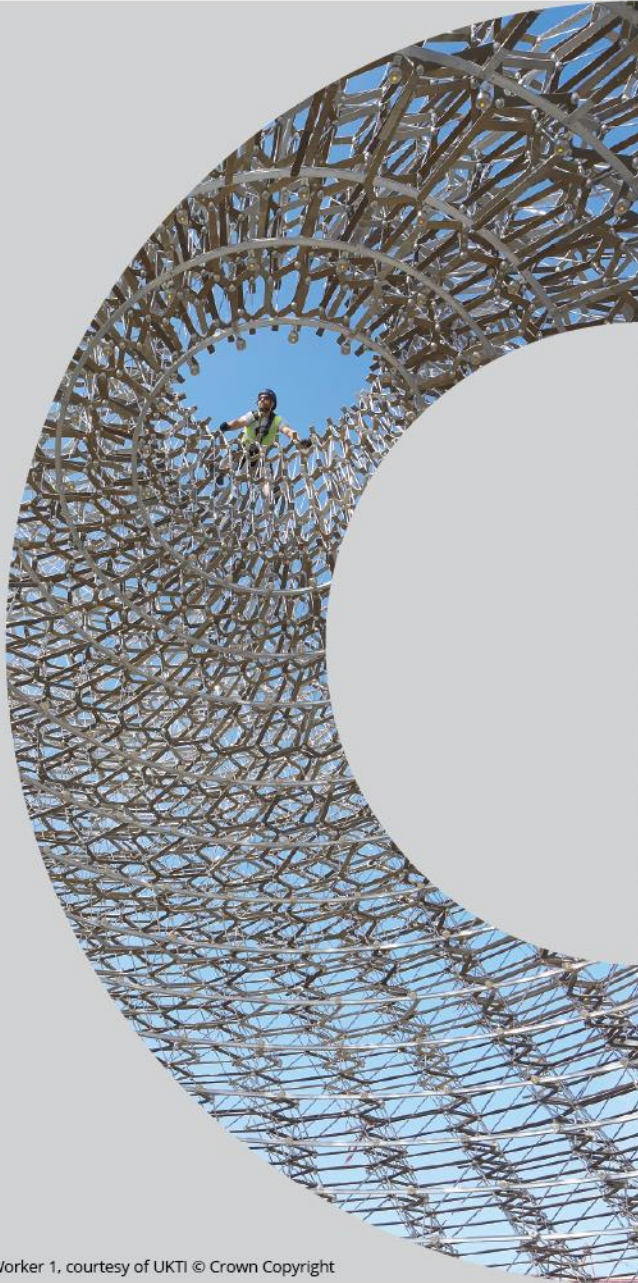


Belfast: Summary from Northern Ireland Gap Analysis



Modelled Scenarios Outlined

| Scenario code | Refuse | Dry | Food | Garden |
|----------------------|-------------------------------|---|--|--|
| 1a | 3-weekly collection frequency | No change to each LA's current service | No change to each LA's current service service | No change to each LA's current service service |
| 1b | 3-weekly collection frequency | No change to each LA's current service | Fortnightly mixed food and garden collection | No separate garden collection |
| 1c | 3-weekly collection frequency | No change to each LA's current serviceE | Weekly separate food collection | Separate free fortnightly garden collection |
| 1d | 3-weekly collection frequency | Multi stream /source separated | Weekly separate food collection | Separate free fortnightly garden collection |
| 1e | 3-weekly collection frequency | Two stream - fibres separate (paper/card) | Weekly separate food collection | Separate free fortnightly garden collection |
| 1f | 3-weekly collection frequency | Two stream - glass separate | Weekly separate food collection | Separate free fortnightly garden collection |
| 1g | 3-weekly collection frequency | Multi stream /source separated | No change to each LA's current service | No change to each LA's current service |
| 1h | 3-weekly collection frequency | Two stream - fibres separate (paper/card) | No change to each LA's current service | No change to each LA's current service |
| 1i | 3-weekly collection frequency | Two stream - glass separate | No change to each LA's current service | No change to each LA's current service |

3-Weekly residual

| Scenario code | Refuse | Dry | Food | Garden |
|----------------------|--|---|--|---|
| 2a | Residual bin capacity restricted to 180 litres | No change to each LA's current service | No change to each LA's current service | No change to each LA's current service |
| 2b | Residual bin capacity restricted to 180 litres | No change to each LA's current service | Fortnightly mixed food and garden collection | No separate garden collection |
| 2c | Residual bin capacity restricted to 180 litres | No change to each LA's current service | Weekly separate food collection | Separate free fortnightly garden collection |
| 2d | Residual bin capacity restricted to 180 litres | Multi stream /source separated | Weekly separate food collection | Separate free fortnightly garden collection |
| 2e | Residual bin capacity restricted to 180 litres | Two stream - fibres separate (paper/card) | Weekly separate food collection | Separate free fortnightly garden collection |
| 2f | Residual bin capacity restricted to 180 litres | Two stream - glass separate | Weekly separate food collection | Separate free fortnightly garden collection |
| 2g | Residual bin capacity restricted to 180 litres | Multi stream /source separated | No change to each LA's current service | No change to each LA's current service |
| 2h | Residual bin capacity restricted to 180 litres | Two stream - fibres separate (paper/card) | No change to each LA's current service | No change to each LA's current service |
| 2i | Residual bin capacity restricted to 180 litres | Two stream - glass separate | No change to each LA's current service | No change to each LA's current service |

