New Gas Entry to the NTS

CNG Services Ltd

- CNG Services Limited (CSL) provides consultancy, design and build services to the biomethane industry, all focused on reducing Greenhouse Gas (GHG) emissions
- In the past 10 years our efforts have produced a material impact with an estimated 20 year project life reduction in CO2 emissions of 17,500,000 tonnes through:
  - Biomethane injection into the gas grid
  - Running trucks on Bio-CNG
  - Acting as developer and design and build contractor for the Highlands CNG Project
- Working on a number of Biomethane, H2 and CCUS innovation projects including:
  - Biomethane from manure with CCS
  - Biomethane direct into the NTS
  - Green H2 into the NTS and Hydrogen Business Model Projects
  - Reverse Compression to Create Capacity for Biomethane Injection
- CSL is an ISO 9001, 14001 and 45001 approved company and has also achieved Achilles certification. CSL is GIRS accredited for design and project management and has been certified as a competent design organisation for high pressure UK onshore natural gas works by DNVGL

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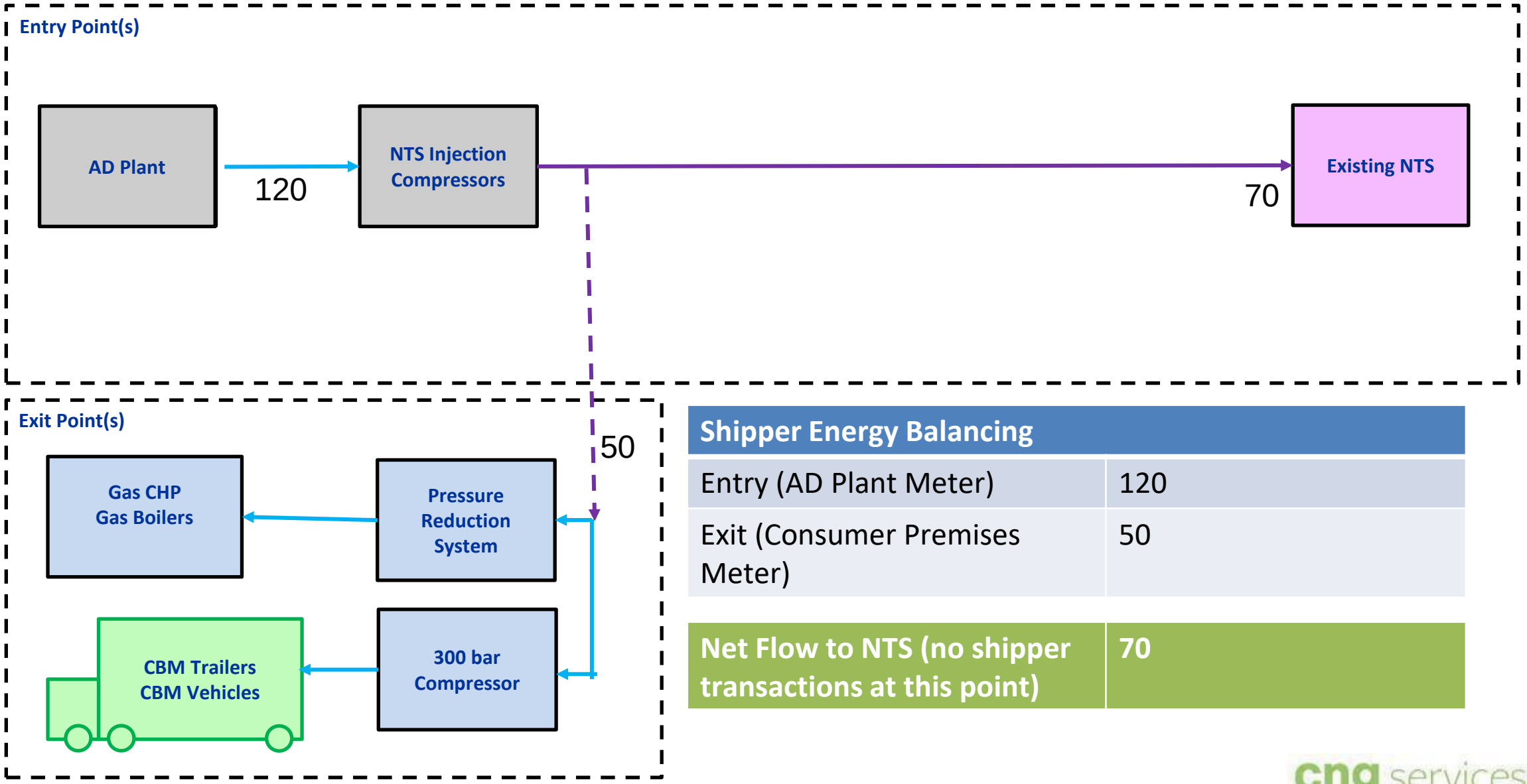
NTS Entry/Exit Connection – Generic



