

AWS Ocean Energy Ltd

Delivering Tomorrow's Proven Technology

Lisbon,

November 2009



The ocean – not a romantic place



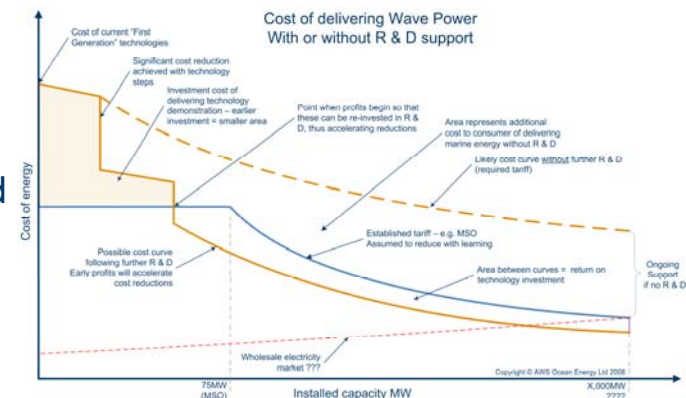


- We are a marine energy technology company, established in 2004 and based in Inverness in Northern Scotland
- Diversified IP portfolio to including Waveswing™, AWS-III, novel anchoring solutions, novel PTOs and other third generation WEC technologies
- Thorough understanding of wave energy challenges based on ocean test experience and subsequent design of AWS-II
- Now pursuing the AWS-III, a large multi-cell closed system device which addresses all of the practical and economic issues identified during years of development work
- Sub-system tests in 2009 leading to Full System Demonstration during 2010/11
- Pre-commercial pilot AWS-III device targeted for 2012/13 deployment, (FP6 funds)

History



- AWS deployed AWS-I, a 690kW rated device in the Atlantic Ocean off Portugal in 2004.
- 12 iterations of Waveswing concept completed prior to final design for testing
- AWS Ocean Energy established in 2004 to commercialise Waveswing device
- Optimisation and detailed engineering of the Waveswing (AWS-II) device has produced thorough understanding of wave power challenges
 - Many of these are not obvious until full-scale design stage
- Economic benchmarking of Waveswing by Black & Veatch in 2008 confirmed competitiveness of concept with other leading devices but underlined general sector failures
- ‘Back to Basics’ optimisation process during 2008 has produced multi-cell evolution of the Waveswing now known as AWS-III
 - Clear step ahead in terms of cost and risk reduction
 - Designed to meet customer life-cycle and functional requirements
 - Uniquely addresses ALL of the issues
- Sub-systems tests in 2009 prove key component feasibility ahead of progressive open-water testing through 2010/11