Restricted Residual capacity

| Missing Materials | Scenario code | Refuse | Dry | Food | Garden |
|--------------------------|----------------------|--|--|--|--|
| | 3a | No change to each LA's current service | No change to each LA's current service+PTTs | No change to each LA's current service | No change to each LA's current service |
| | 3b | No change to each LA's current service | Two stream fibres separate (paper/card) and comingled collections change to Two stream glass separate adding glass where not currently collected | No change to each LA's current service | No change to each LA's current service |
| | 3c | No change to each LA's current service | Two stream fibres separate (paper/card) and comingled collections change to Two stream glass separate adding glass & PTT where not currently collected | No change to each LA's current service | No change to each LA's current service |

| | | | | | |
|--------------|-----------|--|--|--|----------------------------------|
| Flats | 4a | No change to each LA's current service | No change to each LA's current service but adding missing materials where not currently collected | Weekly separate food collection | No collection of garden at flats |
| | 4b | Restricted residual capacity | No change to each LA's current service but adding missing materials where not currently collected with assumed increased yield | Weekly separate food collection with assumed increased yield | No collection of garden at flats |

Missing materials/ Flats

Food waste

| Scenario code | Refuse | Dry | Food | Garden |
|---------------|--|---|--|---|
| 5a | No change to each LA's current service | No change to each LA's current service | Fortnightly mixed food and garden collection | No separate garden collection |
| 5b | No change to each LA's current service | No change to each LA's current service | Weekly separate food collection | Separate free fortnightly garden collection |
| 5c | No change to each LA's current service | Multi stream /source separated | Weekly separate food collection | Separate free fortnightly garden collection |
| 5d | No change to each LA's current service | Two stream - fibres separate (paper/card) | Weekly separate food collection | Separate free fortnightly garden collection |

Communications

| | | | | |
|----|--|---|--|--|
| 6a | No change to each LA's current service | No change to each LA's current service plus 10kgs/hh/yr | No change to each LA's current service | No change to each LA's current service |
|----|--|---|--|--|

HHWRC

| | |
|----|---|
| 7a | Improvements at Household waste recycling centres; 7.1 Additional materials where not currently collected 7.2 Meet & greet policy and trade restriction |
|----|---|