Shipper Energy Balancing	
Entry (AD Plant Meter)	120
Exit (Consumer Premises Meter)	50
Net Flow to NTS (no shipper transactions at this point)	**70**

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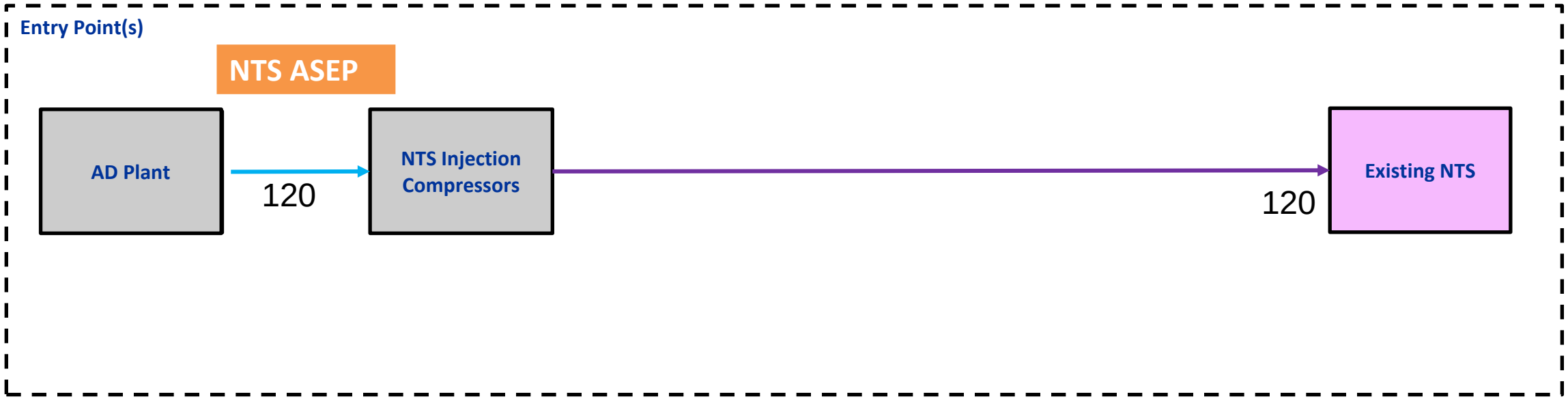
NTS Entry Connection – NTS Pipeline



Shipper Energy Balancing	
Entry (AD Plant Meter)	120
Exit (Consumer Premises Meter)	0
Net Flow to NTS (no shipper transactions at this point)	**120**

