



# Unconventional Gas Global Technology Deployment

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# Introduction

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- **Unconventional resources will play an important role in fulfilling energy needs**
- **To meet world energy demands we must identify and quantify potential unconventional energy resources**
- **Basin analog methodology is useful for identifying geologic analog**



# Introduction

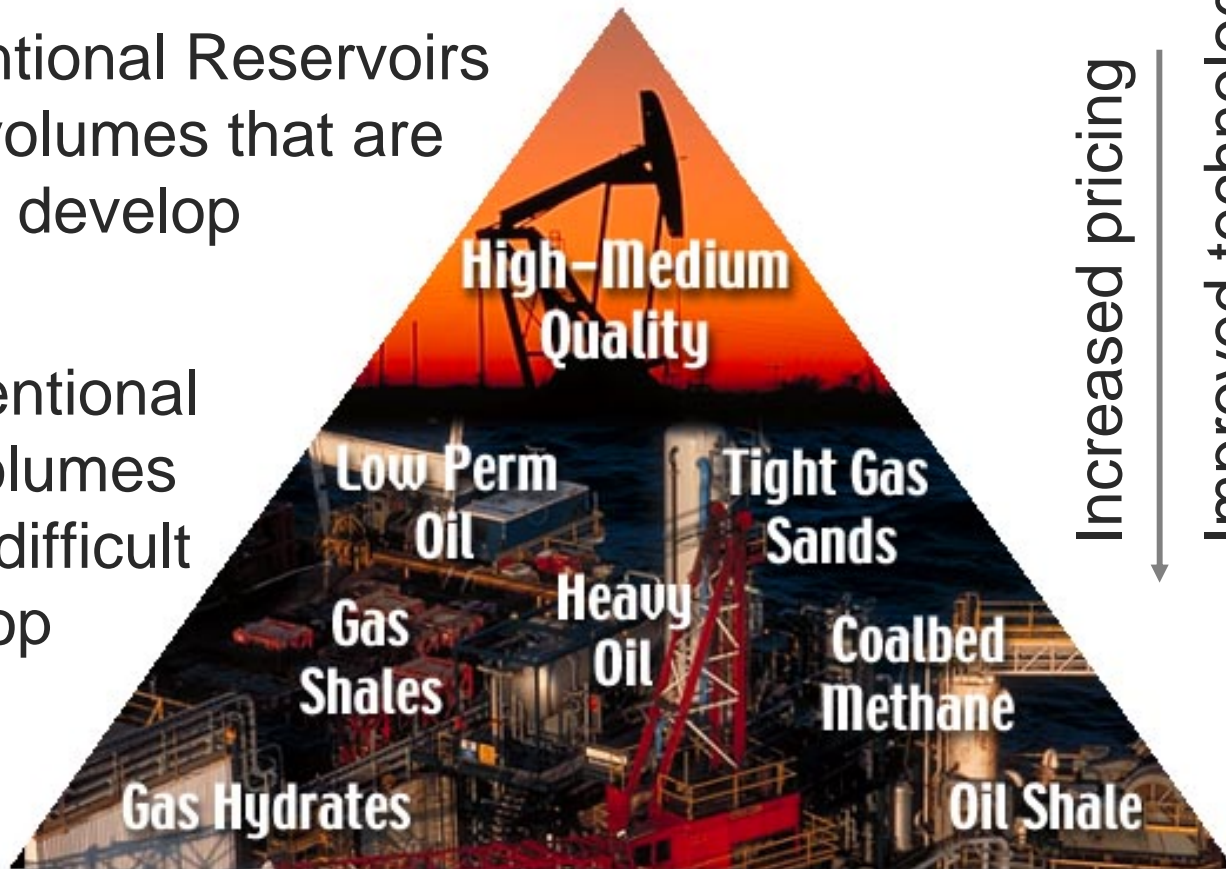
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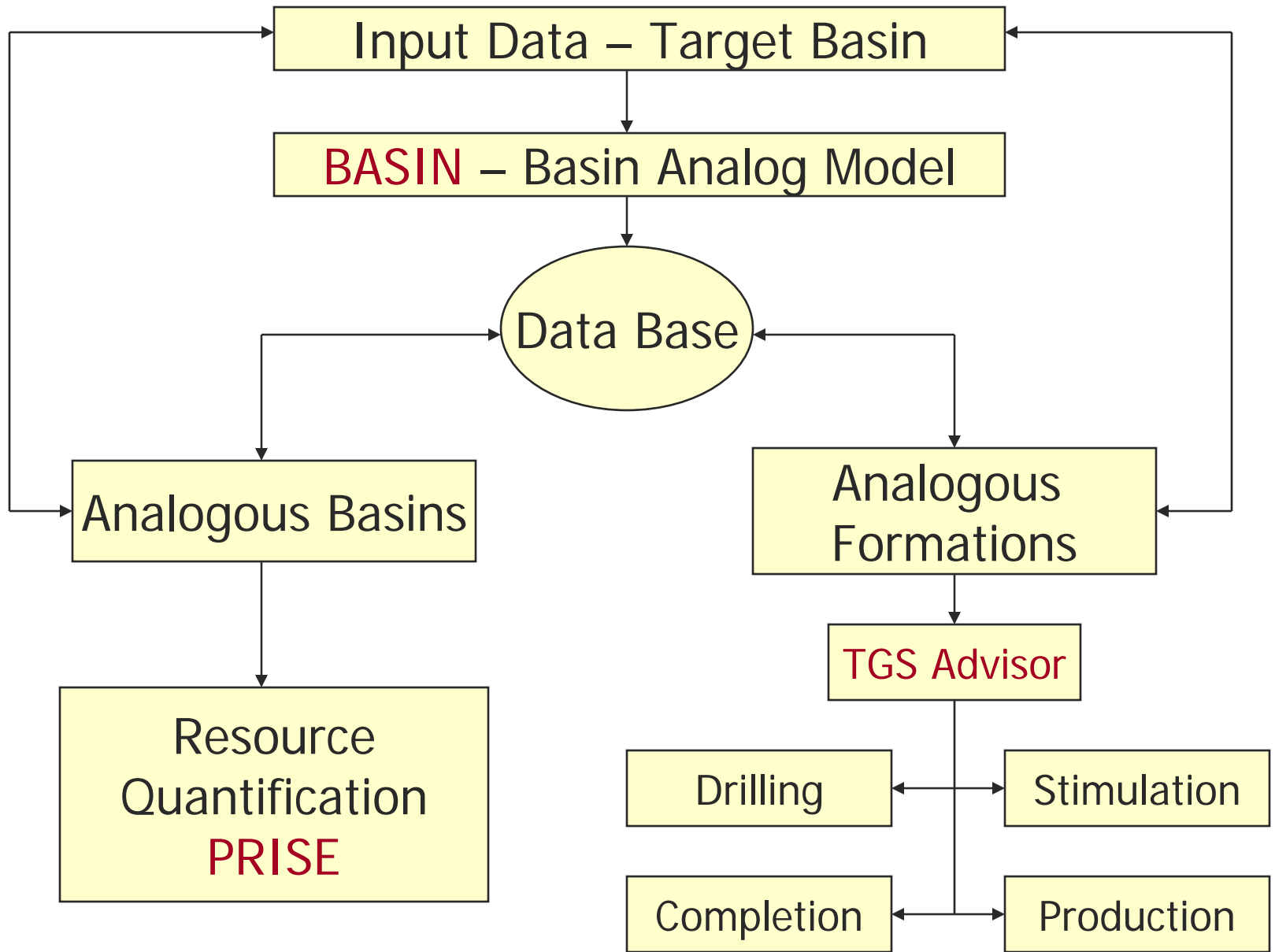
- **Step 1 - Develop a Basin Analog Model (BASIN)**
- **Step 2 – Develop method to estimate UCR volumes in frontier basins (PRISE)**
- **Step 3 – Develop software to determine best practices for UGRs in frontier basins (TGS Advisor)**