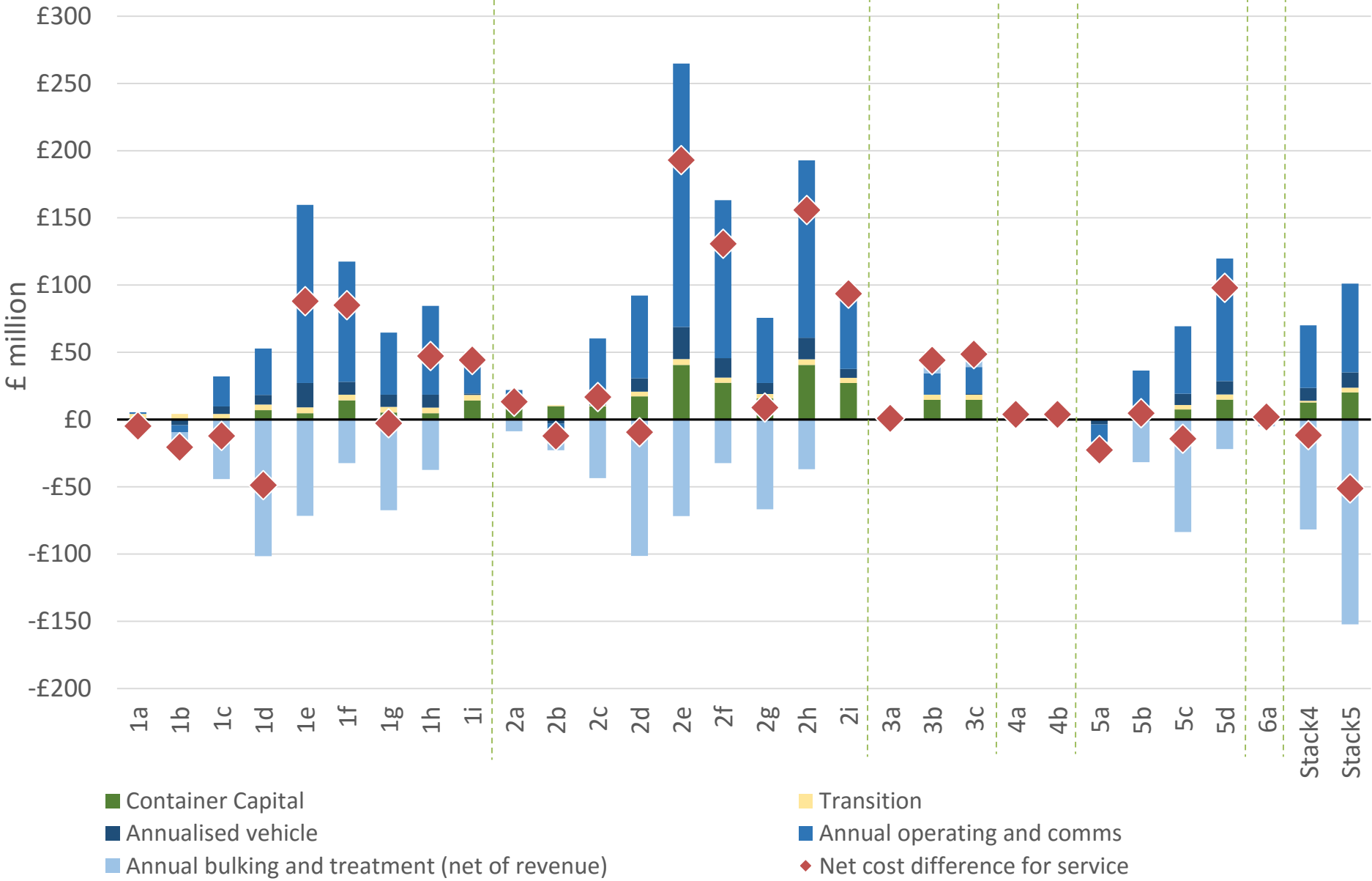
Food / Comms / HHWRC



| Scenario code | Refuse | Dry | Food | Garden |
|---------------|--|---|----------------------------|--|
| Stack4 | 180 litres @ low-rise restricted @ flats | No change to each LA's current service but adding missing materials where not currently collected @ all | Weekly separate food @ all | Separate free fortnightly garden collection @ low-rise |
| Stack5 | 180 litres @ low-rise restricted @ flats | Multi-stream @ low-rise plus adding missing materials where not currently collected @ all | Weekly separate food @ all | Separate free fortnightly garden collection @ low-rise |

