

CV FWA Capping losses – securing co-operation

DISG

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Calorific Values

Gas (Calculation of Thermal Energy) Regulations require transporters to calculate the Calorific Value for charging area (= LDZ) on a daily basis

Three possible methods:

- Declared CV
- Lowest Source CV
- Flow weighted average CV

Current approach based on

- Flow weighted average CV

LDZ Charging Areas



Flow Weighted Average CV Method : Example 1

Flow Weighted Average CV = (Actual Energy Flow) / Volume Flow = 38.7 MJ/m³

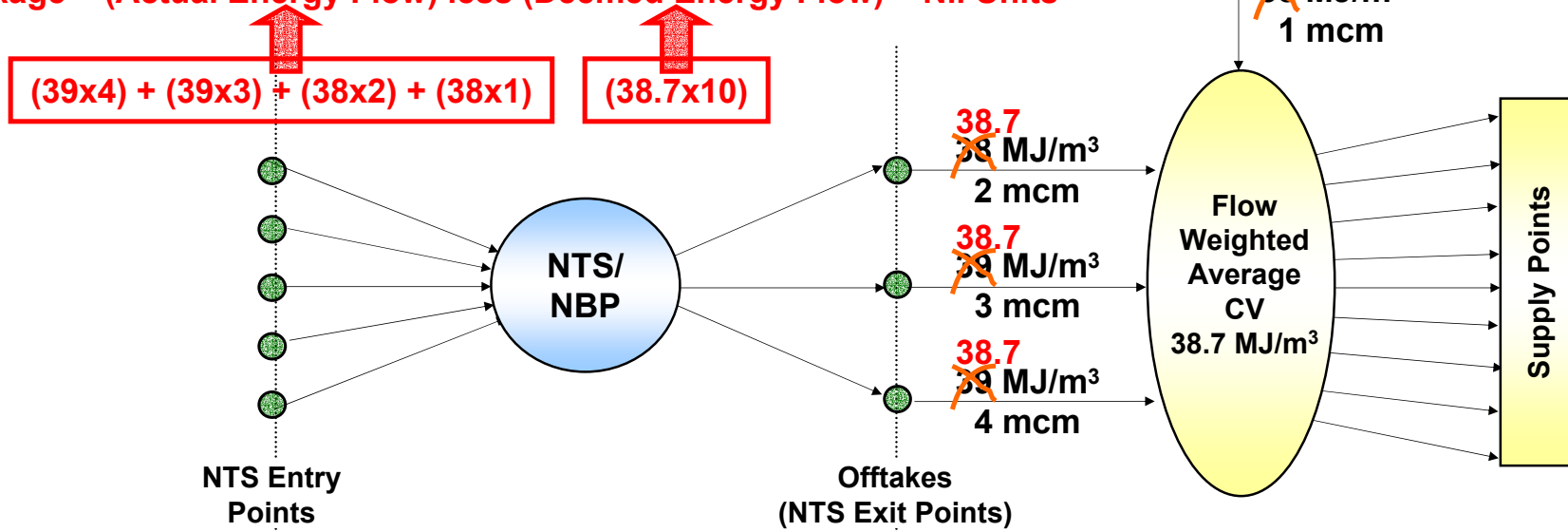
$(39 \times 4) + (39 \times 3) + (38 \times 2) + (38 \times 1)$

$(4 + 3 + 2 + 1)$

Flow Weighted Average CV Cap = (Lowest Source + 1) = (38 + 1) = 39 MJ/m³

All Exit Allocations deemed to be at Flow Weighted Average CV

CV Shrinkage = (Actual Energy Flow) less (Deemed Energy Flow) = Nil Units



Energy Settlement	Entry Allocations	Daily Imbalances	Exit Allocations	Reconciliation
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Flow Weighted Average CV Method : Example 2

