

Table 57. Assumed Rates of Technological Progress for Unconventional Gas Recovery

Technology Group	Item	Type of Deposit	Technology Case			
			Slow	Reference	Rapid	
1	Year Hypothetical Plays Become Available	All Types-Non EPCA	NA	NA	2016	
2	Decrease in Extended Portion of Development Schedule for Emerging Plays (per year)	All Types - EPCA	2021	2021	2021	
		All Types - Non EPCA	0.83%	1.67%	2.50%	
		All Types - EPCA	1.25%	2.50%	3.75%	
3	Expansion of Existing Reserves (per year -declining 0.1% per year; eg., 3.0, 2.0...)	Tight Sands	1.0%	2.0%	3.0%	
		Coalbed Methane & Gas Shales	2.0%	4.0%	6.0%	
4	Increase in Percentage of Wells Drilled Successfully (per year) Year that Best 30 Percent of Basin is Fully Identified	All Types	0.1%	0.2%	0.3%	
		All Types	2048	2022	2013	
5	Increase in EUR per Well (per year)	All Types	0.13%	0.75%	0.38%	
6	Increase in EUR per Well (per year)	All types	0.13%	0.25%	0.38%	
7	Decrease in Drilling and Stimulation Costs per Well (per year)	All types	NA	NA	NA	
8	Decrease in Water and Gas Treatment O&M Costs per Well (per year)	All Types	NA	NA	NA	
9	Year Advanced Well Completion Technologies Become Available	Coalbed Methane & Tight Sands & Gas Shales	NA	NA	NA	
			NA	2016	2009	
10	Year Advanced Recovery Technologies Become Available	Increase in EUR per well (total increase)	Coalbed Methane	NA	NA	NA
			Tight Sands	NA	10%	15%
			Gas Shales	NA	20%	30%
			Coalbed Methane & Tight Sands	NA	NA	2016
			Gas Shales	NA	NA	NA
			Increase in EUR per well (total increase)	Coalbed Methane	NA	NA
11	Proportion of Areas Currently Restricted that Become Available for Development (per year)		Tight Sands	NA	NA	15%
			Gas Shales	NA	NA	NA
			Coalbed Methane	NA	NA	0.75
			Tight Sands	NA	NA	0.00
			Gas Shales	NA	NA	NA

EUR = Estimated Ultimate Recovery.

O&M = Operation & Maintenance.

CBM = Coalbed Methane.

EPCA = Those plays in the Rocky Mountain basins assessed in 2002 under the authority of the Energy Policy and Conservation Act (EPCA).

Source: Reference Technology Case, Advanced Resources, International; Slow and Rapid Technology Cases, Energy Information Administration, Office of Integrated Analysis and Forecasting.