Board and Tech Advisory



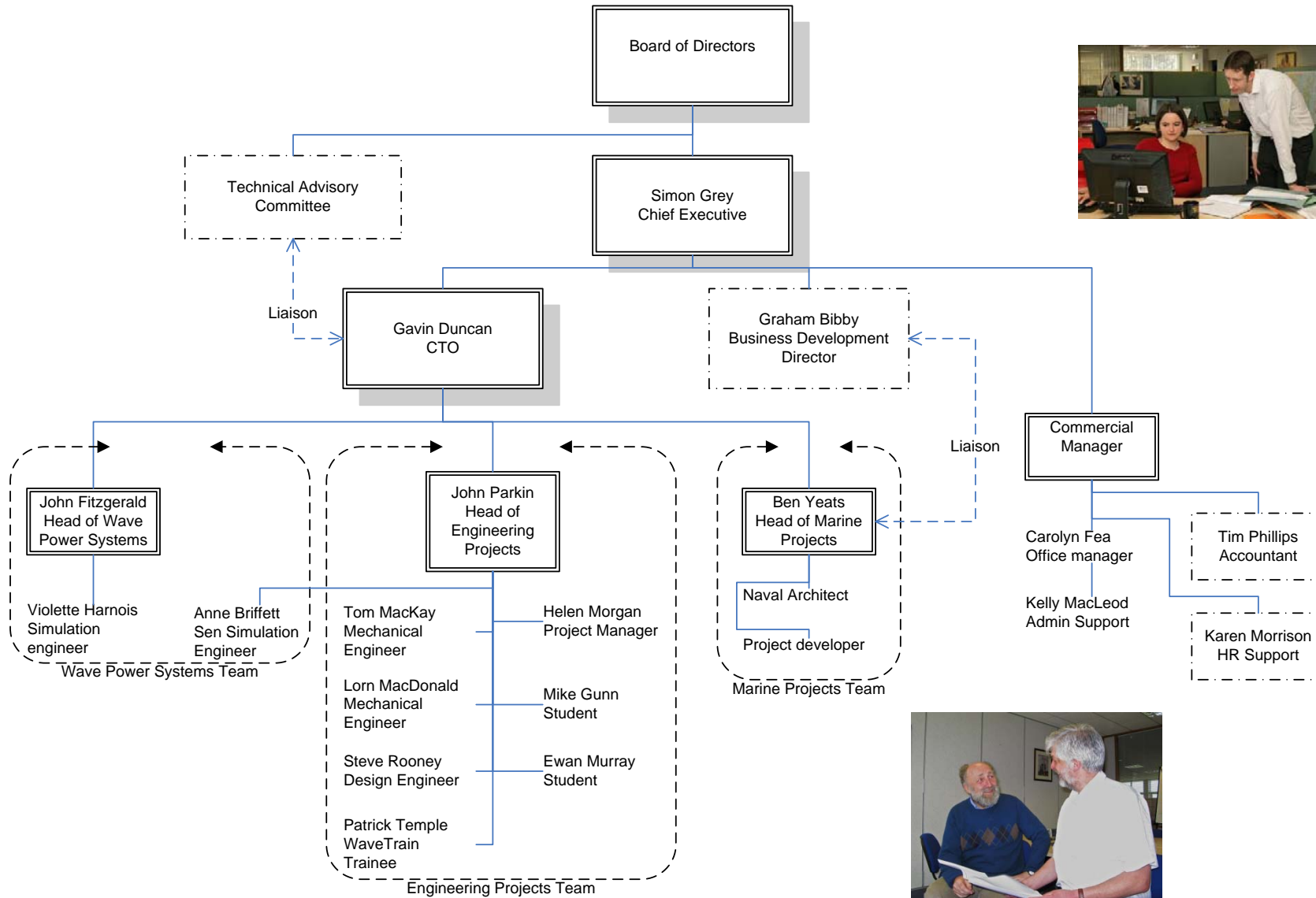
Board of Directors

Person	Role	Experience
John Anderson	Chair	CA Specialist in young companies, CEO of Entrepreneurial Exchange
Simon Grey	Chief Executive	C.Eng Technology company growth, renewables project development, finance, design & operations
Graham Bibby	BD Director	Former MD of Weir Group companies, offshore business development engineering & delivery
Ahmed Moussa	NXD & Spain country rep	C.Eng Former general manager of Gamesa, MD of GE Wind S.A.
Terry Rhodes	NXD	C.Eng Head of Offshore Structures for Shell UK
Aruna Subramanian	NXD	C.Eng, MBA Investment analyst, former oilfield technologist
William Ramsay	NXD	Former fund manager & broker, CEO of TX listed oil co

Technical Advisory Committee

Person	Qual's	Experience
Bruce Storm	Ph.D, MBA	Ex Halliburton R & D physicist
Prof Antonio Sarmiento	Ph.D	IST Lisbon, Head of Portugal's Wave Energy Centre
Dr Tom Thorpe	Ph.D	Renowned wave energy specialist
Andrew Mill	B.Sc C.Eng	Chief Exec of NaREC, former MD of EMEC
Capt. Peter Hodgetts	Master Mariner	MD of SeaRoc, marine engineering specialists