Flow Weighted Average CV = (Actual Energy Flow) / Volume Flow) = 39 MJ/m³

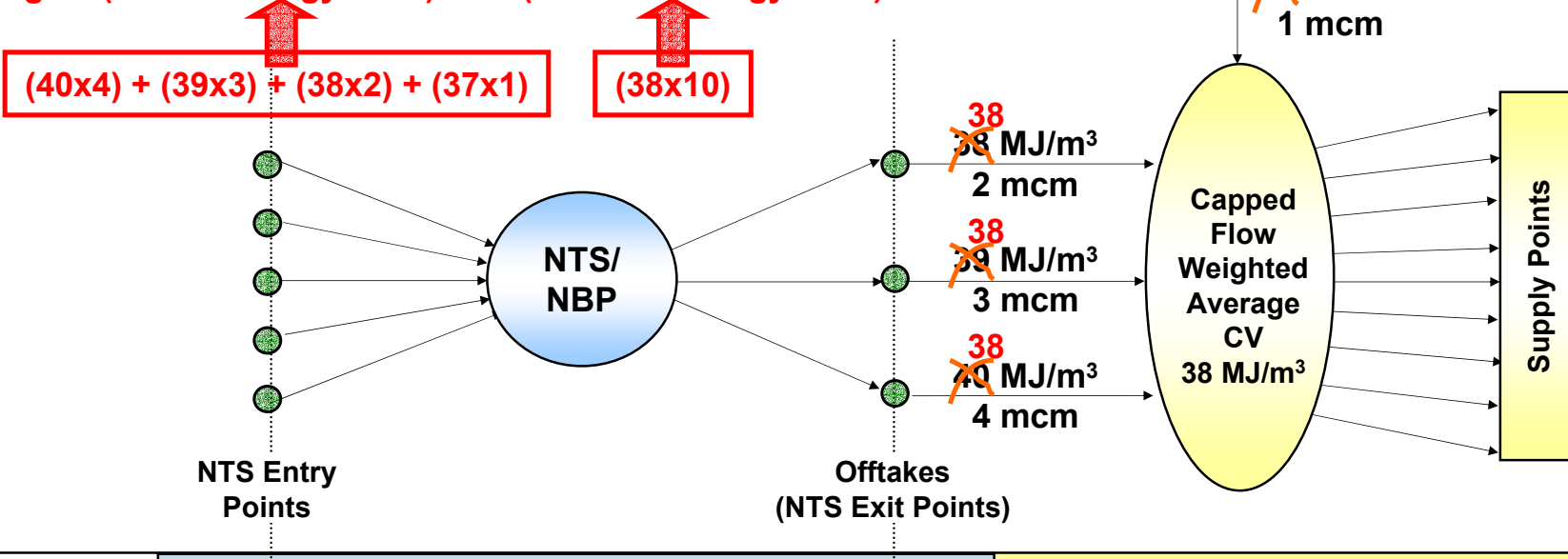
(40x4) + (39x3) + (38x2) + (37x1)

(4+3+2+1)

Flow Weighted Average CV Cap = (Lowest Source + 1) = (37 + 1) = 38 MJ/m³

All Exit Allocations deemed to be at Capped Flow Weighted Average CV

CV Shrinkage = (Actual Energy Flow) less (Deemed Energy Flow) = 10 Units



Key implications of energy losses associated with FWA CV capping

Consumers

- In aggregate consumers will benefit from paying for less energy than they might have consumed

Shippers

- Will effectively have to input less gas to support their portfolio. Lost margin on the incremental energy not supplied.

Distribution Network

- Price control allowed revenues a function of energy throughput and therefore allowed revenues reduced in respect of lost throughput associated with with any capping.