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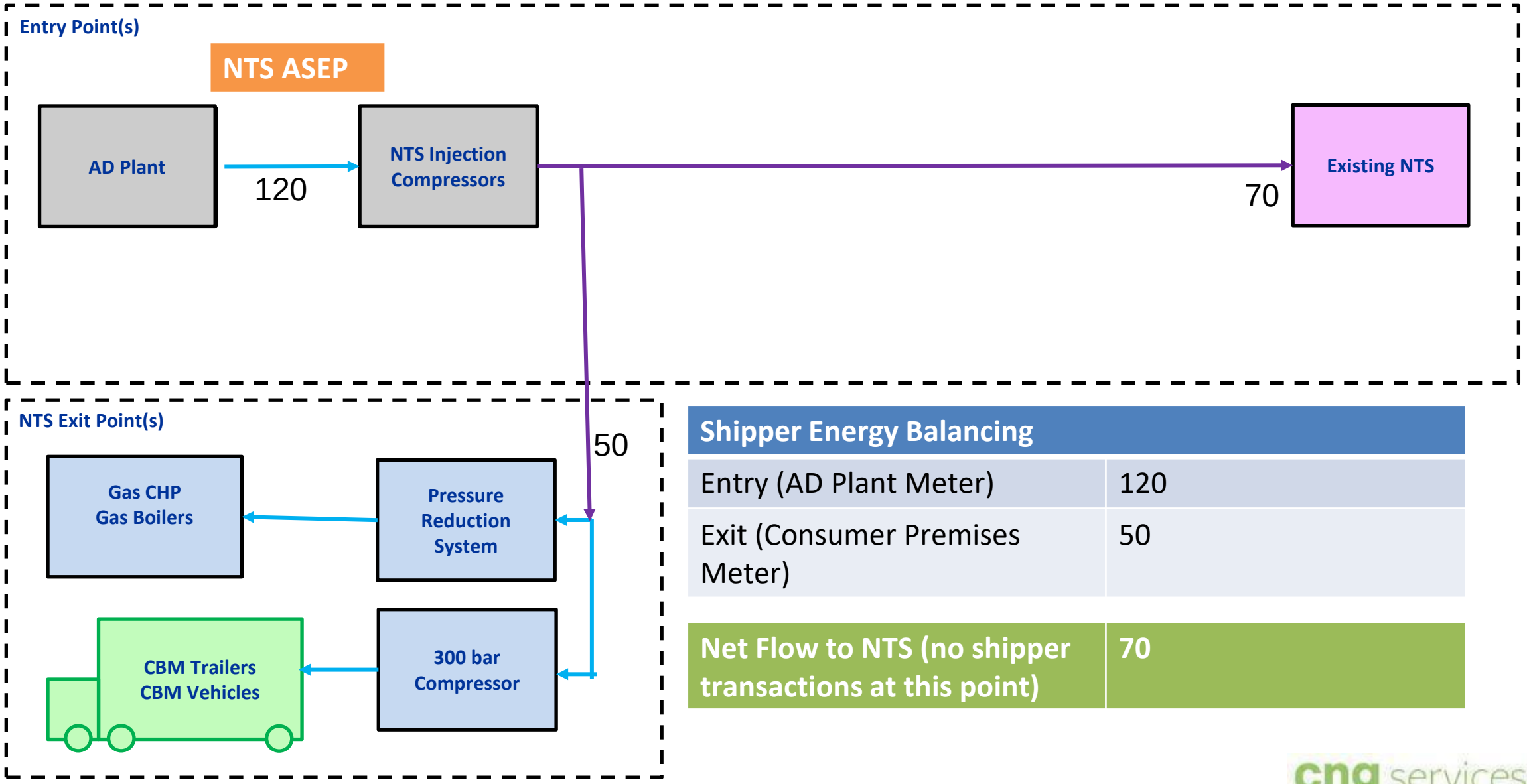
NTS Entry/Exit Connection – NTS Pipelines



Shipper Energy Balancing	
Entry (AD Plant Meter)	120
Exit (Consumer Premises Meter)	50
Net Flow to NTS (no shipper transactions at this point)	**70**

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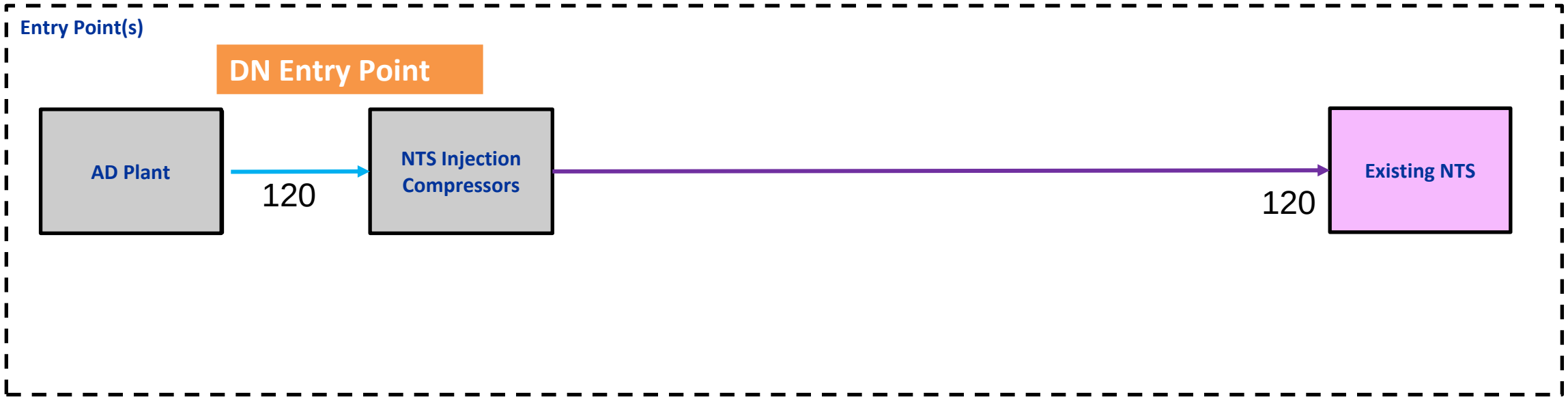
NTS Entry Connection – GDN Pipeline



