Please fill in the name of the event you are preparing this manuscript for.	2020 International Petroleum Technology Conference	
Please fill in your 5-digit IPTC manuscript number.	IPTC-19924	
Please fill in your manuscript title.	Accelerating Sustainability Journey in Midstream Gas with Software Technology	

Please fill in your author name(s) and company affiliation.

Given Name	Surname	Company
Ron	Beck	Aspen Technology
Rob	Howard	Aspen Technology

This template is provided to give authors a basic shell for preparing your manuscript for submittal to an IPTC meeting or event. Styles have been included (Head1, Head2, Para, FigCaption, etc) to give you an idea of how your finalized paper will look before it is published by IPTC. All manuscripts submitted to IPTC will be extracted from this template and tagged into an XML format; IPTC's standardized styles and fonts will be used when laying out the final manuscript. Links will be added to your manuscript for references, tables, and equations. Figures and tables should be placed directly after the first paragraph they are mentioned in. The technical content of your paper WILL NOT be changed. Please start your manuscript below.

Abstract

Objectives/Scope: Sustainability is a strong and accelerating business driver. This paper will cover several key sustainability drivers; namely, energy and utility use in gas processing, water use, sulfur recovery, and emissions minimization. Most midstream operations were not designed with optimized sustainability in mind. However, effective use of data, models, and operator KPI dashboards, provide a leadership ability to improve sustainability.

Methods, Procedures, Process: This paper will describe an integrated approach, from wellhead to sale gas, to optimizing the key sustainability drivers. Starting from an asset's currently available data streams, an architecture and solution will be described that is suitable for operating, brownfield and greenfield assets, that accomplishes monitoring of key sustainability metrics as well as optimization of the midstream asset to optimize between the parameters of product value, energy use optimization, water use optimization, emissions, and safety. The paper will discuss case studies from organizations such as ADNOC, KOC, and ConocoPhillips as well as a recommended adoption strategy. Key components that will be described include; complete utility optimization model that can be run online or offline, energy integration model, process simulation model, and risk model. Future near-term innovations that will further expand the opportunity for improvement will be touched on.

Results, Observations, Conclusions: This approach typically can achieve 1-5% incremental product value, 5% energy reduction, 20% reduced water use, and 5-10% reduced carbon footprint. This will be validated through several case study approaches.

Novel/Additive Information: What is new in this approach is the extent to which the different models and methods are integrated to enable what-if tradeoffs between economic and sustainability driving parameters.