UK Transmission

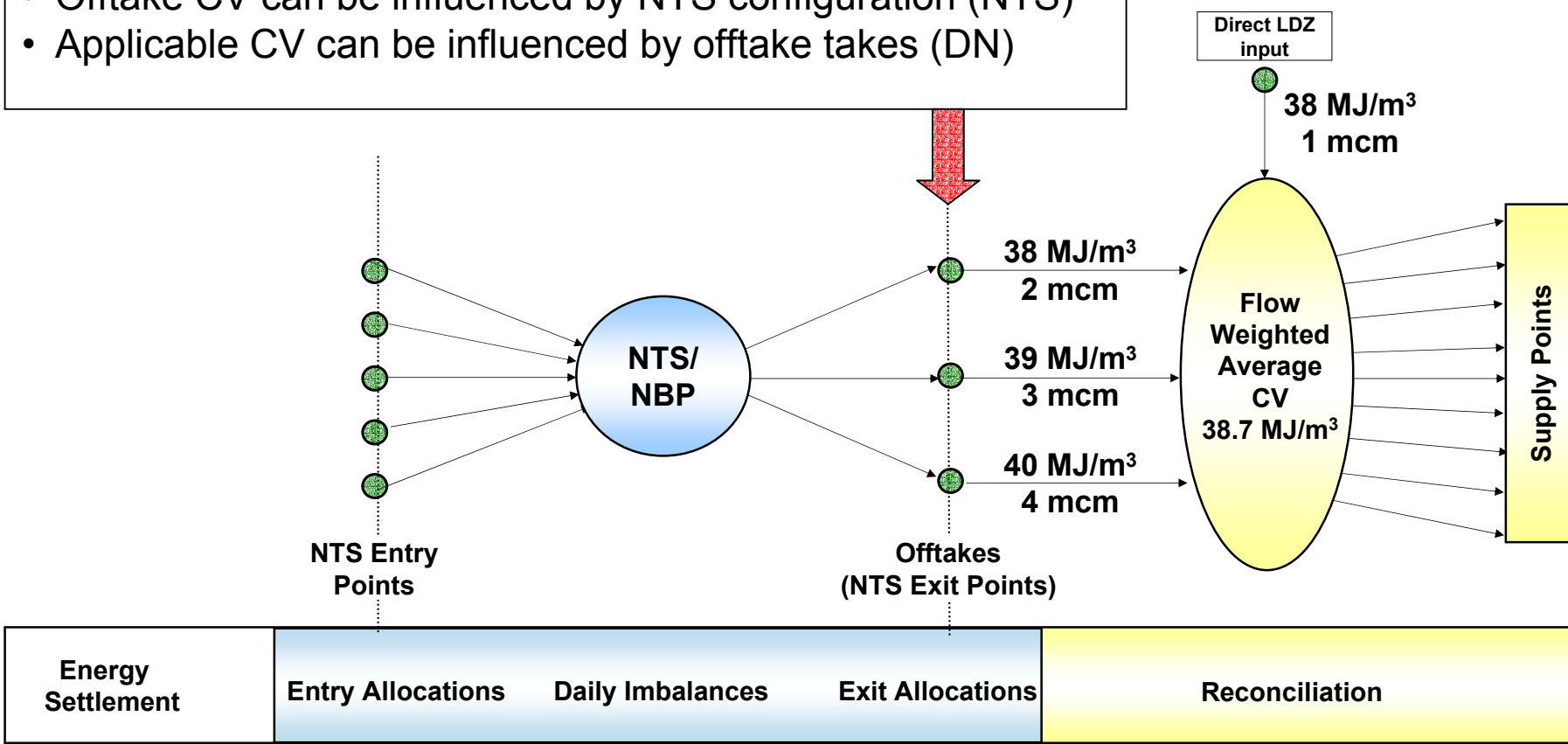
- Unbilled energy will increase NTS shrinkage requirements. UKT will be exposed to a share of the value of the gas.

In the shorter term consumers benefit from FWA CV capping but with an alignment between shippers, distribution networks and UK Transmission to minimise such losses.