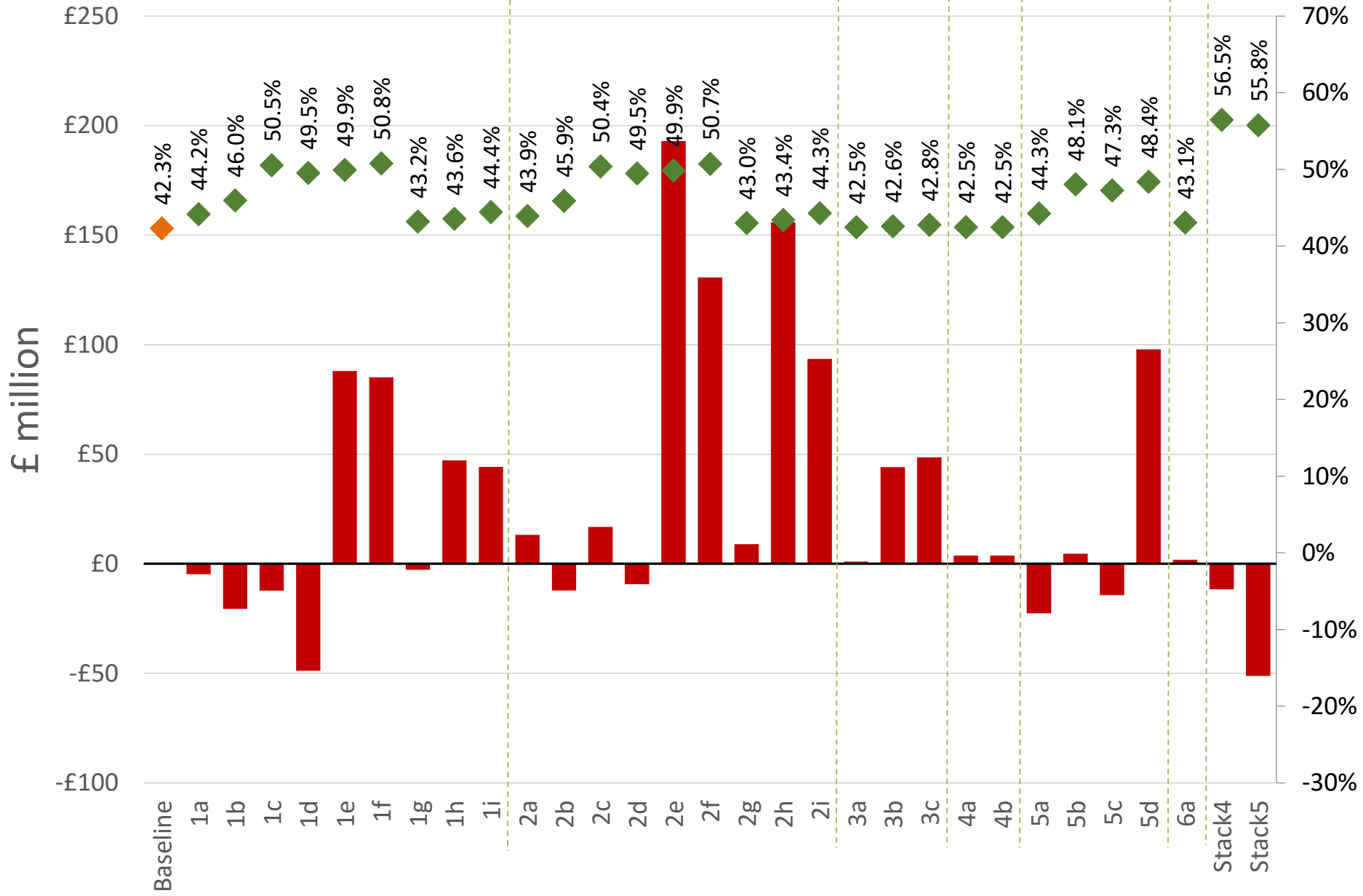
Stacked scenarios

NI Gap Analysis Summary of Results



NI Cumulative Net Service Cost breakdown (£m) - compared to baseline (2018/19-2025/26)

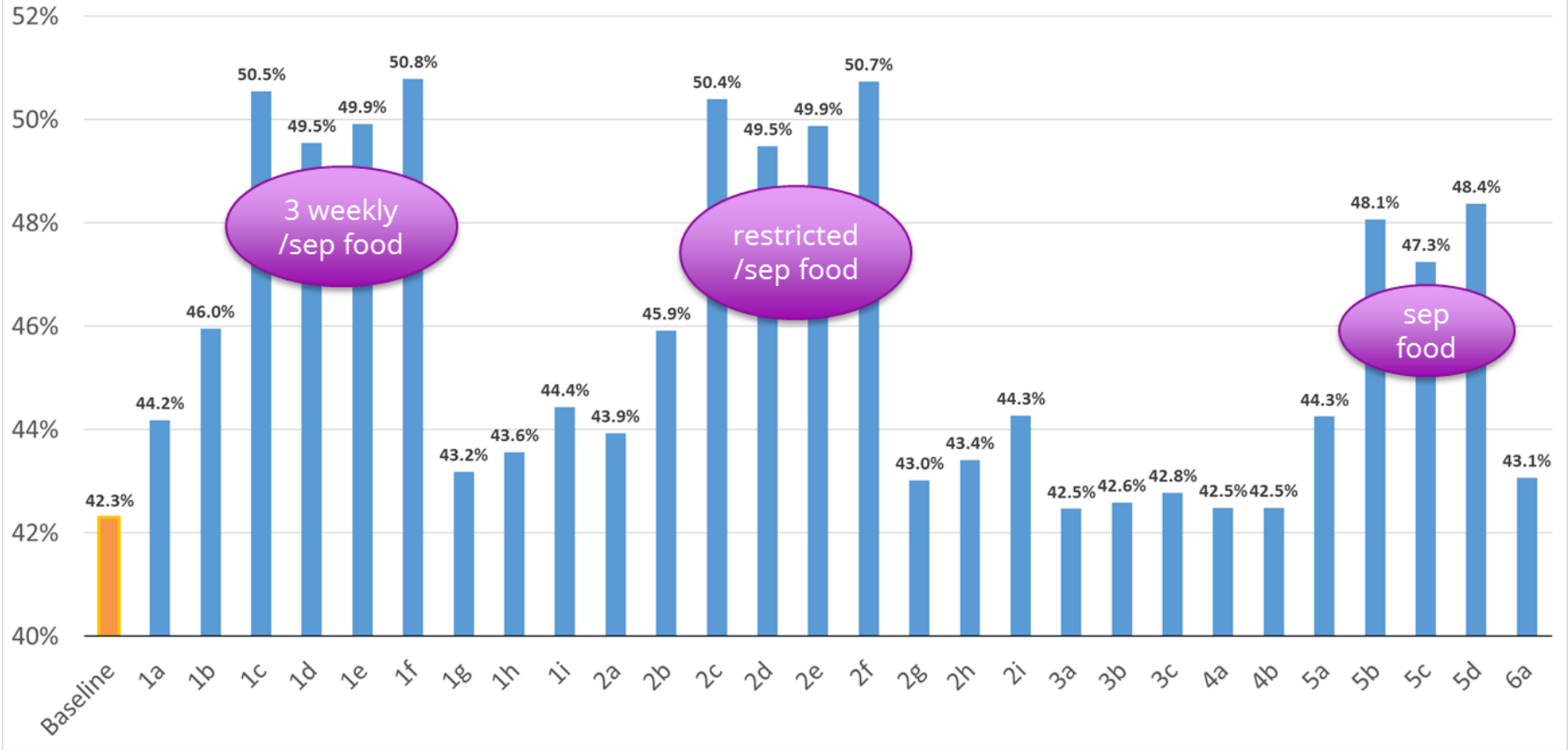




NI Cumulative Net Service Cost breakdown (£m) - compared to baseline (2018/19-2025/26)