Shipper Energy Balancing	
Entry (AD Plant Meter)	120
Exit (Consumer Premises Meter)	0
Net Flow to NTS (no shipper transactions at this point)	**120**

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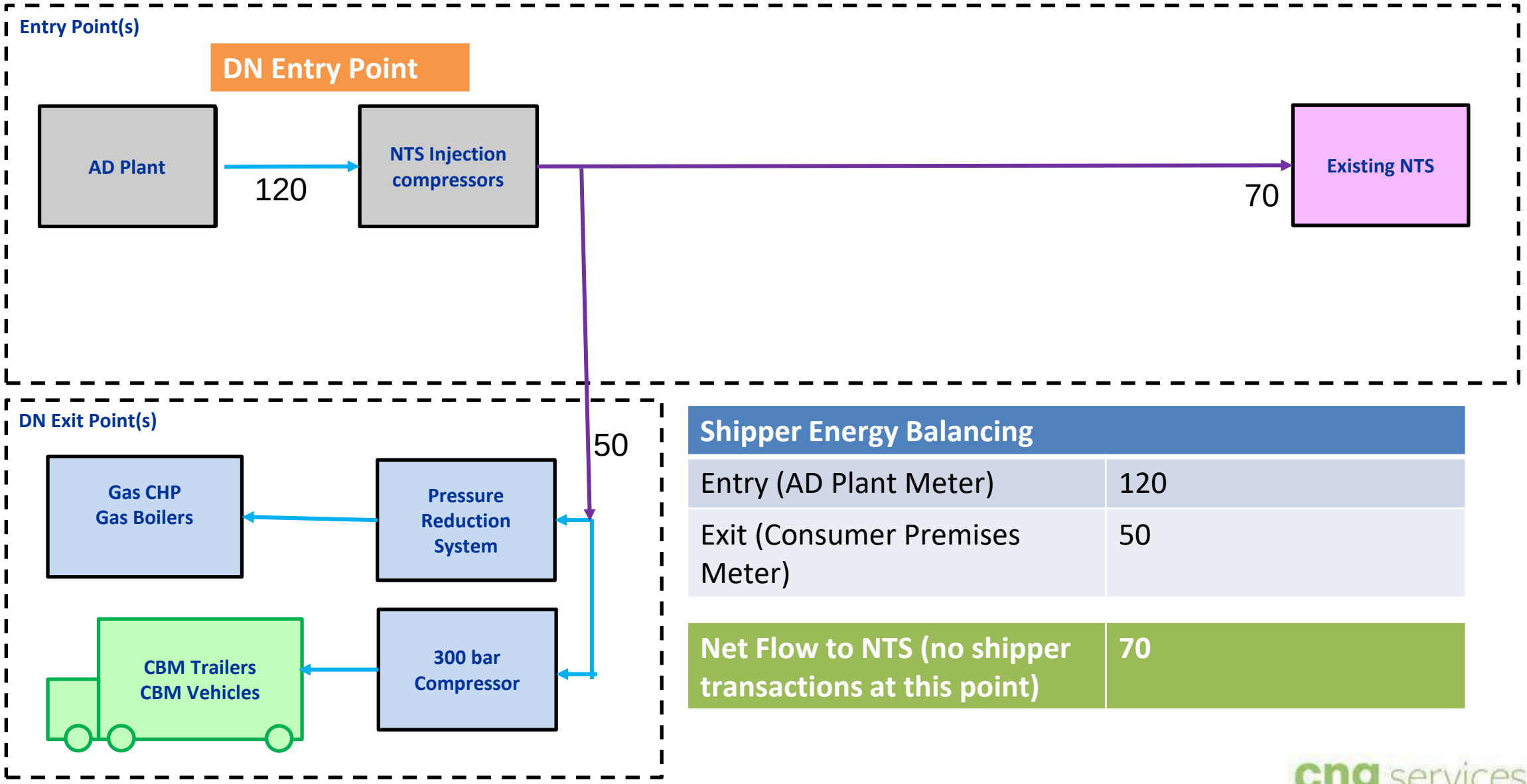
NTS Entry/Exit Connection – GDN Pipelines



