipated in the 2016 Frontier Report. However, this is explained by the fact that when costs were initially estimated, 2rn had not fully tendered for new sites therefore the cost estimates were subject to a degree of uncertainty depending on the outcomes of planning and site surveys.
- Fibre links cost less than forecasted in 2016, by approximately €[>]. This was because 2rn was able to benefit from synergies with work undertaken by ESB Telecom and was able to lay the fibre at lower than expected cost.
- Site rigging and engineering costs were higher than forecasted in 2016 by approximately €[>]. 2rn took the decision to bring "in house" some of the commissioning of the transmitters. This led to improved outcomes as its own engineers had a better understanding of the site layout, topography and other site-specific environmental factors which mitigated risk. Furthermore, it meant that 2rn would benefit from greater knowledge and understanding having undertaken the commissioning.
- Transmitters were also more efficient than expected, resulting in a reduction in simulcast electricity costs by approximately €[>].
- Senior management time was higher, and project management time was lower, than was anticipated in the 2016 Frontier Report. This was because 2rn chose to undertake much of the project management internally rather than with external consultants so as to better manage risk.
- Costs of RBR (rebroadcast relay) backup / off air feeds were lower than was forecast in 2016. This was because 2016 estimate, was an early estimate prior to detailed engineering design/site surveys.
- In 2016, a large contingency was set aside to cover any unanticipated costs, or cost increases. A small contingency remains for 2020 for any remaining items and additional costs due to COVID-19. This is because as a result of COVID-19 site visits during some of 2020 would have to be reconfigured in

order to promote social distancing in sites that are compact (for example only one person might be permitted on site at a time).

3.1 Compensation Summary and Project Conclusion

Given the analysis in this report we set out below the conclusion on the costs incurred by 2rn, and the compensation that should be payable to RTÉ as the final phase 3 compensation payment.

The 2016 Frontier Report set out the maximum allowable compensation. This was €8.6m.

The 2017 Frontier Report set out the phase 1 and phase 2 compensation payments based on the costs incurred by 2rn by this point. These totalled €7,975,880. This left a remaining maximum compensation payment of up to €624,120. If the allowable costs turned out to be lower than €8.6m then the final compensation payment would be commensurately lower. This is summarised in Figure 5.

Figure 5 Maximum Compensation Allowable For Phase 3

| | |
|--|-------------|
| Phase 1 compensation | €5,160,000 |
| Phase 2 compensation | €2,815,880 |
| Total phase 1&2 compensation paid | € 7,975,880 |
| Maximum allowable phase 3 compensation | €624,120 |
| Total | €8,600,000 |

Source: 2017 Frontier Report

Given that the total allowable costs as incurred by 2rn in 2020 are €8,145,798 and they are below the maximum allowable compensation of €8.6m we conclude that the remaining compensation payable as part of phase 3 should be €169,918. This is summarised in Figure 5.

Figure 6 Final estimate of compensation allowable for phase 3

| | |
|---------------------------------------|-------------|
| Allowable Costs Incurred (A) | €8,145,798 |
| Total phase 1&2 compensation paid (B) | € 7,975,880 |
| Phase 3 compensation payment (A-B) | €169,918 |

Source: Frontier Analysis

The difference in the final compensation estimate (€8,145,798) and the maximum compensation agreed upon in 2016 (€8,643,478) is due a net decrease in actual costs incurred compared to those forecast in 2016 as set out in Figure 4 above.