# What is the Resource Triangle ?

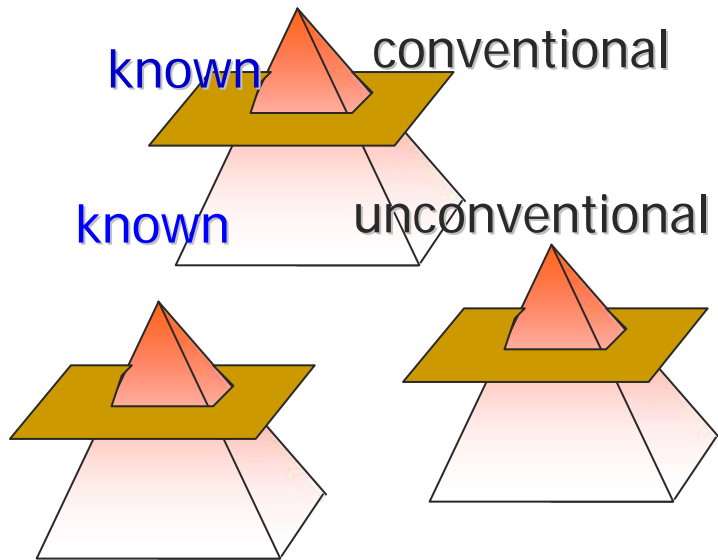
Conventional Reservoirs  
Small volumes that are  
easy to develop