Shipper Energy Balancing	
Entry (AD Plant Meter)	120
Exit (Consumer Premises Meter)	50
Net Flow to NTS (no shipper transactions at this point)	**70**

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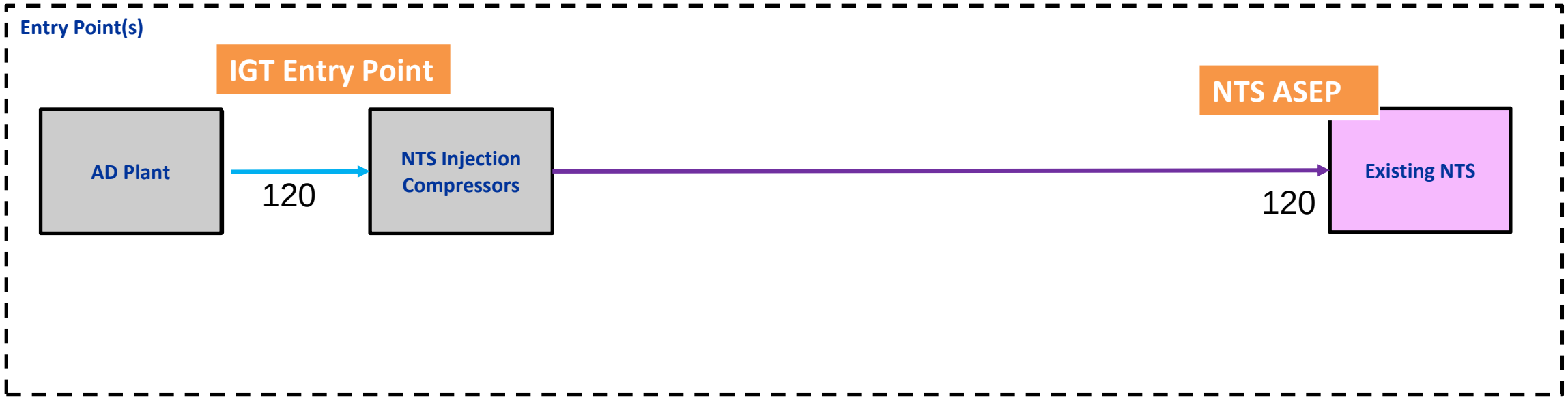
NTS Entry Connection – IGT Pipeline



Shipper Energy Balancing	
Entry (NTS ASEP Meter)	120
Exit (Consumer Premises Meter)	0
Net Flow to NTS	**120**