Recycling Rate by 2025/26



Target areas

1. Possible to meet 50% from kerbside scenarios
2. Possible to meet 50% in 2020 (just) assuming all NI LAs start in 2018/19
3. The groups of scenarios which meet 50% all include either 3 weekly residual or restricted residual bin volume
4. 3-weekly residual scenarios are consistently lower cost than restricted volume
5. Least cost scenarios all include multi-stream (savings coming from co-collection of separate food waste)
6. Separate food waste collections increase the recycling rate by over 6% compared to 2% from mixed garden and food waste

NI Key conclusions

7. HHWRC scenarios add potentially 2.5% and would support kerbside scenarios to increases beyond 50%
8. Scenarios including flats, adding in missing dry materials at kerbside, communications add minimal increase to the recycling rate
9. Communications and associated implementation resources are considered essential in transition to achieve the performance detailed in scenarios
10. Recycling rate depends on scenarios included, when they start and what enables the change to happen

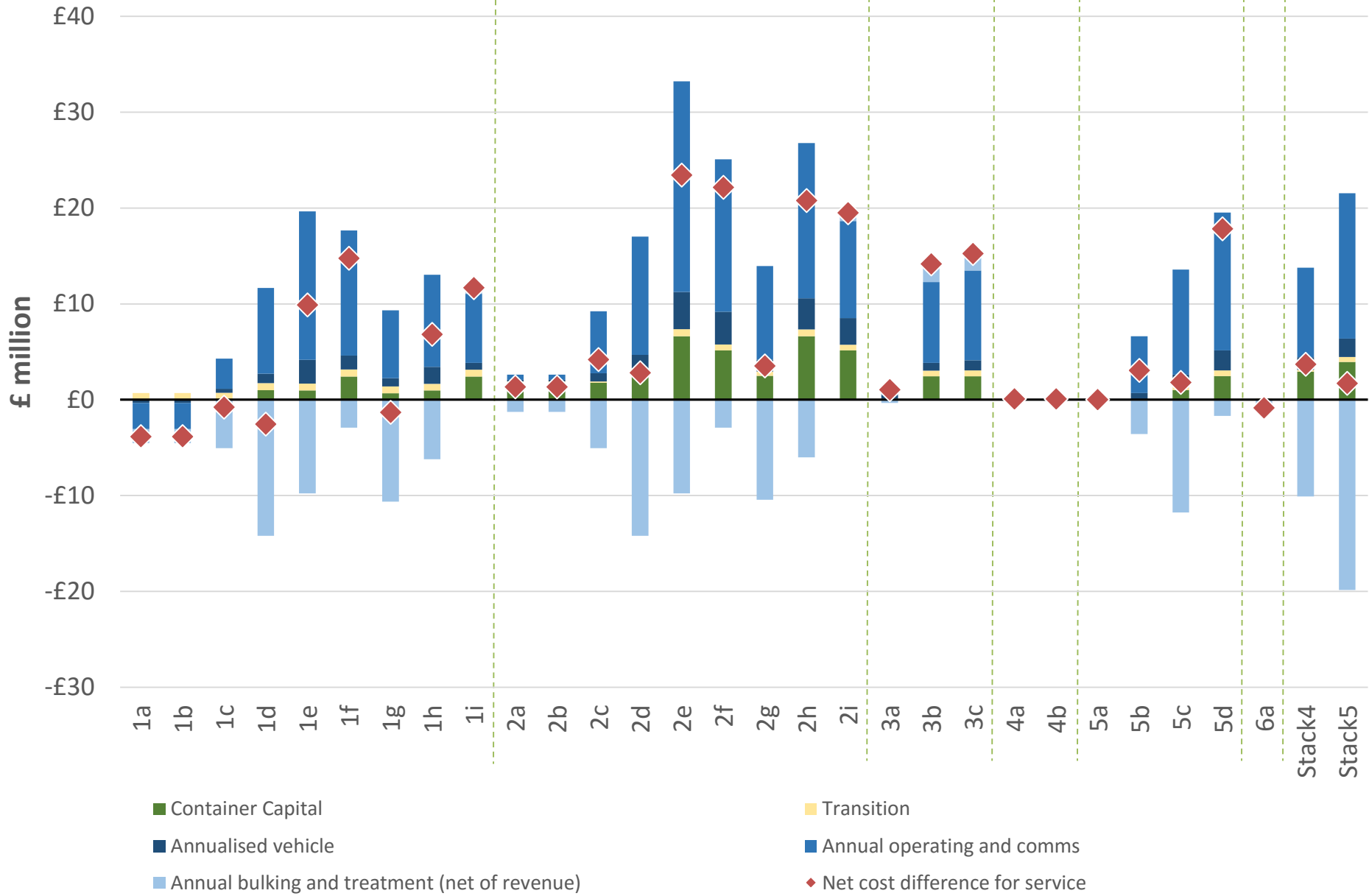
Key conclusions cont.

