



VELESTO
energy

SPE Marginal and Mature Field Development and Operations



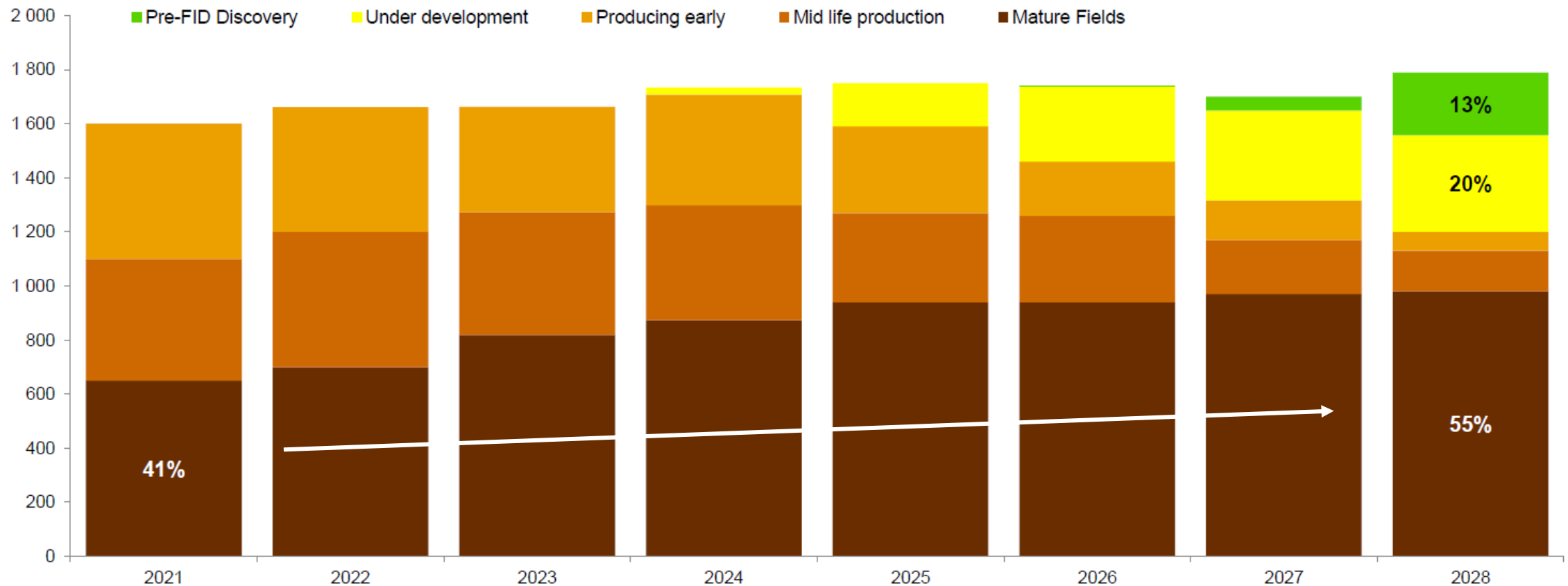
**Session 1: Panel Session – Ways to Monetise
Marginal and Mature Fields to Bring Value to
Project Economics**

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6 August 2024

Mature fields dominate Malaysia's production, reaching 55% by 2028 despite recent FIDs