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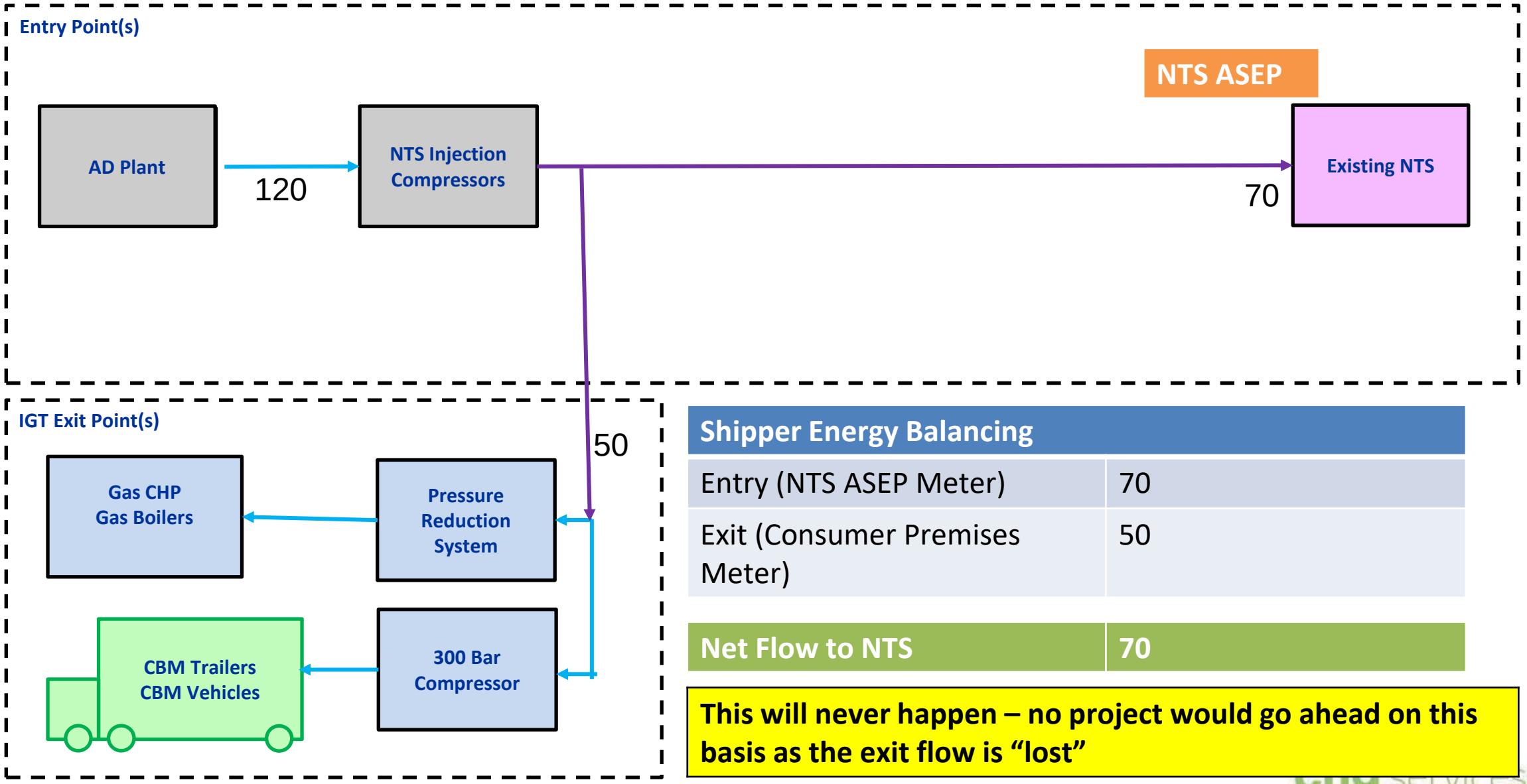
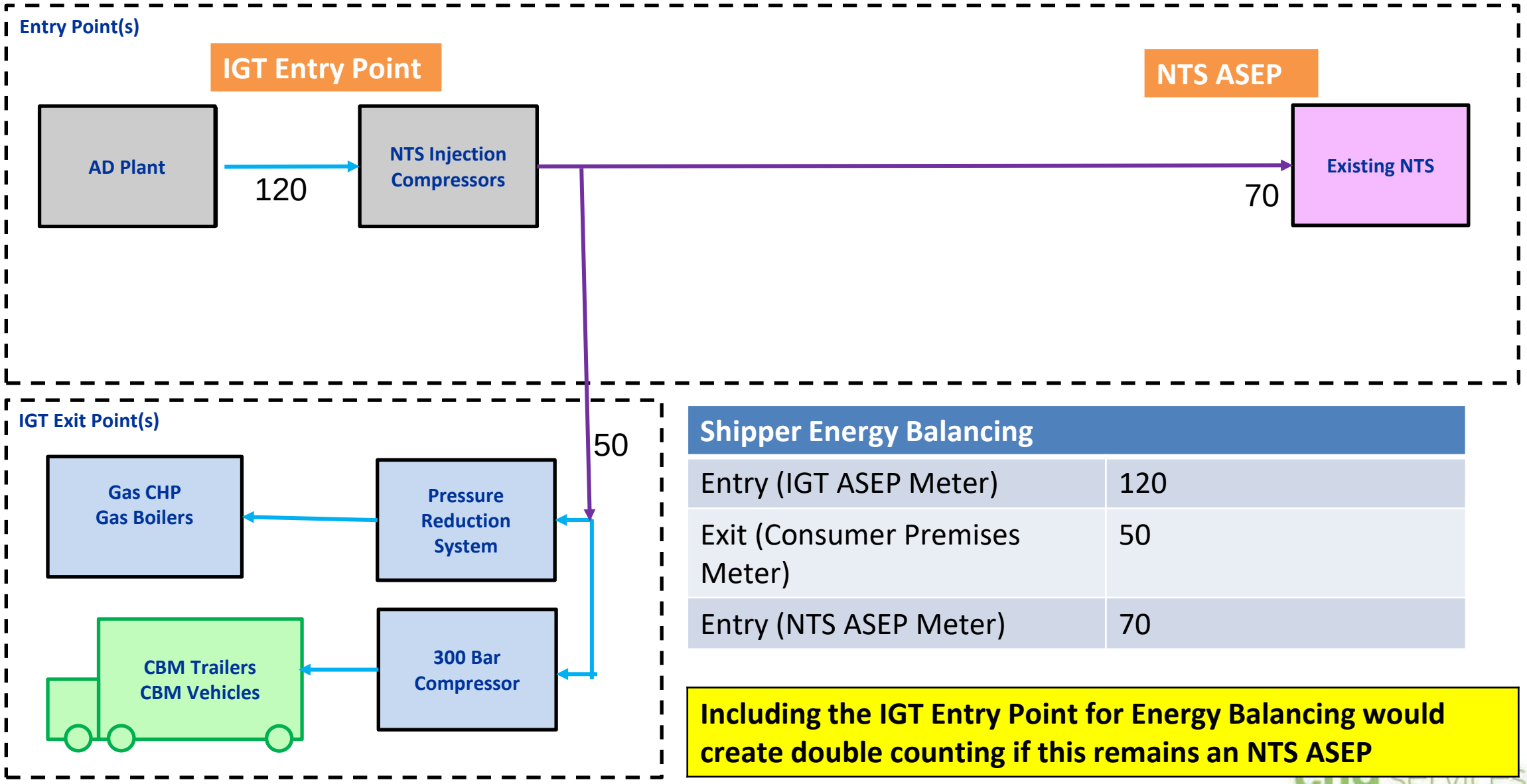
NTS Entry/Exit Connection – IGT Pipelines



