

IGU

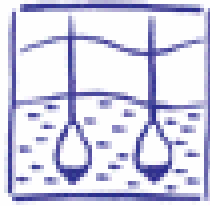
Working Committee 2 UGS

UGS: Achievements and trends in the field of technical efficiency, environment stability and safety

Report Study Group 2.2 for the World Gas Conference

Dr. Alexander Grigoriev, VNIIGAZ
Dr. Sergey Khan, GAZPROM

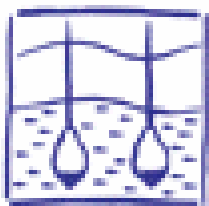
Amsterdam 5-9 June 2006



Answers

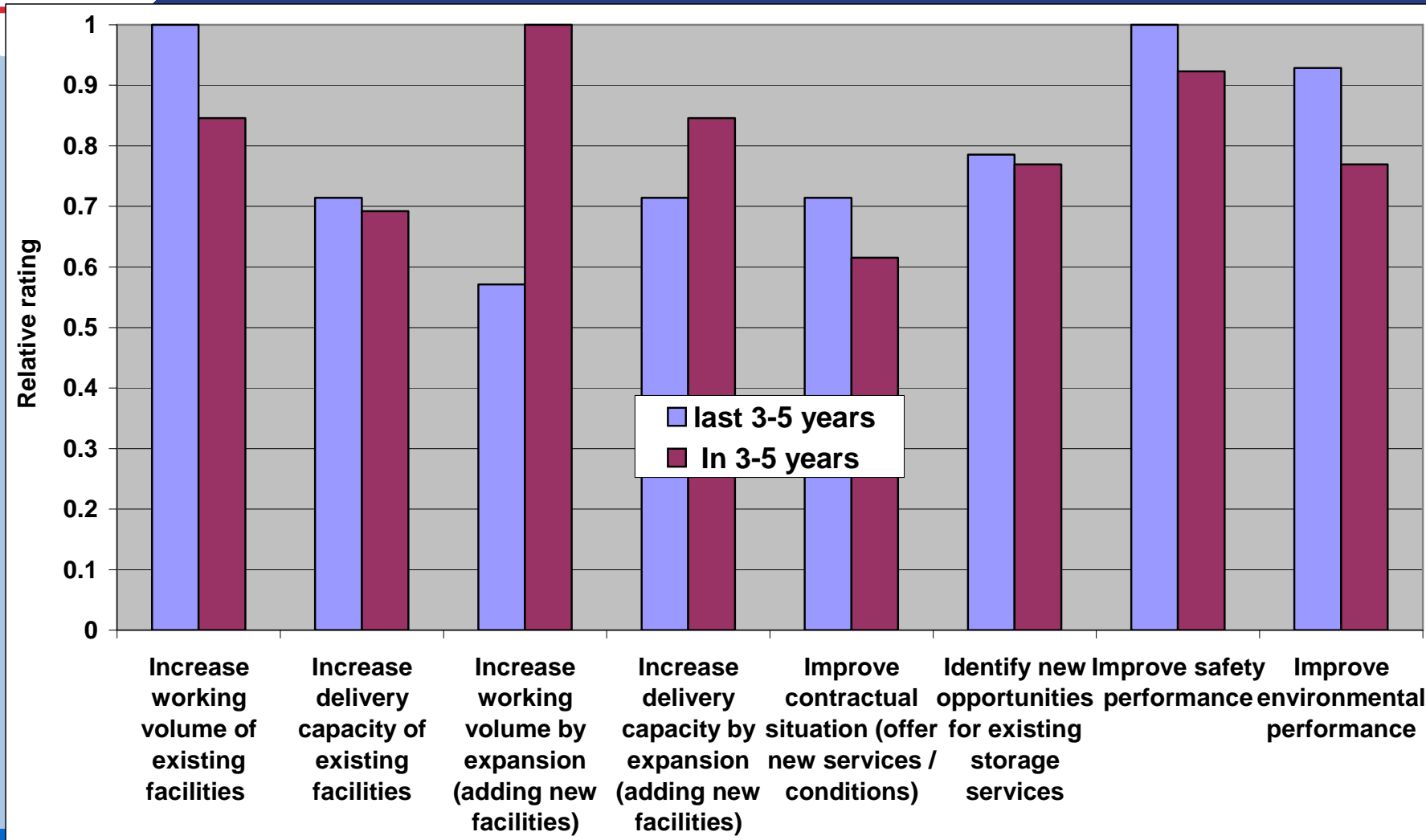
20 answers from 15 countries

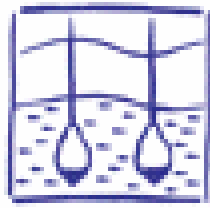
- **Europe** : *Austria, Croatia, Czech, Denmark, Germany, France, Italy, Netherlands, Romania, Russia, Spain, Sweden,*
- **Asia** : *Japan*
- **America** : *Argentina, USA*