AWS Ocean Energy team



Team – broad experience



Person	Qualifications	Experience		Disc Lead
Simon Grey	B.Sc. C.Eng, MIET	Energy technology company growth, power systems & control	25 Yrs	Business
Gavin Duncan	B.Eng. C.Eng; MIET	Subsea technology development, Electrical & Control systems engineering	21 Yrs	Technology
John Parkin	B.Sc. MSc C.Eng FIMechE	Offshore structures construction and engineering management	40 Yrs	Project & Eng'g
Ben Yeats	M.Sc, Naval Architect	Marine systems, naval architecture, wave technology deployment, performance testing, resource assessment	20 yrs	Marine projects
John Fitzgerald	B.Sc. (Ph.D 2009)	Moorings, wave power systems, general systems and failure mechanism engineering	10 yrs	System Analysis
Anne Briffett	B.Eng, Ph.D.	Computer Aided Engineering, Numerical Analysis	15 Yrs	Simulation
Tom Mackay	MEng C.Eng MIMechE	Pneumatic systems and component/system verification and validation; Wave tank development	6 yrs	Verification and Validation, PTO
Lorn MacDonald	B.Sc.	Subsea and offshore technology development	10 Yrs	Components
Helen Morgan	M.Eng C.Eng MIET	Technology systems development; QA, project management	20 Yrs	Validation
Graham Bibby	B.Sc.	Offshore business, project and technology Management	30 Yrs	BD
3 Researchers	Wavetrain, M.Sc .etc			



Systems & resources

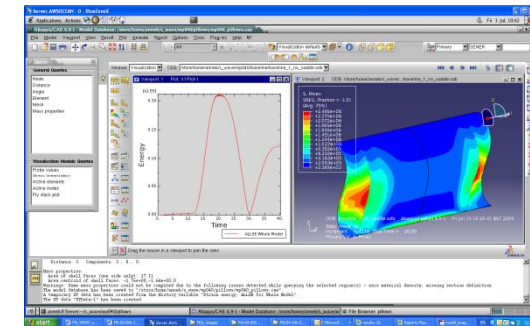


- Systems Engineering approach integrates
 - Life-cycle and functional requirements management ‘DOORS’
 - Risk management
 - Technology qualification (e.g. DNV process)and avoids ‘invention led’ solutions looking for a problem



Rational software

- In-house analysis capability in
 - FEA and CFD
 - Moorings and hydrodynamics
 - System simulation and modelling
 - 3D CAD drafting



- Allows rapid assessment of problems and solutions, insightful design arising from integrated knowledge and tight control over IP and development process
- Established partnerships for model testing, detailed hydrodynamics, naval architecture and marine engineering