Belfast

Summary Extract

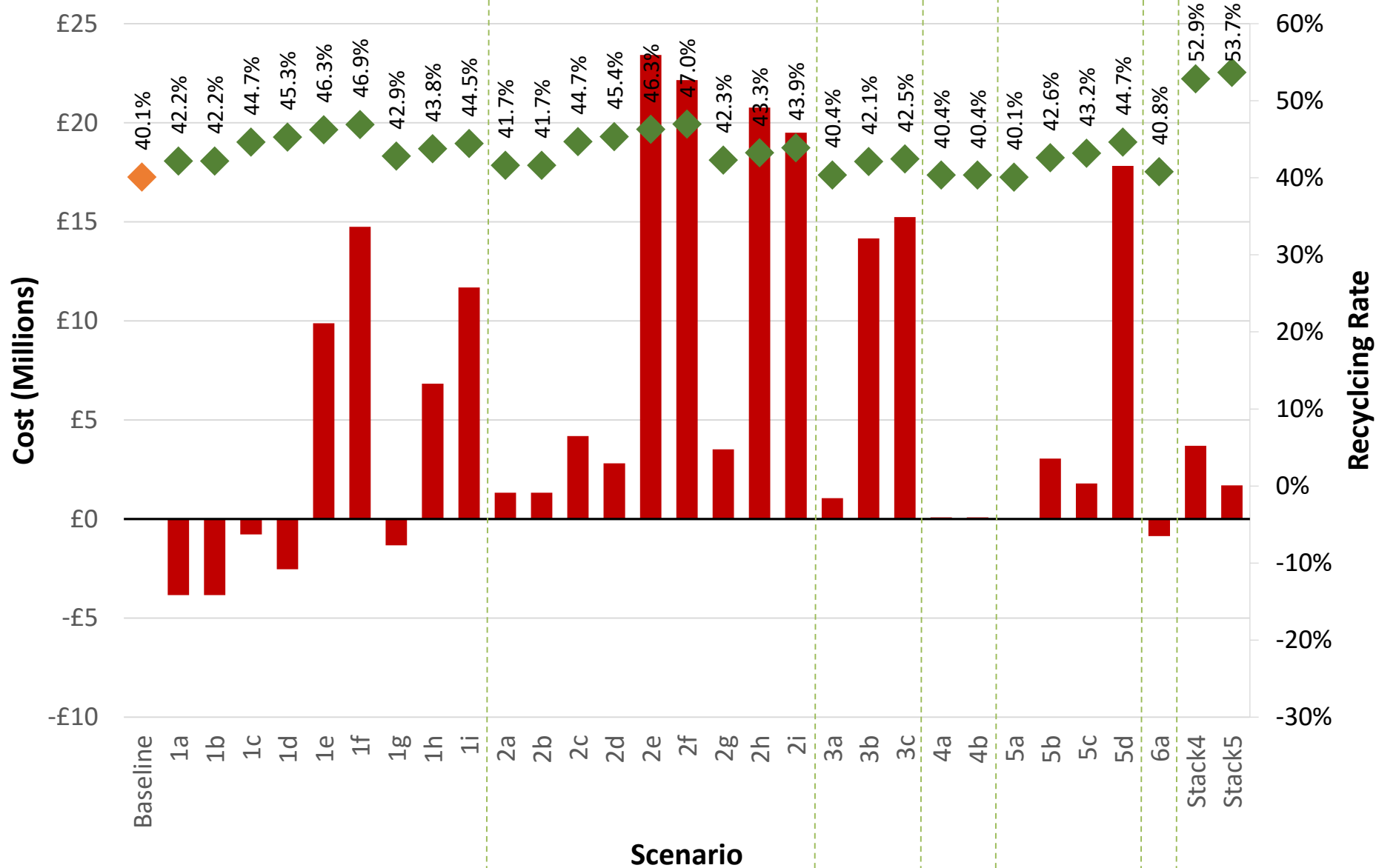
| Waste stream | Scheme | Frequency |
|-----------------------------|---|--------------------------------------|
| Dry | Comingled (65,829) Multistream (58,000) Two Stream (22,000) | Fortnightly Weekly Fortnightly |
| Residual | | Fortnightly |
| Separate food | 58,000 households | Weekly |
| Mixed food and garden | 87,829 households | Fortnightly |
| Garden | #N/A | |
| Recycling rate 40.1% | | |