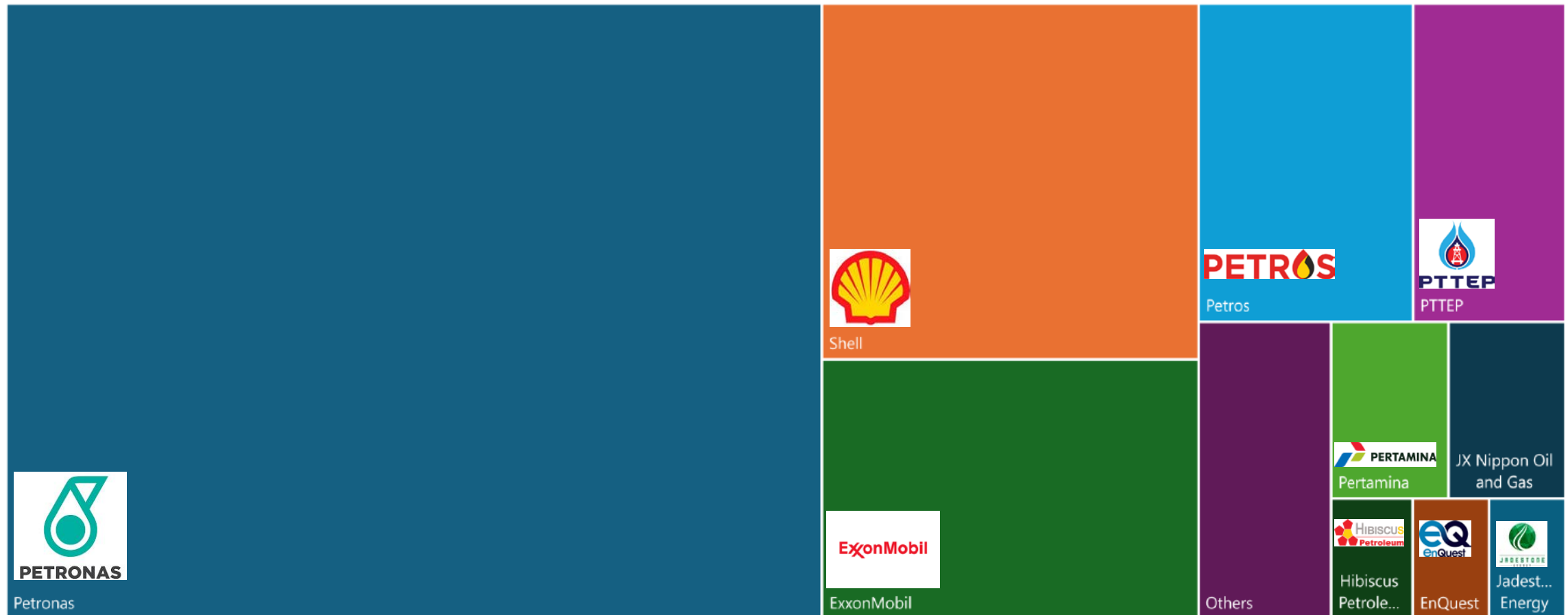
Malaysia oil and gas production, split by life cycle of assets
 Thousand boe per day