Company Profile - summary

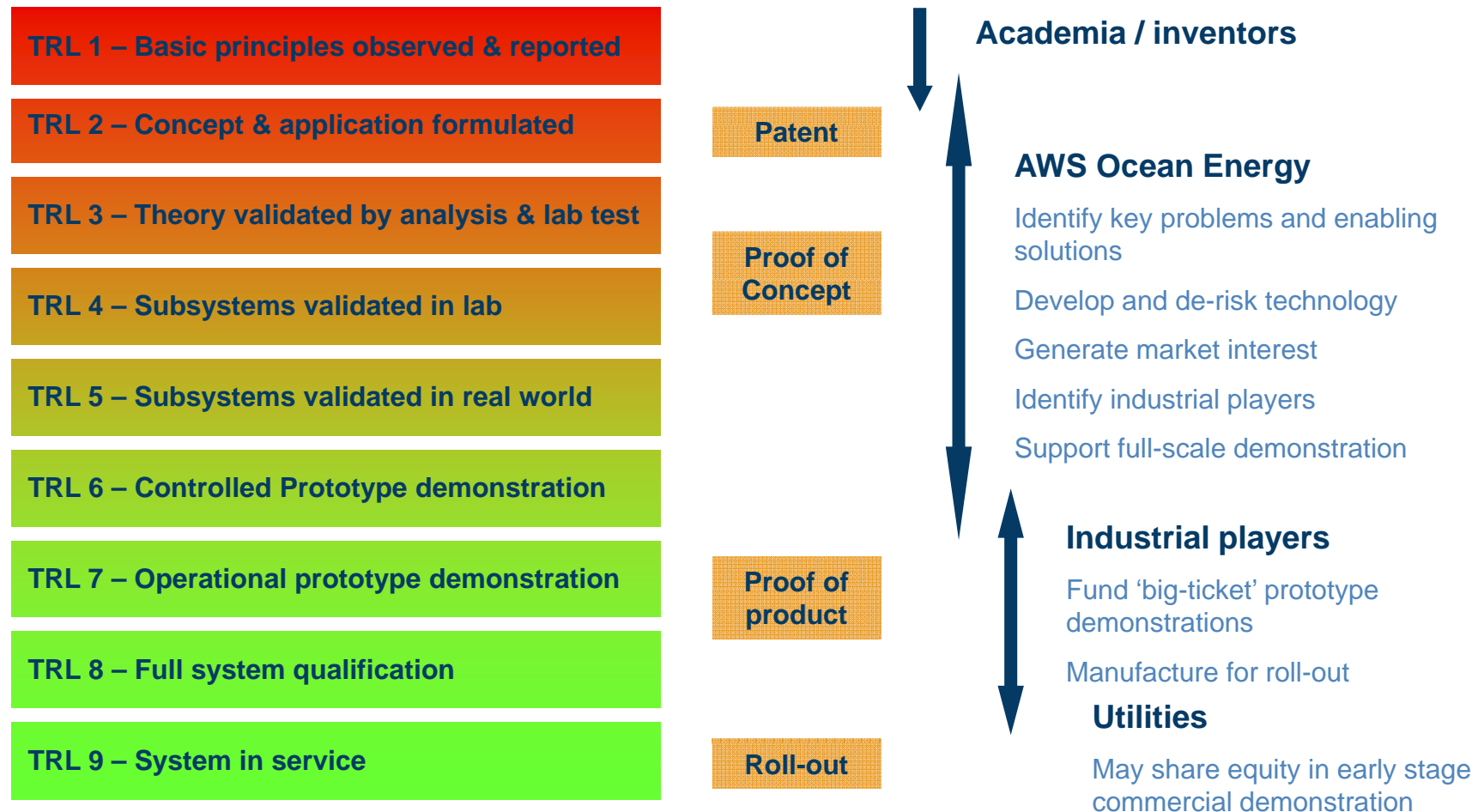


- Team
 - Mature & heavyweight Board providing governance & support
 - World-class Tech Advisory Committee providing ongoing diligence and independent guidance on strategy
 - Strong senior management team and well qualified and experienced staff
 - Key expertise in moorings, testing, resource assessment, sub-sea, construction and tech development
- Systems & resources
 - Investment in key tools to enable Systems Engineering approach
 - In-house FEA, CFD, Orcaflex, Simulink, Mathcad, Inventor, etc
- Backing
 - GBP £5.5 million investment to date and further round closing
 - Key investor is Shell Technology Ventures #1 Fund, managed by Kenda Capital b.v.
- Technology
 - Simple, low-risk, commercial scale, deliverable AWS-III WEC with potential low £/MWh
 - Complementary anchor solutions, smart PTO and next generation WEC technologies
- Business model
 - Technologists who will work in partnership with major manufacturers and contractors to deliver projects
- Key objectives
 - Prove AWS-III sub-systems during 2009/10
 - Execute technology development plan and partner agreements to deliver commercial demonstrator by 2012/13