Unconventional  
Large volumes  
that are difficult  
to develop

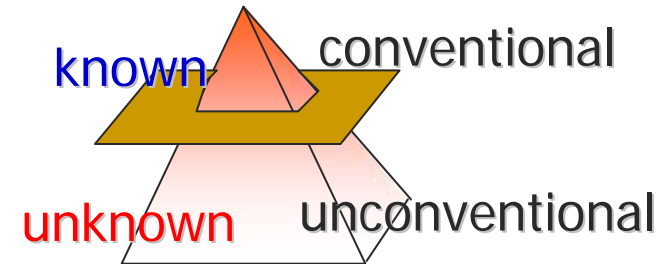




# Step 1 - Basin Analog

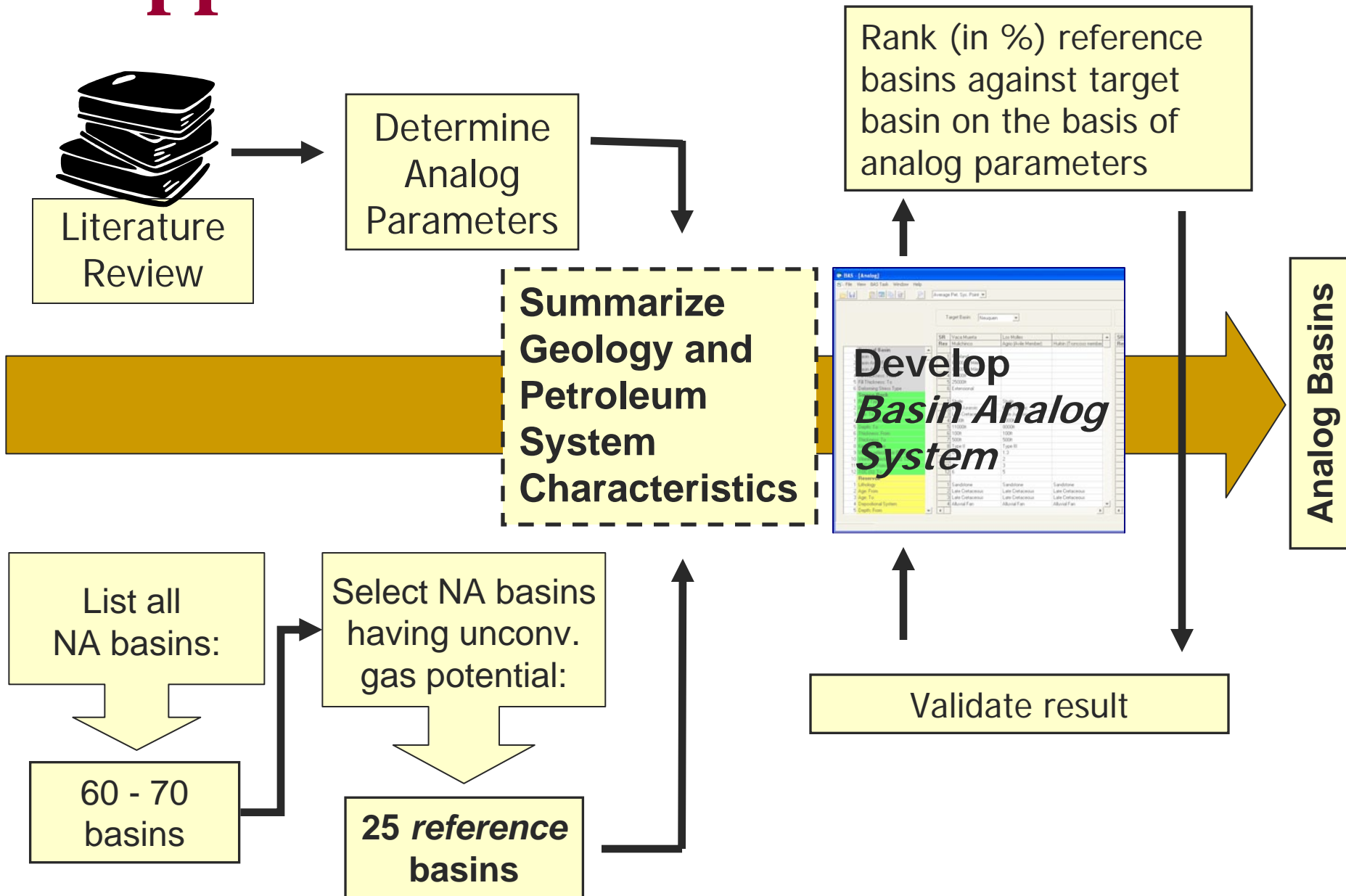


**U.S. BASINS** ([Reference](#))



**FRONTIER BASIN** ([Target](#))

# Approach



# Step 2 - Resource Quantification System

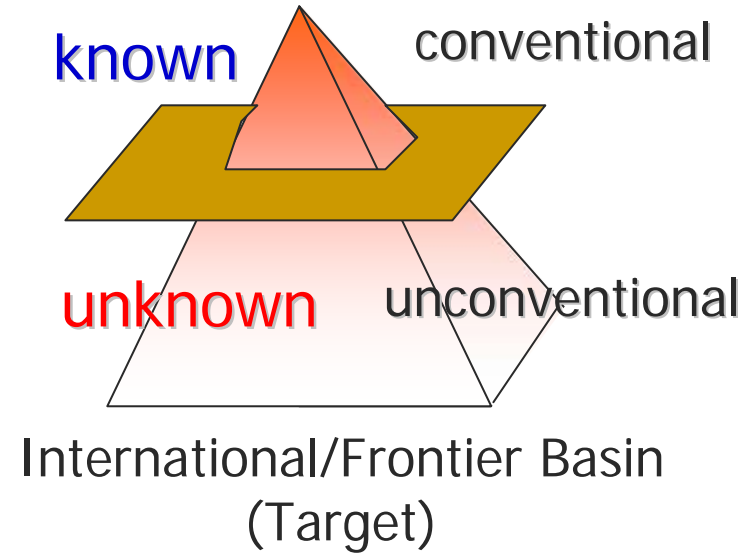
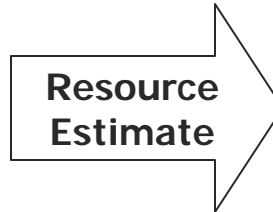
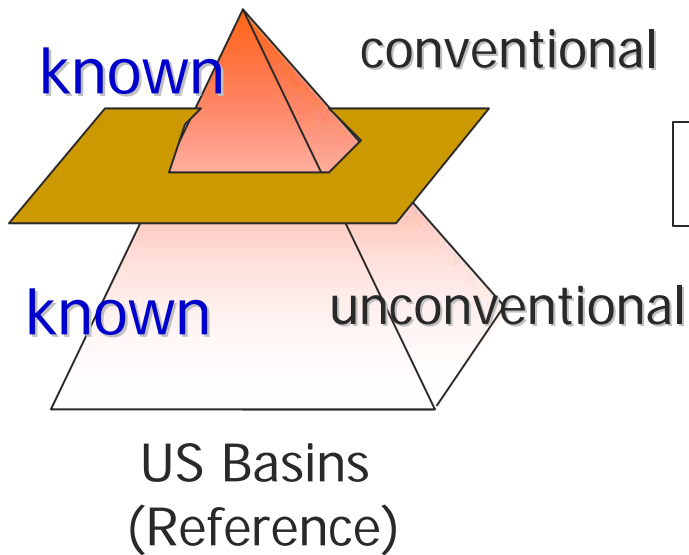
- **PRISE - Petroleum Resource Interaction System and Evaluation**
- **Determine acceptable analog basin (BASIN)**
- **Quantify and define the resources (PRISE)**
- **Generate resource estimates for frontier basin (PRISE)**