1 General Aspects

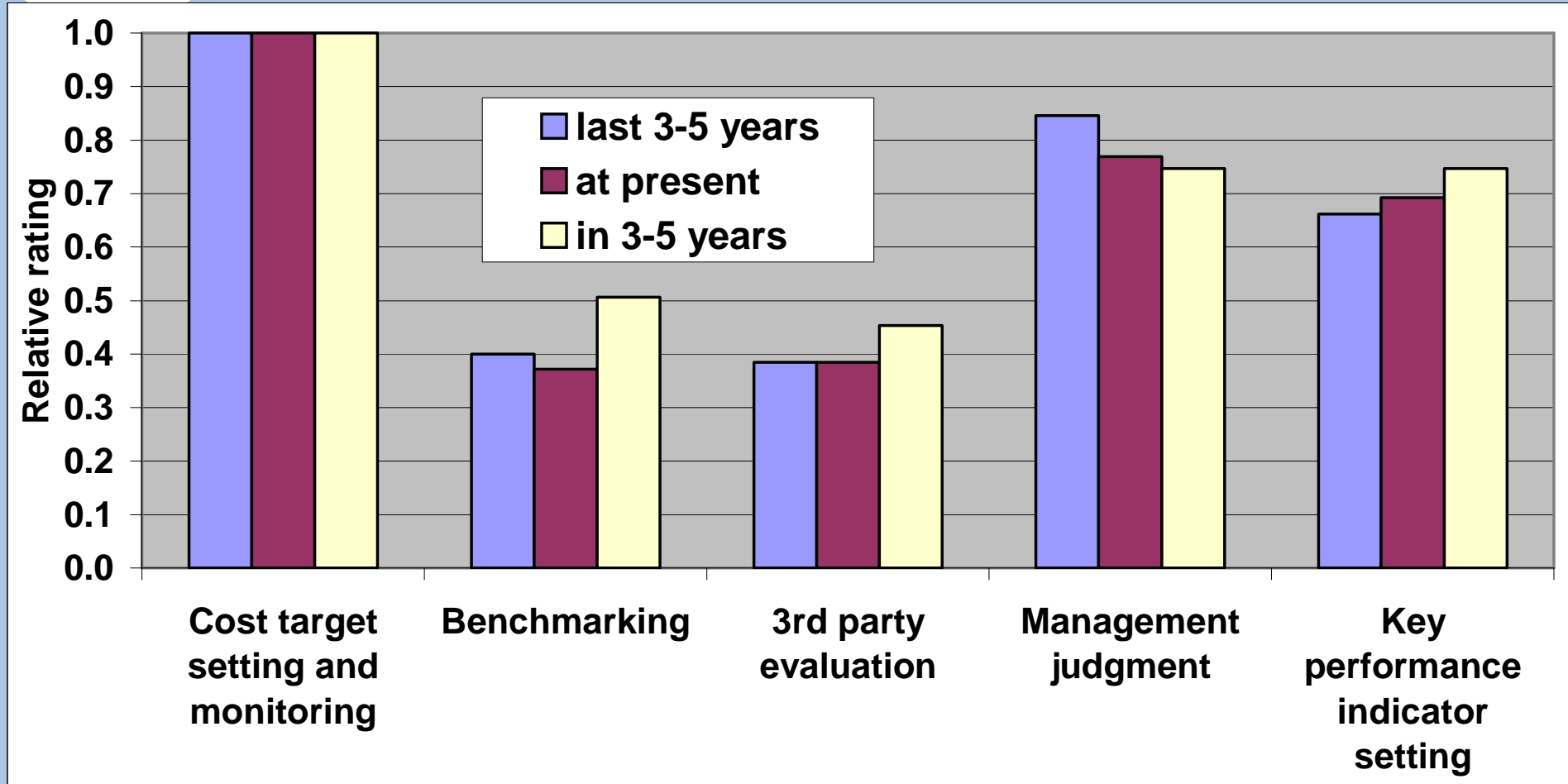
1.1 Improvements carried out on existing gas storages. Future trends