Source: Rystad Energy upstream solutions

NOCs and energy majors hold ~80% of Malaysia's mature fields production in 2028

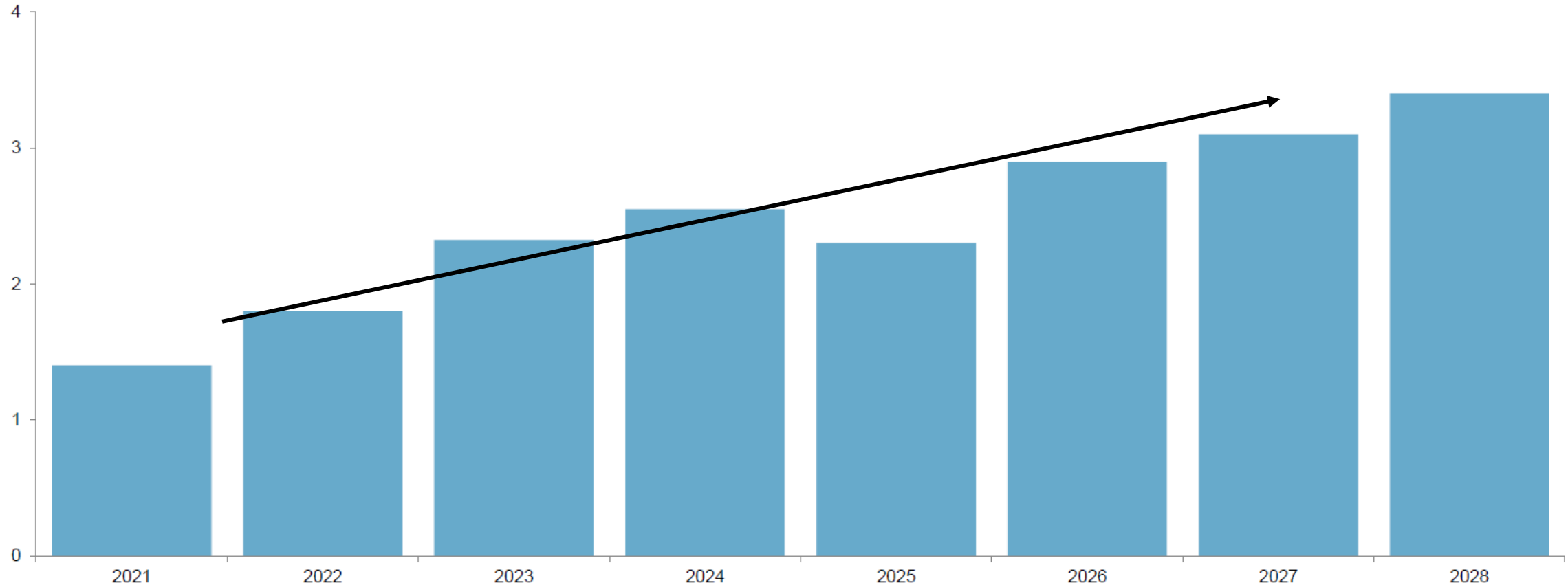
Percentage contribution by companies in Malaysia's mature fields production, 2028



Source: Rystad Energy upstream solutions

Slowdown in 2025, yet Malaysia's mature field investments grow towards \$4 Billion

Capital expenditure on mature fields in Malaysia
Billion USD



Source: Rystad Energy upstream solutions



MARGINAL AND MATURE FIELDS – CHALLENGES

Matured offshore oil and gas fields face several challenges that can impact their productivity and profitability

- **Decline in Production:**
 - As fields age, their **production rates naturally decline**
- **Aging Infrastructure:**
 - The equipment and infrastructure in mature fields are often outdated, leading to higher risks of safety and environmental issues
- **Increased Water Production:**
 - The **proportion of water produced along with oil and gas increases**, which can **complicate extraction and processing**
- **Operational Costs:**
 - **Costlier maintenance and upgrading** of facilities. Adopting and integrating new technologies into existing assets can be complex
- **Reservoir Management:**
 - More advanced and accurate reservoir characterization is crucial for the identification of **bypassed oil and recovery optimization**. **3D and 4D seismic imaging**, modeling, and simulation are often required
- **Environmental and Safety Concerns:**
 - Presents operational challenges such as catastrophic accidents, system failures, and occupational risks



Integrated Services

Integration services in offshore marginal and mature fields offer several benefits that enhance operational efficiency, economic viability, and sustainability

- Cost Reduction
- Enhanced Production Efficiency
- Improved Asset Management
- Innovation and Technology Adoption
- Collaborative approach

Small Field Assets (SFA) PSC

Small field assets provides a viable solution to the challenges faced by marginal and mature field assets in offshore Malaysia

- Utilization of Existing Infrastructure
- Maximizing value through Late Life Assets (LLA)
- Innovative commercial models
- Cluster Development

Sustainability of Work

Wells workover operations in mature offshore fields come with several sustainability challenges such as data gaps where data on well conditions and past interventions records were outdated, complex well architecture and limited real-time monitoring of wells

- Integrated Data Management System
- Advanced Monitoring Technologies

Technology

Fit-for-purpose technology for offshore mature fields focuses on cost-effective, efficient, and sustainable solutions tailored to the unique challenges of aging reservoirs

- Enhanced Oil Recovery (EOR) Techniques
- Improved Oil Recovery (IOR) Techniques
- Modular and Mobile Solutions
- Drilling Solutions