Starting Point



Belfast Cumulative Net Service Cost breakdown (£m) - *compared to baseline* (2018/19-2025/26)





Belfast Cumulative Net Service Cost breakdown (£m) - compared to baseline (2018/19-2025/26)



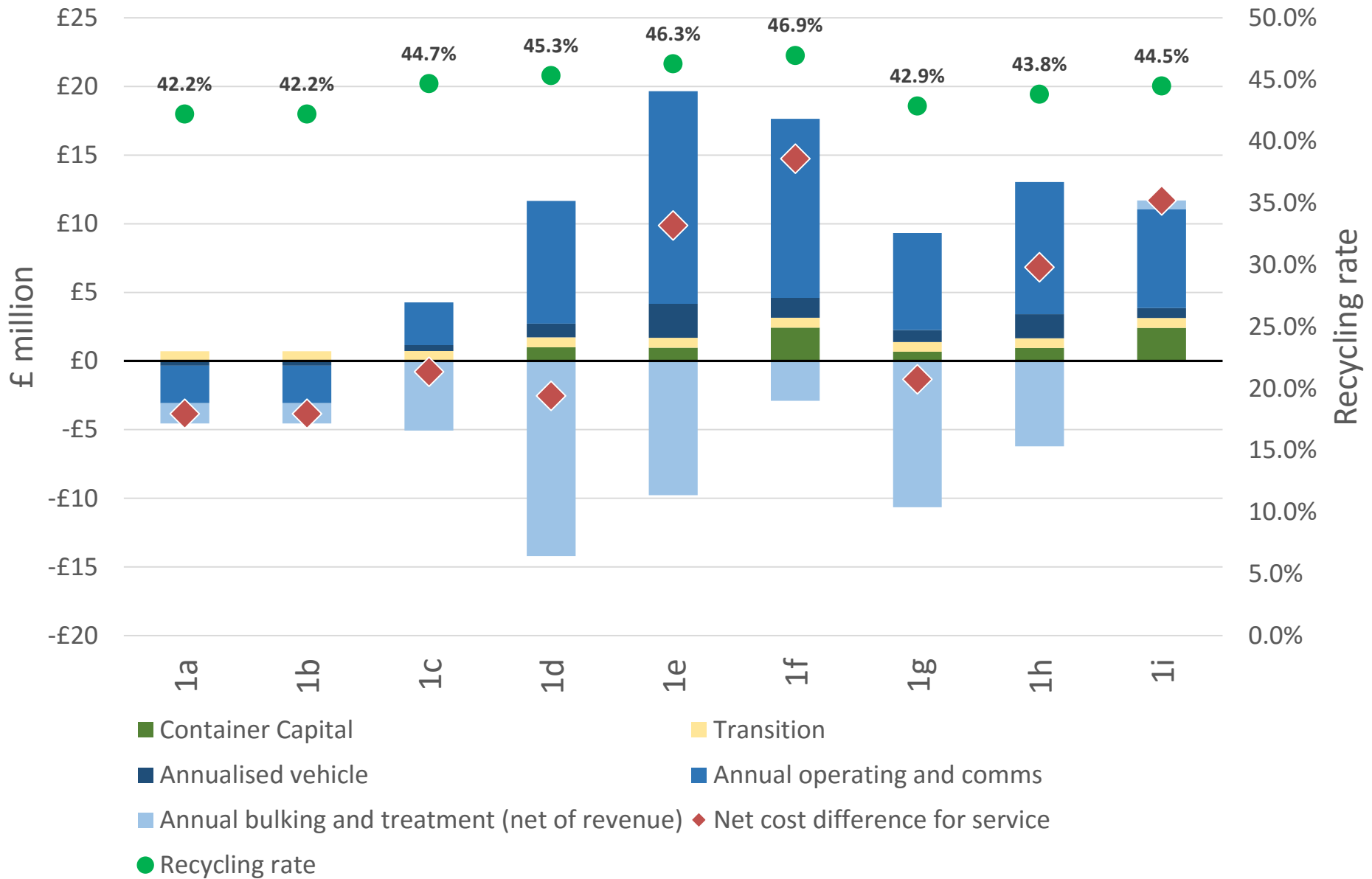
Biggest cost savings associated with;

- 3-weekly residual
- Separate weekly food/ Mixed Food and Garden
- Weekly Multi-stream dry recycling

Biggest recycling rate uplifts associated with;

- Combining 3-weekly residual with separate food
- Combining 3-weekly residual with separate food and multi-stream recycling
- Combining 3-weekly residual with separate food and two-stream recycling
- Combining restricted residual with separate food
- Combining restricted residual with separate food and multi-stream recycling
- Combining restricted residual with separate food and two-stream recycling