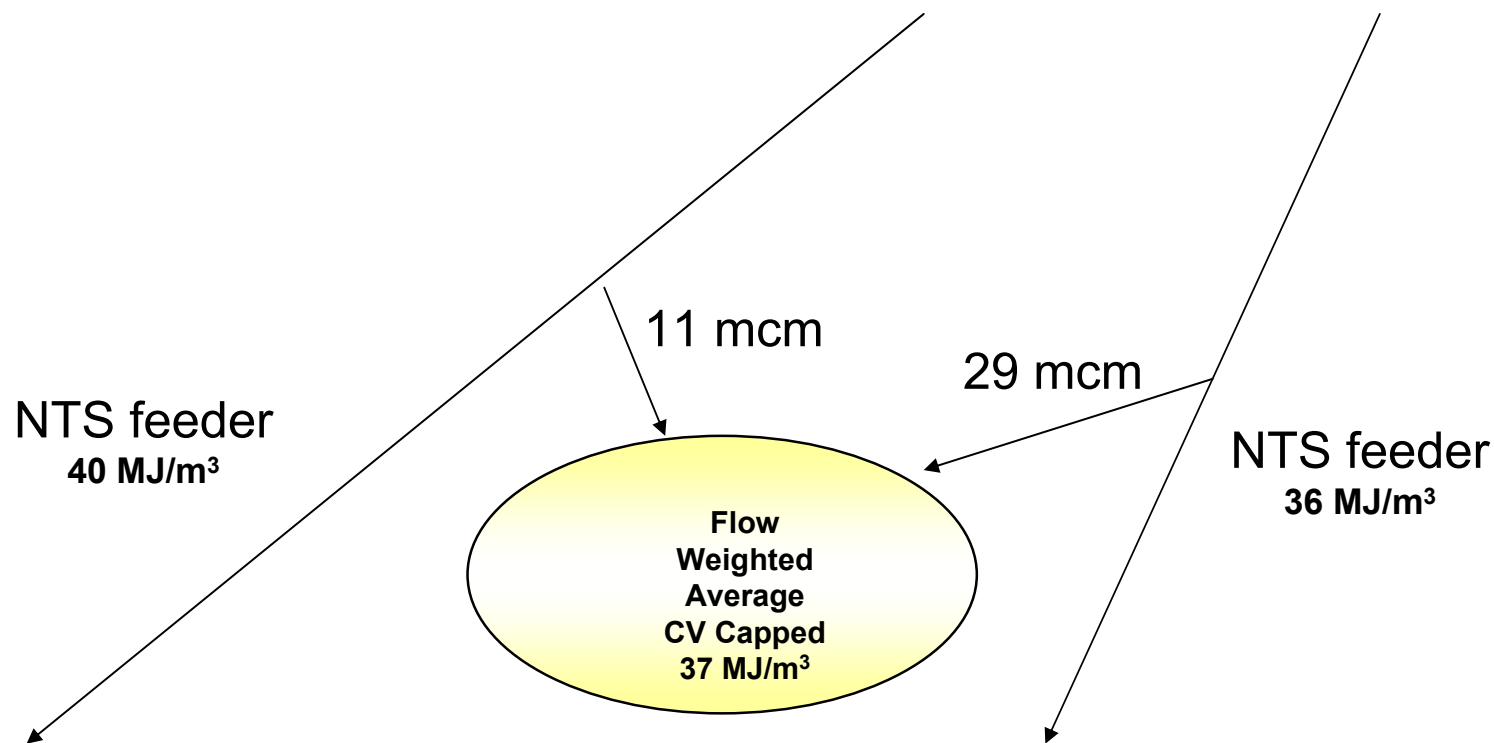
Daily Operations

Cooperation to minimise CV shrinkage

- Offtake CV can be influenced by NTS configuration (NTS)
- Applicable CV can be influenced by offtake takes (DN)