Shipper Energy Balancing	
Entry (NTS ASEP Meter)	70
Exit (Consumer Premises Meter)	50
Net Flow to NTS	**70**

This will never happen – no project would go ahead on this basis as the exit flow is "lost"

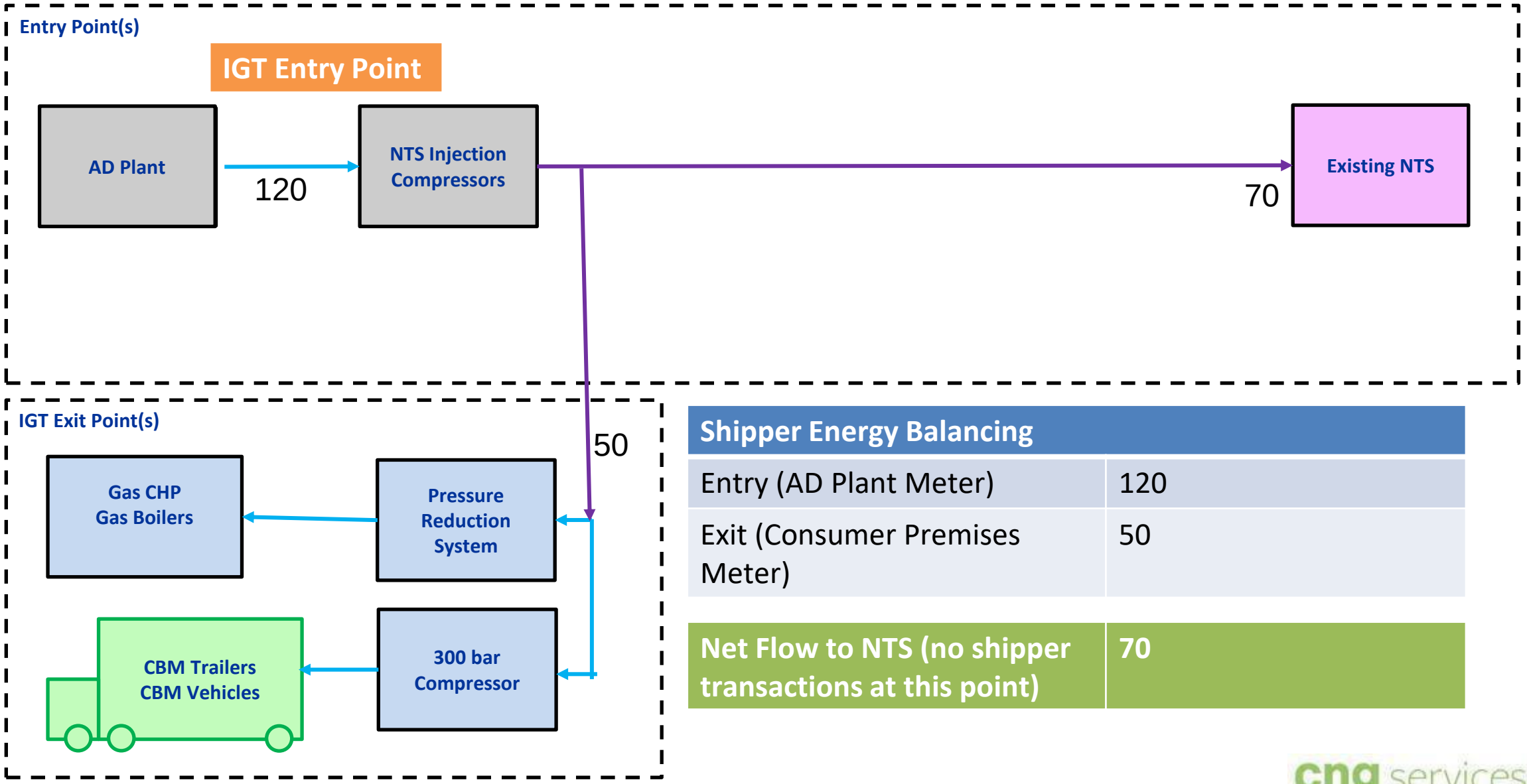
NTS Entry/Exit Connection – IGT Pipelines



