Optimal-dual-frame based $\ell_1$ analysis approaches will be discussed for effective signal recovery when sparse frame expansions are expected. The notion of blind optimal-dual-frame based analysis approach is shown to be equivalent to the conventional $\ell_1$ synthesis method. This equivalency observation provides an recovery guarantee that does not depend on the accurate recovery of the (frame expansion) coefficients. A notion of sparsity-inducing dual frames (sparse duals) is also proposed for more effective signal recovery. Basic properties of sparse duals, a sparse-dual-based $\ell_1$-analysis approach and its performance analysis are discussed. Examples will be provided. (Received August 27, 2013)