Technology commercialisation stages

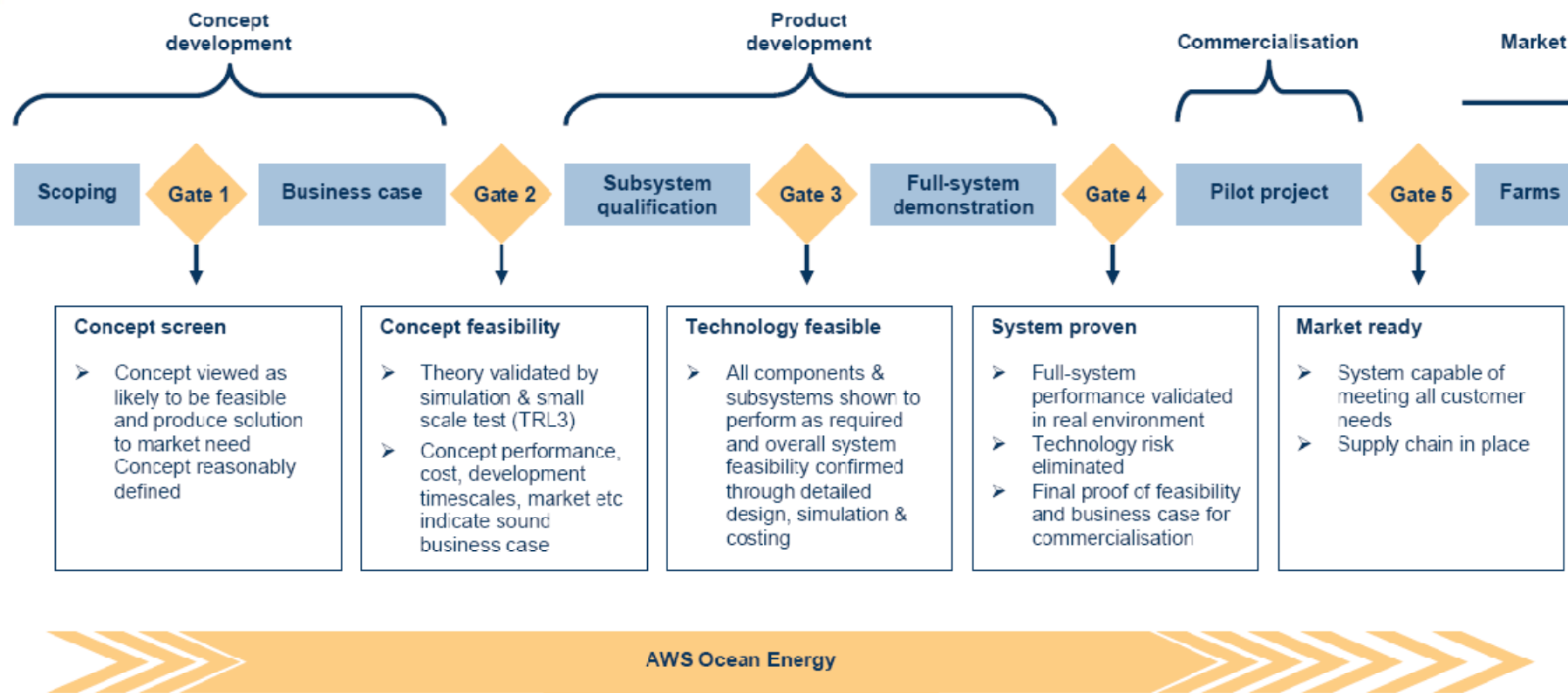


- Technology Readiness Levels (TRL) are standard measure of maturity
 - Different types of organisation participate at each stage