Summary



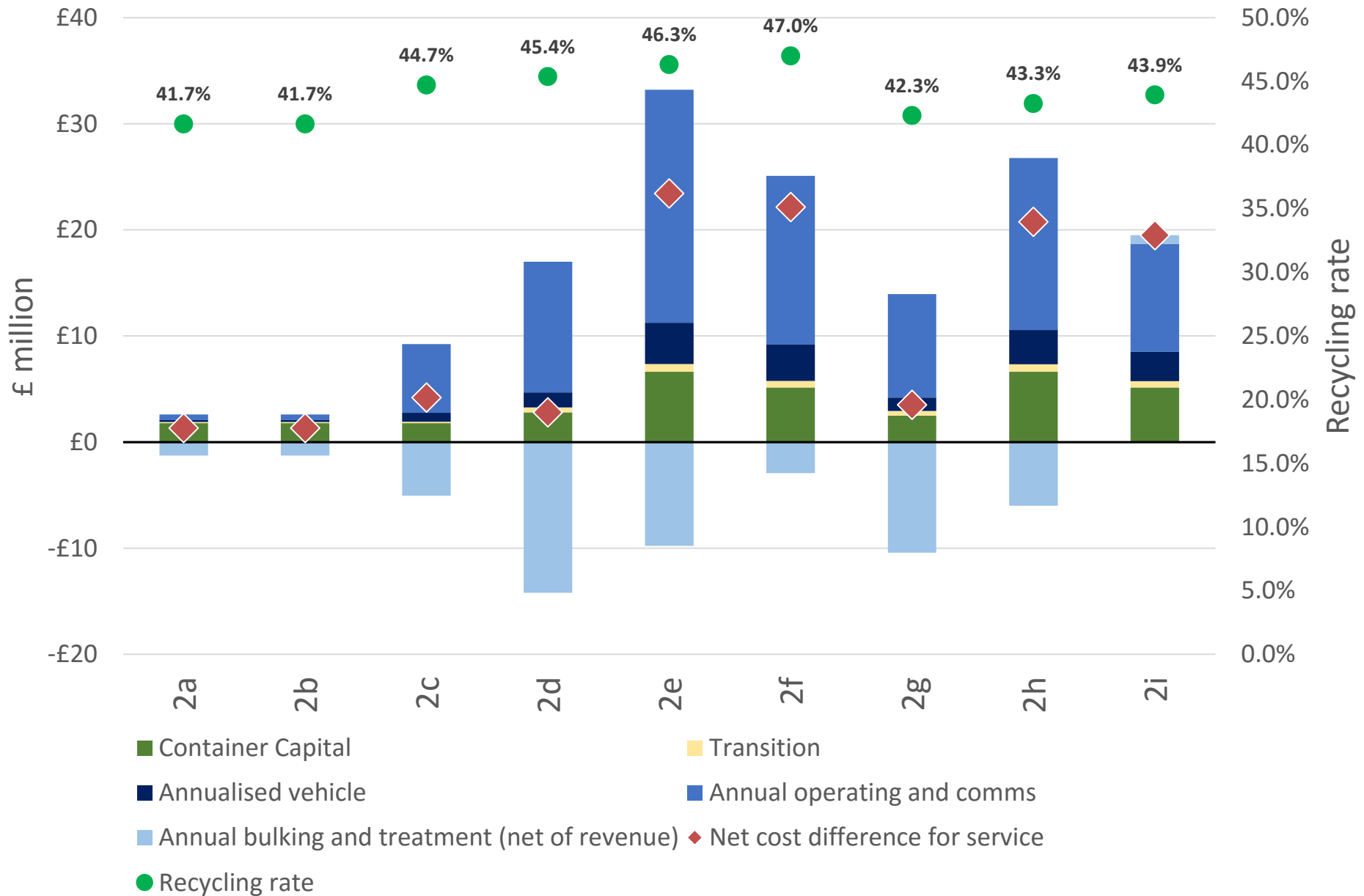
3-weekly residual - Cumulative Net Service Cost breakdown (£m) - *compared to baseline* (2018/19-2025/26)

Biggest cost savings associated with;

- Implementing 3-weekly residual due to operational and residual disposal cost savings.
- Implementing food collections due to increased avoided disposal costs.
- Implementing Multi-stream collections – Increased quality of recycle

Biggest recycling rate uplifts associated with;

- Combining 3-weekly residual with separate food
- Combining 3-weekly residual with separate food and multi-stream recycling.
- Combining 3-weekly residual with separate food and two stream recycling



Restricted residual - Cumulative Net Service Cost breakdown (£m) - *compared to baseline* (2018/19-2025/26)

Lowest costs associated with;

- Implementing restricted residual due to operational and residual disposal cost savings. No net cost saving due to having no reduction in operational costs and additional capital container costs.
- Implementing food collections due to increased avoided disposal costs.
- Implementing Multi-stream collections – Increased quality of recycle

Biggest recycling rate uplifts associated with;

- Combining restricted residual with separate food
- Combining restricted residual with separate food and multi-stream recycling.
- Combining restricted residual with separate food and two stream recycling