Shipper Energy Balancing	
Entry (IGT ASEP Meter)	120
Exit (Consumer Premises Meter)	50
Entry (NTS ASEP Meter)	70

Including the IGT Entry Point for Energy Balancing would create double counting if this remains an NTS ASEP

Modification 0871 Proposal



Shipper Energy Balancing	
Entry (AD Plant Meter)	120
Exit (Consumer Premises Meter)	50
Net Flow to NTS (no shipper transactions at this point)	**70**

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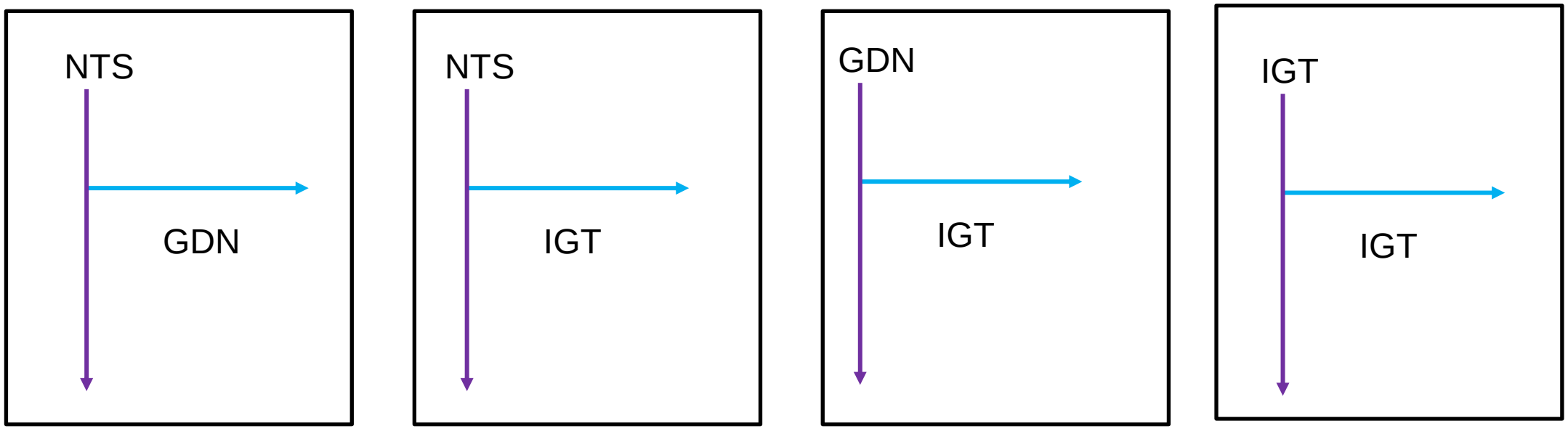
Within System UNC Precedents



No flow from one system to another involves shipper transactions
No energy balancing consequences
Treated as exit rather entry

Should gas into the NTS be any different?

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Mod 0871 Proposal

- Energy balancing transactions should be where gas enters/leaves the GB network
  - Entry accounted for where gas enters the network
  - Exit accounted for where gas leaves the network
- A UNC definition is Total System, which excludes IGTs
  - NTS Entry references the Total System
  - An ASEP is created where gas enters the Total System
- Proposed solution is to assume gas enters the Total System when it enters an NTS connected IGT
  - As it is the point where gas enters the Total System, the IGT Entry point is brought within Energy Balancing
  - As the gas is assumed to have already entered the Total System, no NTS ASEP is created

- No change is proposed to any other UNC requirements, including the treatment of gas flowing to the NTS