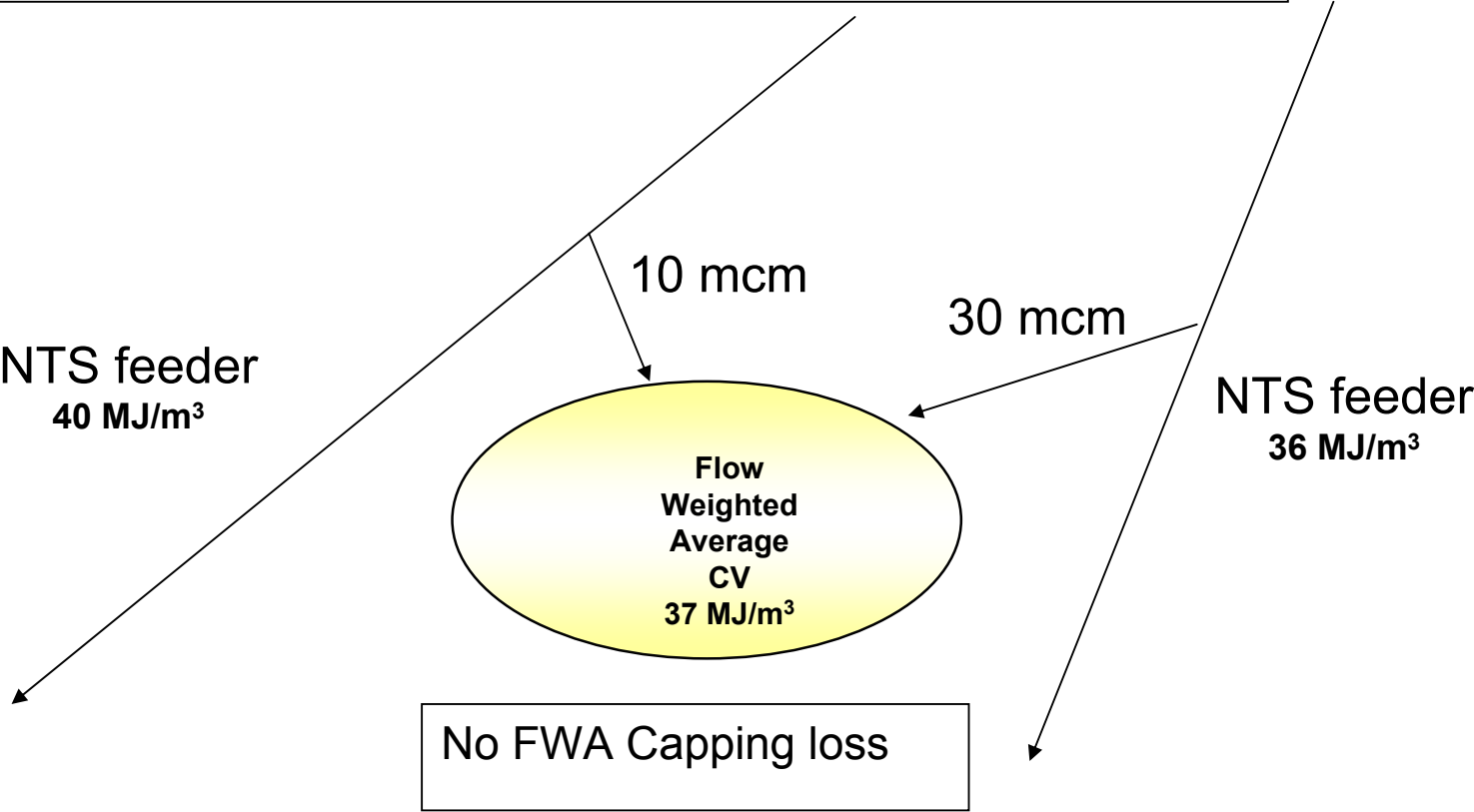
Co-operation to minimise CV shrinkage



FWA Capping will give rise to lost energy in the DN reducing the DN allowed revenue stream

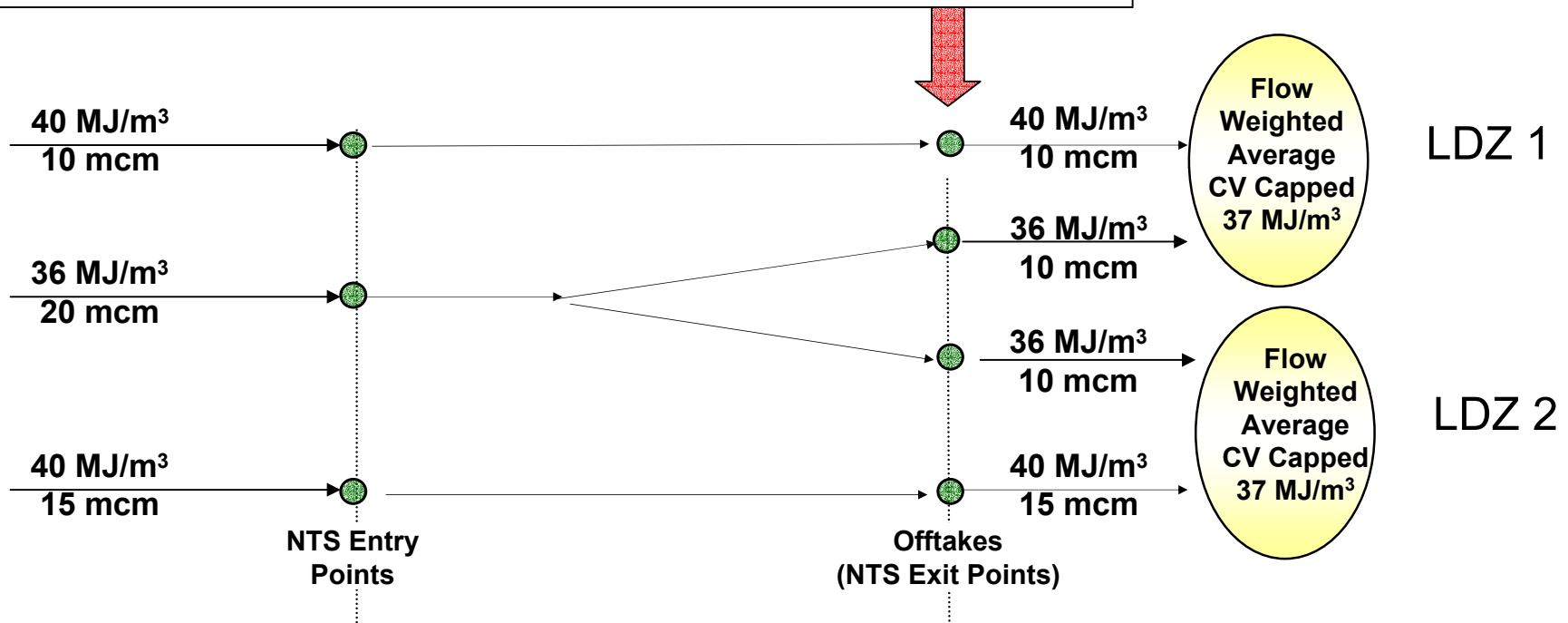
Co-operation to minimise CV shrinkage

Energy loss could be influenced by DN offtake nominations,
If feasible to take greater proportion from lower CV feeder