# PRISE – Objective & Challenges

- **Objective**
  - Define Resource Triangle for Reference Basins
  - Develop software to estimate resources in frontier basins based on analog basins
  
- **Challenges**
  - Finding consistent and accurate data
  - Energy agencies have different terminology
  - Validating resource estimates

# PRISE – The idea...

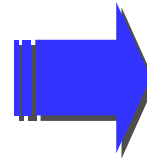
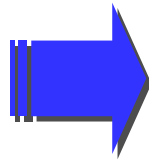


# Step 3 - Build a Tight Gas Sand Advisor

## INPUT:

Well/Reservoir data:

- ✓ Depth
- ✓ Temperature
- ✓ Permeability
- ✓ Lithology
- ✓ etc.

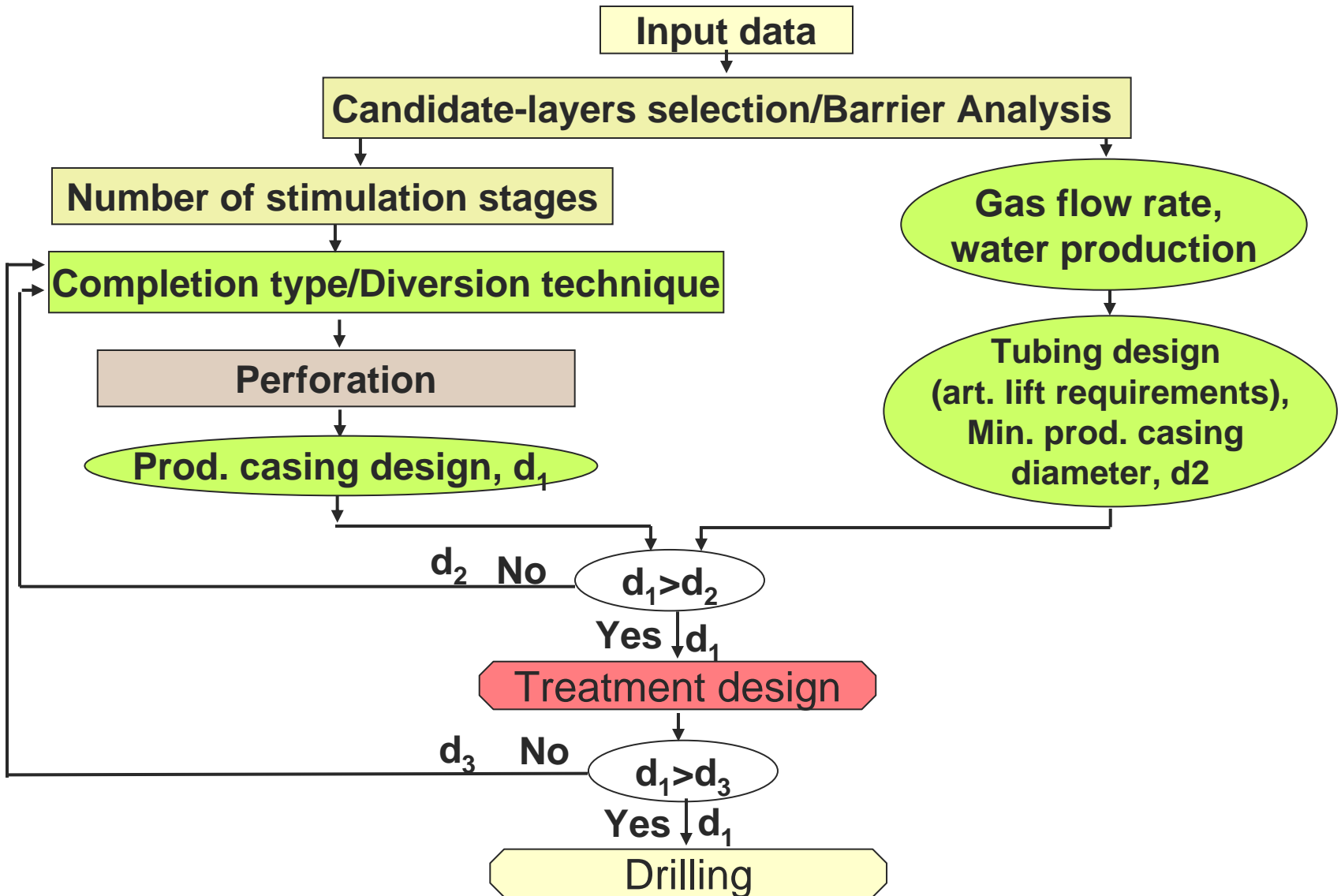


## OUTPUT:

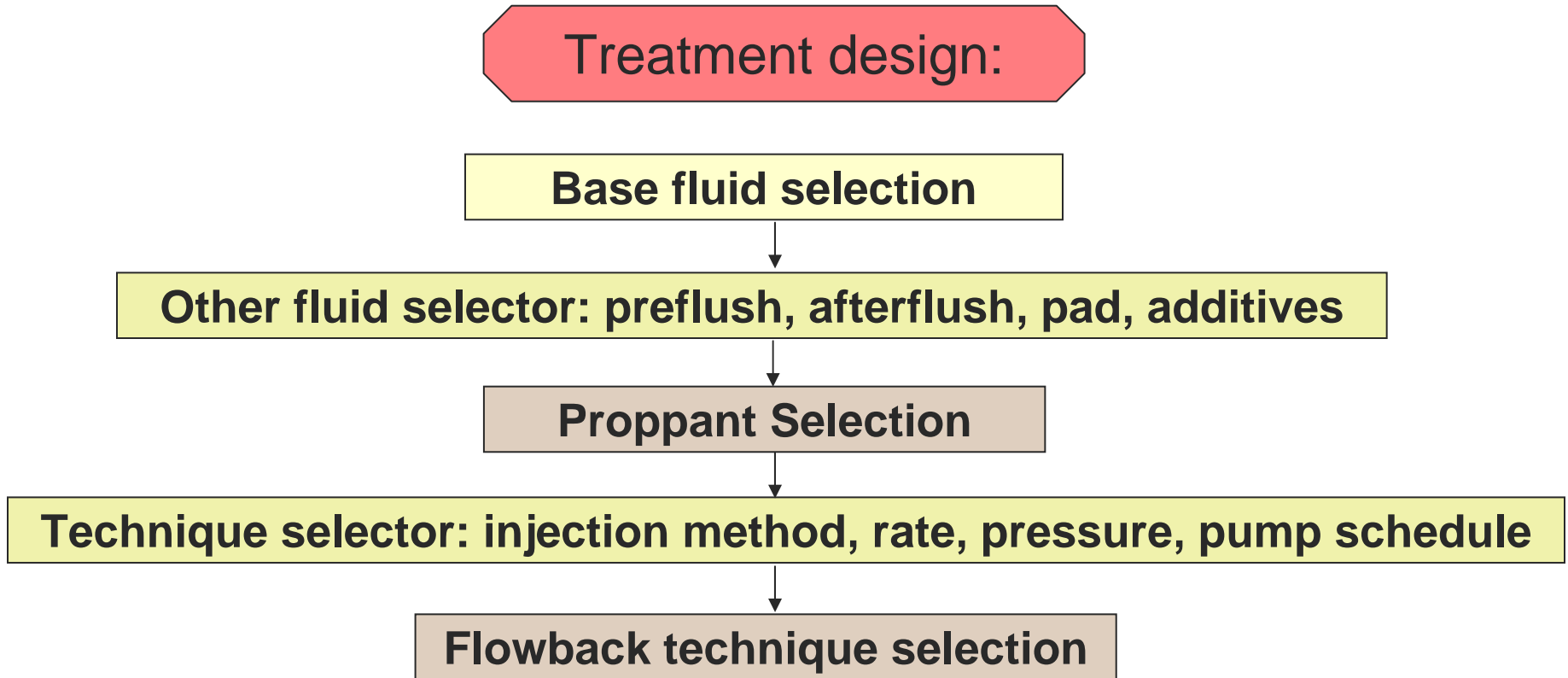
Advice on:

- ✓ How to drill
- ✓ How to complete
- ✓ How to stimulate
- ✓ How to produce

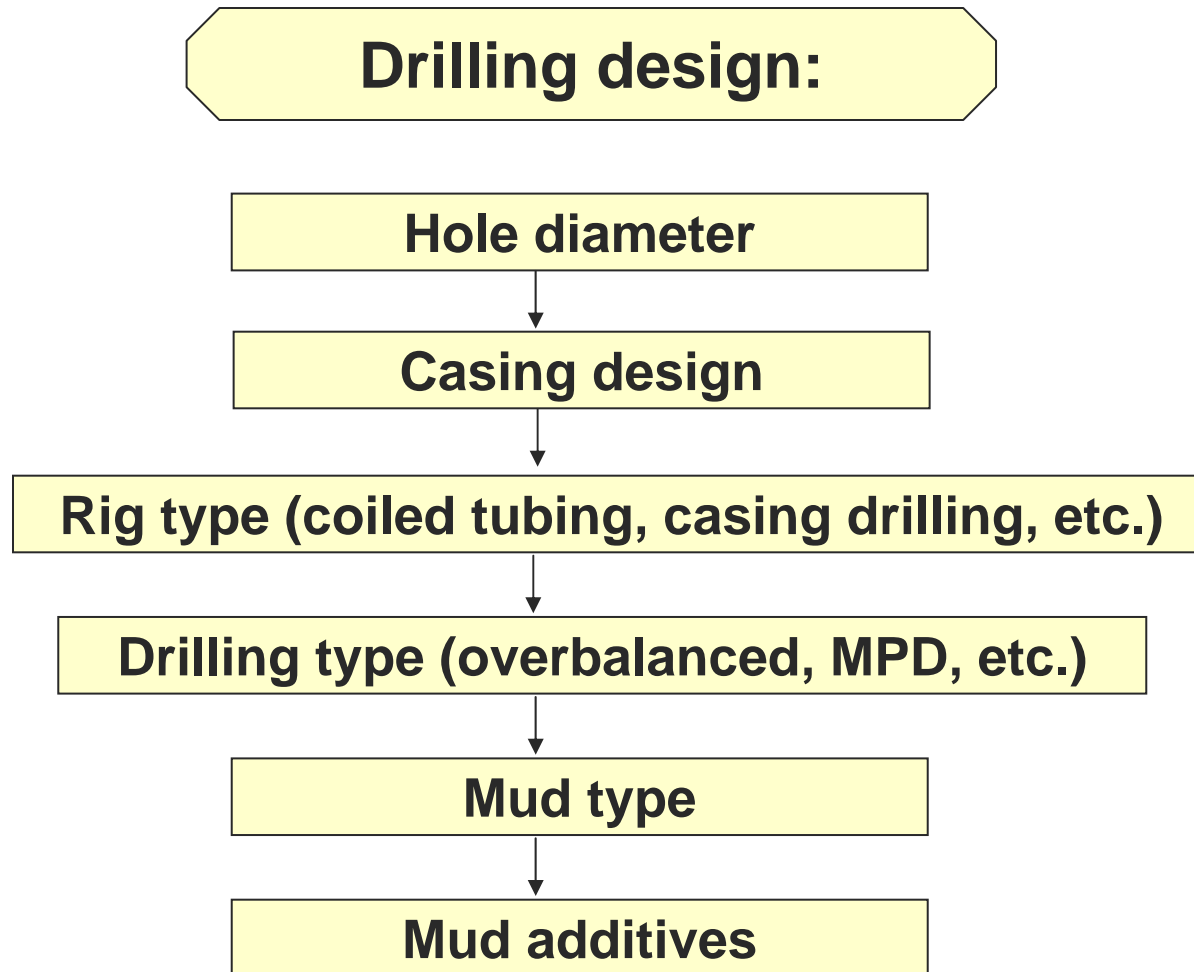
# TGS ADVISOR



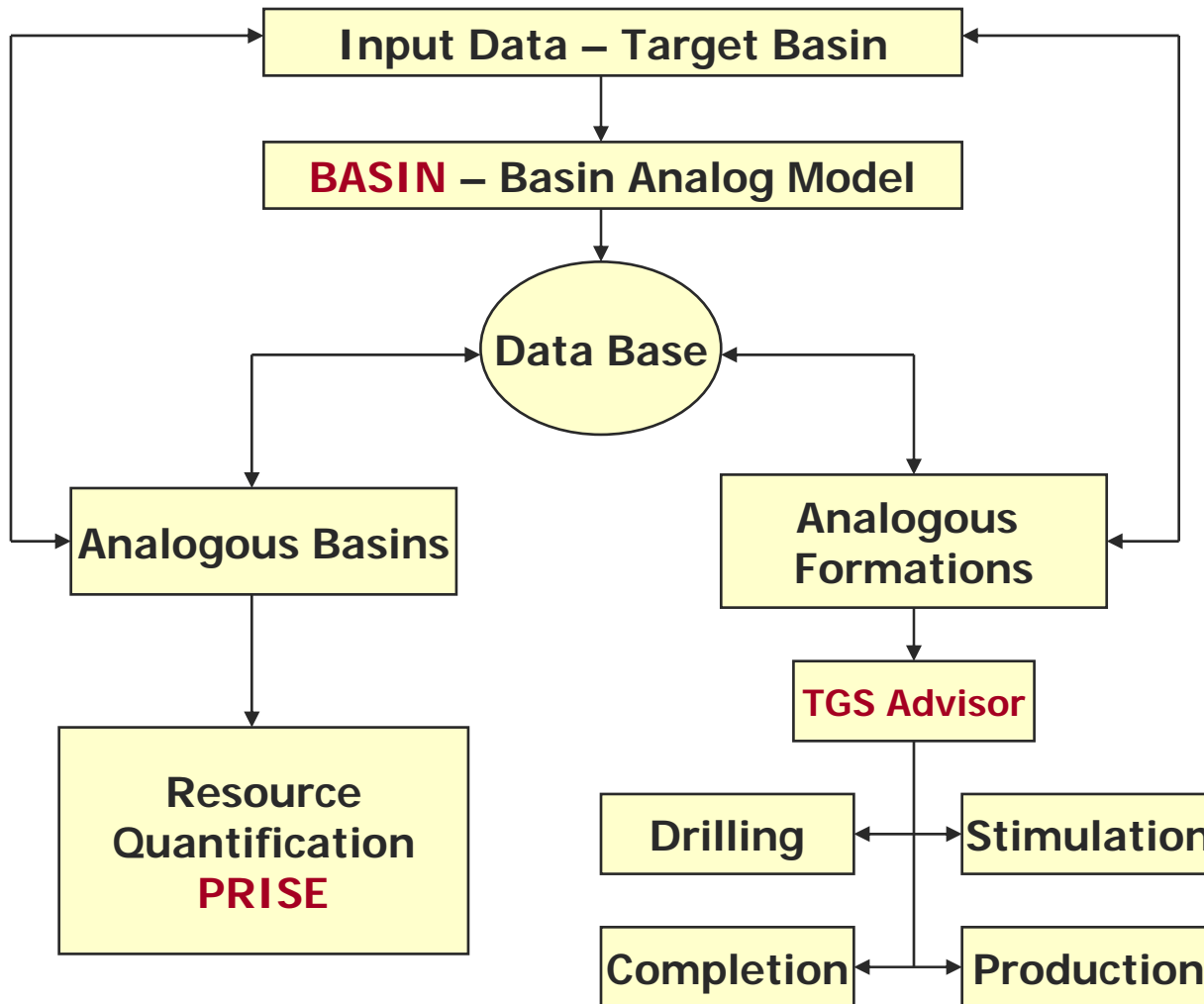
# TGS ADVISOR



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# BASIN/PRISE/TGS Advisor – an approach to take what we have learned in North America to develop UCRs world wide





**Thank you**