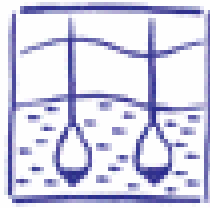




1 General Aspects

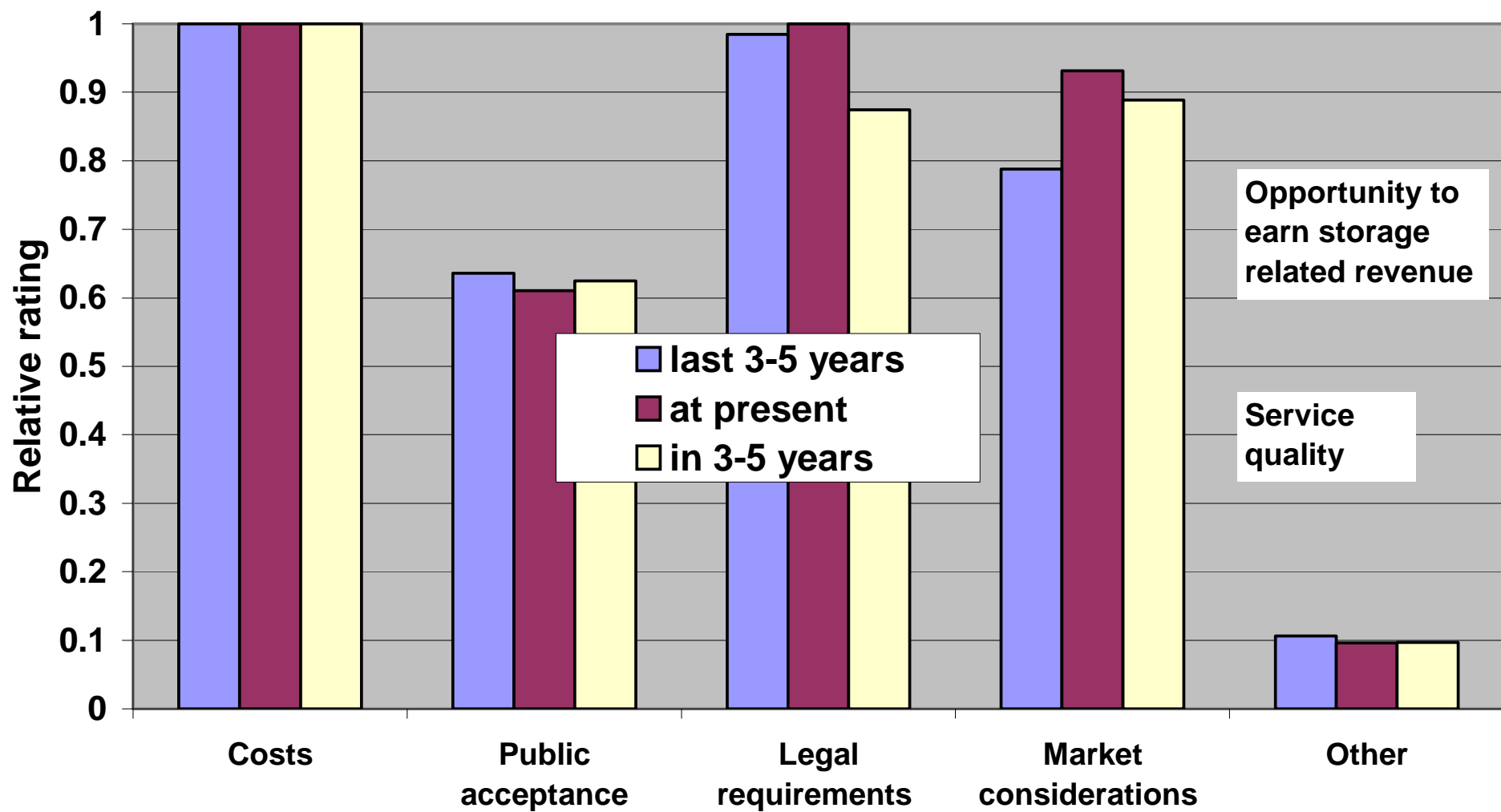
1.2 Techniques used to analyze the performance of storage

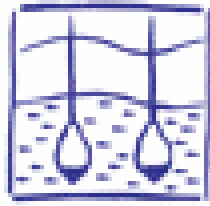




1 General Aspects

1.3 The most significant drivers for improvement





1 General Aspects

1.4 New techniques preferred to use in future

The most significant new techniques:

- **CO₂ sequestration**
- **Storage in lined Hard Rock Caverns**
- **Storage in abandoned Mines**

Less significant new techniques:

- **Gas sorption into the solids**
- **Storage as Gas Hydrates**