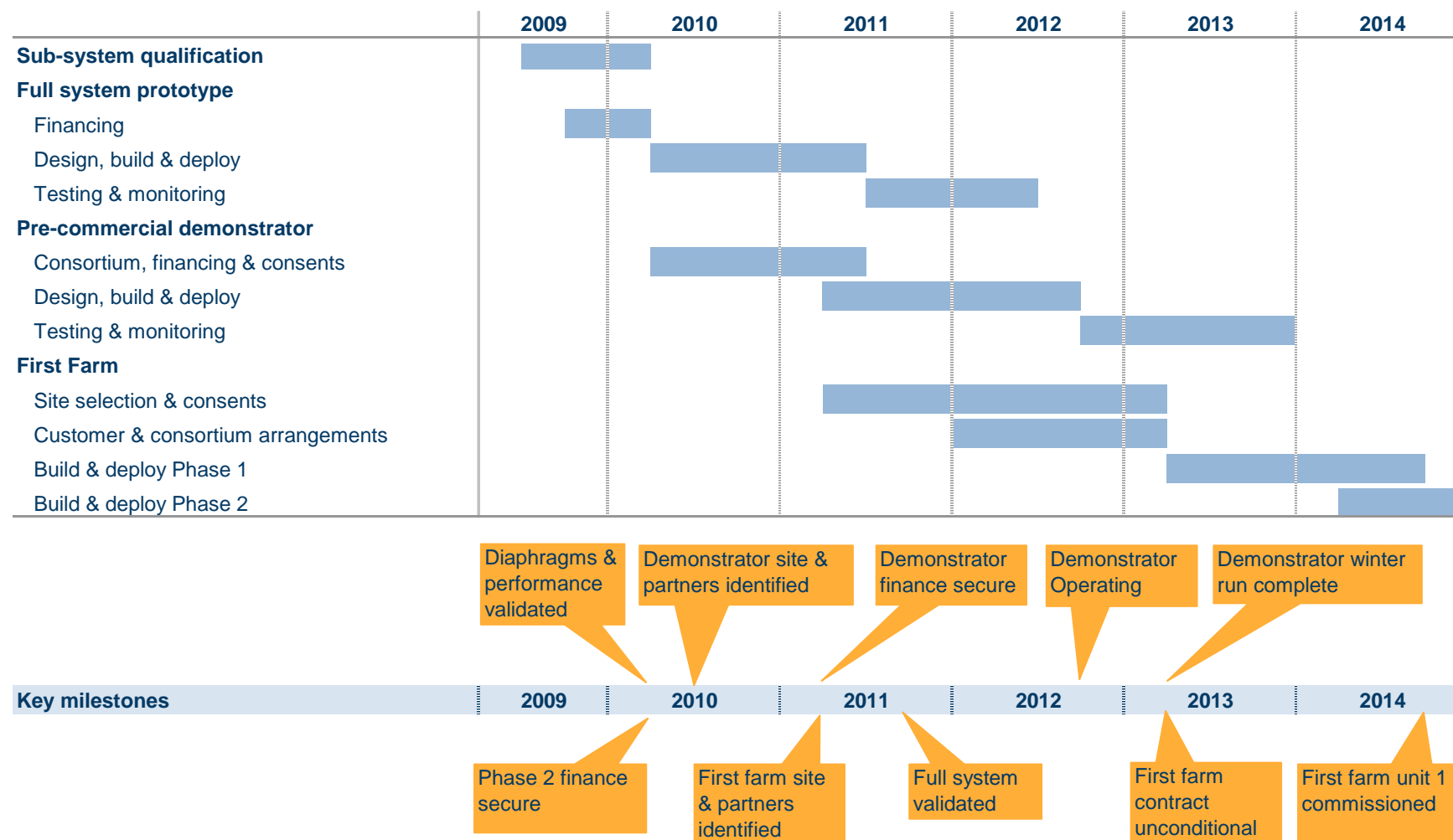
Technology development stages

- Knowing our place in the food chain gives us focus
 - Our primary role as a technology company is to take technologies from Gate 1 to Gate 4
- Delivery of success at Gate 4 is key step towards creating shareholder value
 - This should un-lock industrial capital necessary to fund the big-ticket commercialisation phase



Roll-out Programme

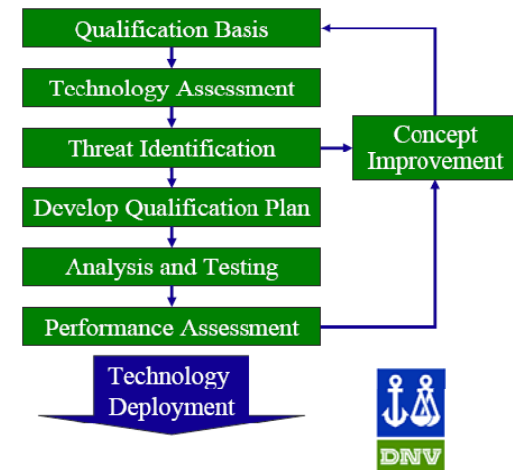
- 5 year programme to positive EBIT



Getting it right over the longer term



- Wave energy is a complex technical problem in a harsh environment
- The approach of technology developers to date has not produced market-ready solutions despite significant investment
- AWS believes that we need another approach – informed by experiences in successful sectors e.g. sub-sea oil & gas:
 - Avoid being wedded to a single invention or concept
 - Follow a flexible innovation path to address key issues – even if this means significant re-design
 - Resist temptations to progress too quickly to expensive prototyping
 - Follow a rigorous technology qualification process to ensure that risk is eliminated as far as possible
 - Do not skip the TRLs – the stages have been developed for a reason
 - Use a systems engineering approach and be very clear about the functional and life-cycle requirements – this ensures that you are solving the right problems!
- Our shareholders back this approach and believe that this is leading to a faster, lower-cost route to true market access



Summary



- We are a serious organisation with strong backing and a great team
- Our approach is different from other companies and this allows us to take the tough choices necessary to deliver
 - both investors and customers are endorsing this
- We believe that the AWS-III concept has genuine potential to produce affordable wave energy and that this concept is deliverable
- We are looking to line up industrial partners for the commercialisation of AWS-III with the target of delivering a 2.4 MW Pilot Plant by 2013
- Early confirmation of partnerships will benefit both parties
 - We will learn from partners and their involvement will reinforce our credibility with potential end-users
 - Partners will monitor development and gain confidence in the technology whilst influencing key actions to ensure success
- We look forward to mutually beneficial discussions