Co-operation to minimise CV shrinkage

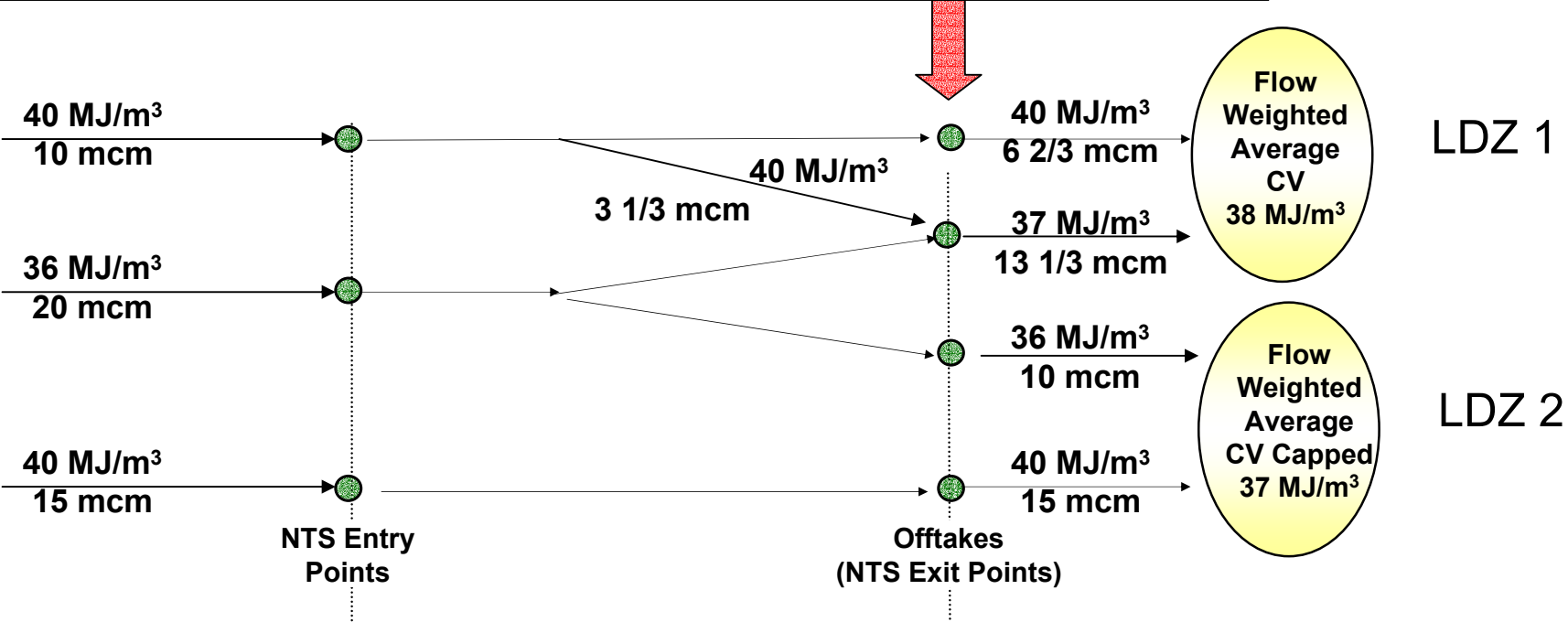
Energy loss may also be influenced by NTS configuration



With flows as indicated FWA capping process implies underbilling of customers in both LDZs, reduced transportation billing for LDZs and increased NTS shrinkage requirement

Co-operation to minimise CV shrinkage

May be feasible to influence losses via extent of comingling



With flows as indicated FWA capping process does not imply any LDZ1 CV capping loss because of the increased CV at the lowest source input to LDZ 1

Calorific Values Business Rules

CV Shrinkage

- Parties to cooperate
- Reimbursement by DN of CV shrinkage costs incurred by NTS due to reasonably foreseeable circumstances associated with DN CV or volume measurement equipment

Conclusions

- Alignment of shipper, DN & UKT interests
- DN incentives to arrange NTS offtakes to minimise CV losses where feasible
- UKT incentives to minimise CV losses where co-mingling is feasible